

“Essentials of nursing”.

In Section 1 of this course you will cover these topics:

- Historical And Contemporary Nursing Practice
- Nursing Education And Research
- Nursing Theories And Conceptual Frameworks
- Legal Aspects Of Nursing
- Values, Ethics And Advocacy
- Health Care Delivery Systems
- Community Nursing And Care Continuity
- Home Care
- Nursing Informatics
- Critical Thinking And The Nursing Process
- Assessing

Topic : Historical And Contemporary Nursing Practice**Topic Objective:**

At the end of this topic student will able to understand:

- Nursing practice
- Primary Nursing
- Team Nursing
- Evaluation of Nursing

Definition/Overview:

Nursing practice: Nursing practice is the actual provision of nursing care. In providing care, nurses are implementing the nursing care plan which is based on the client's initial assessment. This is based around a specific nursing theory which will be selected as appropriate for the care setting. In providing nursing care the nurse uses both nursing theory and best practice derived from nursing research.

Key Points:**1. Primary Nursing**

Primary nursing is a method of nursing practice which emphasizes continuity of care by having one nurse (often teamed with a nursing assistant) provide complete care for a small group of inpatients within a nursing unit of a hospital. The "primary nurse" is responsible for coordinating all aspects of care for the same group of patients throughout their stay in a given area.

2. Team Nursing

Team nursing was developed because of social and technological changes in World War II drew many nurses away from hospitals, learning haps, services, procedures and equipments became more expensive and complicated, requiring specialisation at every turn. It is an attempt to meet increased demands of nursing services and better use of knowledge and skills of professional nurses.

Team nursing is based on philosophy in which groups of professional and non-professional personnel work together to identify, plan, implement and evaluate comprehensive client-centered care. The key concept is a group that works together toward common goal, providing qualitative comprehensive nursing care. Team nursing was designed to accommodate several categories of personnel in meeting the comprehensive nursing needs of a group of clients.

3. Evaluation of Nursing

Nursing has existed in various forms in every culture, although the definition of the term and the practice of nursing has changed greatly over time. The oldest sense of the word in the English language a woman employed to suckle and/or generally care for a younger child. The former being known as a wet nurse and the latter being known as a dry nurse. In the 15th century, this developed into the idea of looking after or advising another, not necessarily meaning a woman looking after a child. Nursing has continued to develop in this latter sense, although the idea of nourishing in the broadest sense refers in modern nursing to promoting quality of life.

Prior to the foundation of modern nursing, nuns and the military often provided nursing-like services. The religious and military roots of modern nursing remain in evidence today in many countries. For example: in Britain, senior female nurses are known as sisters. It was during time of war that a significant development in nursing history arose when Florence Nightingale, working to improve conditions of soldiers in the Crimean War, laid the foundation stone of professional nursing with the principles summarised in the book Notes on Nursing. Other important nurses in the development of the profession include: Mary Seacole, who also worked as a nurse in the Crimea; Agnes Elizabeth Jones and Linda Richards, who established quality nursing schools in the USA and Japan, and Linda Richards who was officially America's first trained nurse, graduating in 1873 from the New England Hospital for Women and Children in Boston.

- New Zealand was the first country to regulate nurses nationally, with adoption of the Nurses Registration Act on the 12th of September, 1901. Ellen Dougherty was the first registered nurse. North Carolina was the first state in the United States to pass a nursing licensure law in 1903.
- Nurses have experienced difficulty with the hierarchy in medicine that has resulted in an impression that nurses primary purpose is to follow the direction of medics. This tendency is certainly not observed in Nightingale's Notes on Nursing, where the doctors are mentioned relatively infrequently and often in critical tones, particularly relating to bedside manner.
- The modern era has seen the development of nursing degrees and nursing has numerous journals to broaden the knowledge base of the profession. Nurses are often in key management roles within health services and hold research posts at universities.
- The authority for the practice of nursing is based upon a social contract that delineates professional rights and responsibilities as well as mechanisms for public accountability. In almost all countries, nursing practice is defined and governed by law, and entrance to the profession is regulated at national or state level.
- The aim of the nursing community worldwide is to develop the profession guided by continuing education based on nursing research, and to regulate standards of competency and ethics. There are a number of educational paths to becoming a professional nurse, which vary greatly worldwide, but all involve extensive study of nursing theory and practice and training in clinical skills.
- Nurses practice in a wide range of settings, from hospitals to visiting people in their homes and caring for them in schools to research in pharmaceutical companies. Nurses work in

occupational health settings (also called industrial health settings), free-standing clinics and physician offices, nurse-run clinics, long-term care facilities and camps. They also work on cruise ships and in military service. Nurses act as advisers and consultants to the healthcare and insurance industries. Some are attorneys and others work with attorneys as legal nurse consultants, reviewing patient records to assure that adequate care was provided and testifying in court. Nurses can work on a temporary basis, which involves doing shifts without a contract in a variety of settings, sometimes known as per diem nursing, agency nursing or travel nursing.

- Nursing is the most diverse of all healthcare professions. Nurses practice in a wide range of settings but generally nursing is divided depending on the needs of the person being nursed.

The major divisions are:

- the nursing of people with mental health problems - Psychiatric and mental health nursing
- the nursing of people with learning or developmental disabilities - Learning disability nursing (UK)
- The nursing of children - Pediatric nursing.
- the nursing of older adults - Geriatric nursing
- The nursing of people in their own homes - Home health nursing (US), District nursing and Health visiting (UK).
- There are also specialist areas such as cardiac nursing, orthopedic nursing, palliative care, perioperative nursing and oncology nursing.

Topic : Nursing Education And Research

Topic Objective:

At the end of this topic student will able to understand:

- Nursing Research Fall
- Historical Background:
- Nurse Education
- Nursing Research

Definition/Overview:

Nursing Research: Nursing research is the term used to describe the evidence used to support nursing practice. Nursing, as evidence based area of practice, has been developing since the time of Florence Nightingale to the present day, where many nurses now work as researchers based in universities as well as in the health care setting.

Nurse Education: Nurse Education places emphasis upon the use of evidence from research in order to rationalize nursing interventions. In England and Wales courts may determine whether or not a nurse acted reasonably based upon whether or not their intervention was supported by research.

Key Points:

Nurse education consists in the theoretical and practical training provided to nurses with the purpose to prepare them for their duties as nursing care professionals. This education is provided to nursing students by experienced nurses and other medical professionals who have qualified or experienced for educational tasks. Most countries offer nurse education courses that can be relevant to general nursing or to specialized areas including mental health nursing, pediatric nursing and post-operator nursing. Nurse education also provides post-qualification courses in specialist subjects within nursing.

1. Historical Background:

During recent past decades, the moving on education has replaced the more practically focused, but often ritualistic, training structure of conventional preparation. Nurse education integrates today a broader awareness of other disciplines allied to medicine, often involving inter-professional educating, and the utilization of research when making clinical and managerial decisions. Orthodox training can be argued to have offered a more intense practical skills base, but emphasized the hand maiden relationship with the physician. This is now outmoded, and the impact of nurse education is to develop a confident, inquiring graduate who contributes to the care team as an equal. In some countries, not all qualification courses have graduate status. Traditionally, from the times prior to Florence Nightingale, nursing was seen as an apprenticeship, often undertaken in religious orders such as convents by young women, although there have always been a proportion of male nurses, especially in

mental health services. In 1860 Nightingale set up the first nurse training school at St Thomas' Hospital, London. Nightingale's curriculum was largely based around nursing practice, with instruction focused upon the need for hygiene and task competence. Her methods are reflected in her "Notes on Nursing".

Some other nurses at that time, notably Ethel Bedford-Fenwick, were in favor of formalized nursing registration and curriculum that were formally based in higher education and not within the confines of hospitals.

Nurse education in the United States has been conducted within university schools, although it is unclear who offered the first degree level program. So far as known Yale School of Nursing became the first autonomous school of nursing in the United States in 1923. In Europe the University of Edinburgh was the first European institution to offer a nursing degree in 1972.

2. Nursing Research Fall

Nursing research falls largely into two areas:

- Quantitative research is based in the paradigm of logical positivism and is focused upon outcomes for clients that are measurable, generally using statistics. The dominant research method is the randomized controlled trial.
- Qualitative research, is based in the paradigm of phenomenology, grounded theory, ethnography and others, and examines the experience of those receiving or delivering the nursing care, focusing, in particular, on the meaning that it holds for the individual. The research methods most commonly used are interviews, case studies, focus groups and ethnography

Recently in the UK, action research has become increasingly popular in nursing.

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- Among nurse educators, arguments continue about the ideal balance of practical preparation and the need to educate the future practitioner to manage healthcare and to have a broader view of the practice. To meet both requirements, nurse education aims to develop a lifelong learner who can adapt effectively to changes in both the theory and practice of nursing.

Topic : Nursing Theories And Conceptual Frameworks

Topic Objective:

At the end of this topic student will be able to understand:

- Future of Nursing Models
- History of Nursing Models
- Universal Features of Nursing Models
- Nursing theory

Definition/Overview:

Nursing theory: Nursing theory is the term given to the body of knowledge that is used to support nursing practice. In their professional education nurses will study a range of interconnected subjects which can be applied to the practice setting. This knowledge may be derived from experiential learning, from formal sources such as nursing research or from non-nursing sources. To speak of nursing theory is often difficult. Nursing is many things to many people. Most universally agreed upon is that Nursing is a science involving people, environment and process fueled by a vision of transcendence in the context of healthcare. It is interesting to note that 90% of all Nursing theories have been generated in the last 20 years. Many schools encourage students to formulate personal philosophies or mid-range theories of Nursing as part of their curriculum. Some might argue that this multiplicity of theory is detrimental to the practice and undermines common vision. Others would say that the nature of the young science is sufficiently far reaching to require such tactics in order to elicit true consensus.

Nursing models are conceptual models, constructed of theories and concepts. They are used to help nurses assess, plan, and implement patient care by providing a framework within which to work. They also help nurses achieve uniformity and seamless care.

Key Points:**1. Universal Features of Nursing Models**

Unlike most sciences, Nursing theories seem primarily concerned with what "Nursing" is or should do, rather than a phenomenon with Nursing". All nursing models involve some method of assessing a patient's individual needs and implementing appropriate patient care. An essential portion of each nursing model is measurable goals in order that the process can be evaluated in order to provide best is used to determine a patient's treatment by nurses, doctors and other healthcare professionals and auxiliary works. These documents are considered as living documents they are changed and evaluated on a daily basis as the patients condition and abilities change. Theories of Nursing fall in theories. Neumanns model focuses on the person as a complete system, the subparts of which are interrelated physiological, psychological, spiritual, and developmental factors.

2. History of Nursing Models

The original role of the nurse was primarily to care for the patient as prescribed by a physician. This evolved into the biomedical model of nursing care which still strongly influences nursing practice today. The biomedical model focuses heavily upon path physiology and altered homeostasis but fails to identify individual differences and whilst it works well for traditional medical and physical care, it focuses solely on the treatment of disease, making little account of psychological, socio-cultural, or politico-economic differences between individuals. The Biomedical Model essentially views all patients with the same disease as the same problem regardless of their religion, culture, or ethnicity. This is in contrast to the social model of healthcare that places emphasis on changes that can be made in society and in people's own lifestyles to make the population healthier.

The first theorist to clearly articulate a role of nurses distinct from the medical profession was Florence Nightingale. Her theories were developed during the Crimean War and published in *Notes on Nursing: What It Is, and What It Is Not* in 1859. Nightingale's model is based on the idea that the nurse manipulates the environment to promote the patient's well-being. Nurses quickly realized that treating patients based upon their disease rather than making a holistic assessment was not a satisfactory way of attending patient care. Presently, some of today contributing theorist include Roy (Kansas), Newman (Harvard), Waga (Rutgers), and Johnson (Yale).

3. Future of Nursing Models

Nursing models have been criticized for failing to provide holistic care, and preventing nurses from thinking "outside of the box". This has been compounded by many hospitals that have developed "pre-printed" care plans that have been misused by nurses who have failed to customize these generic care plans to the patient. Evidently, the patient's care needs would be very different from a fit-and-healthy 20 year old male with no previous medical history who neither smokes nor drinks. It is up to the professional to tailor the care plan to suit the individual patient. Models of nursing have always been accused of being "out of touch" with the harsh reality of patient care, and creating yet more unnecessary paperwork for nurses to complete. Technological advances may produce client specific nursing models.

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Topic : Legal Aspects Of Nursing

Topic Objective:

At the end of this topic student will able to understand:

- Nursing Education Responsibility & Status
- Legal Aspects of Nursing

Definition/Overview:

A nurse is responsible along with other health care professionals for the treatment, safety, and recovery of acutely or chronically ill or injured people, health maintenance of the healthy, and treatment of life-threatening emergencies in a wide range of health care settings. Nurses may also be involved in medical and nursing research and perform a wide range of non-clinical functions necessary to the delivery of health care. Nurses also provide care at birth and death.

Key Points:

1. Legal Aspects of Nursing

As a nurse it has become an important necessity to be aware of the legal aspects associated with caring and helping people in the health industry today. Unfortunately, the more and more negligence cases there are the less and less people want to get into the health care field

fearing legal aspects and the inevitable law suites. The first nursing law created was that of nursing registration in 1903 and they have only evolved and expanded over the years to create a thick book which must be studied today by aspiring nurses.

The Tort Law is the legal aspects of the law that most nurses are more familiar with. This is the law that involved malpractice and negligence cases which many nurses take the time to learn inside and out as this is one of the biggest fears in the medical community. Basically a Tort is a wrongful act which produces harm, whether it is unintentional or intentional.

Malpractice is a specific type of Tort where the standards of care are not met. This is one of the most common and familiar laws to nurses and something that nurses and doctors alike must be familiar with in order to continue their care efficiently.

In order to protect you from malpractice suits, nurses must take as many precautions as they can during their daily shifts. Recording, documenting and reporting your daily routines and decisions is one of the most common ways to make sure you are on track with your patient and in the right. Nurses learn in school that proper care of a patient is not only making the right decisions but maintaining and organizing their medical records and reports efficiently. Any nurse who is not able to provide written proof of their decisions and why that decision was reached will no doubt be charged with nurses' negligence and risks being seen in front of a court.

The legal aspects of nursing are taught and expected to be kept up on throughout every nurse's career. Employment as a nurse does not only require a nursing degree but knowledge of the medical laws that will apply to you should there is a misunderstanding or challenge by a patient or their family. A nursing job is something many young people aspire to but without the legal knowledge behind them, many hospitals will not hire them now that legal issues are becoming more and more problematic.

2. Nursing Education Responsibility & Status

Nursing education, regulation, roles, and titles vary in different countries, but in general reflect an increasing level of responsibility and status. The nursing career structure does not vary throughout the world. Typically there are several distinct levels of nursing practitioner distinguished by increasing education, responsibility, and skills. The major distinction is between task-based nursing and professional nursing. Nurses throughout the world are

increasingly employed as advanced practice nurses, such as clinical nurse specialists and nurse practitioners, who diagnose health problems and prescribe medications and other therapies. At the top of the educational ladder is the doctoral-prepared nurse. Nurses may gain a PhD or another doctoral degree, specializing in research, clinical nursing, and so forth. These nurses practice nursing, teach nursing, and carry out nursing research. As the science and art of nursing has advanced, so has the demand for doctoral-prepared nurses.

- In various parts of the world, the educational background for nurses varies widely. In some parts of Eastern Europe, nurses are high school graduates with twelve to eighteen months of training. In contrast, Chile requires any registered nurse to have at least a bachelor's degree.
- Nurses are the largest group of providers in the health care system--there are over two million registered nurses in the United States of America (U.S.) alone, comprising about 13% of the fifteen million workers in the health care and social assistance category tracked by the U.S. Department of Labor.
- Nursing is one of the most female-dominated occupations but the number of males entering the profession is increasing quickly. For example, in the U.S., only 5.4% of the registered nurse population was male in 2000, but that percent represented a 226% increase in two decades.
- Governments regulate the profession of nursing to protect the public.
- Health care settings generally involve a wide range of medical professionals who work in collaboration with nurses.

Examples include:

- Nursing assistants, orderlies, auxiliary nurses, healthcare assistants. These types of healthcare workers work both in acute and primary settings, under the supervision of registered nurses or licensed practical nurses (in the US). They assist nurses by giving basic care, taking vital signs, administering hygienic care, assisting with feeding, giving basic psychosocial care, housekeeping, and similar duties.
- EMTs and Paramedics work closely with emergency and critical care nurses to stabilize life-threatening trauma and medical emergencies and to provide a seamless transfer of care from incoming ambulances to awaiting medical/surgical teams.
- Technicians: for example, certified medication aides in the US, are trained to administer medications in a long-term care setting. There are also phlebotomy technicians, who perform venipuncture; surgical technologists (US), and technicians trained to operate most kinds of

diagnostic and laboratory equipment, such as X-ray machines, electrocardiographs, and so forth.

- Physicians rely on nurses' skills, observations, and experience to ensure a continuity of patient care.
- Pharmacists and pharmacy assistants are responsible for the safe dispensing of medicine and offering of expert advice on drug therapies.
- Allied health professionals such as respiratory therapists, medical technologists, speech therapists, occupational therapists, operating department practitioners (UK) and physical therapists work closely with nursing staff and work collaboratively in multi-disciplinary.
- **Topic : Values, Ethics And Advocacy**

Topic Objective:

At the end of this topic student will able to understand:

- Nursing Ethics
- Nursing Ethics & Values
- Advocacy

Definition/Overview:

Nursing is a profession focused on assisting individuals, families, and communities in attaining, maintaining, and recovering optimal health and functioning. Modern definitions of nursing define it as a science and an art that focuses on promoting quality of life as defined by persons and families, throughout their life experiences from birth to care at the end of life.

Key Points:

1. Nursing Ethics

Nursing ethics is the discipline of evaluating the merits, risks, and social concerns of activities in the field of nursing. There are many defined codes of ethics for nurses.

Nursing ethics shares many principles with other branches of health care ethics, such as beneficence and non-maleficence, but also has a number of distinctions.

Ethics has been an integral part of nursing practice from the earliest foundations of modern nursing in the late nineteenth century. This has always entailed a respect for human rights of the persons in their care. However, early attempts to define ethics in nursing were focused more on the virtues of the nurses themselves, rather than looking at how the rights of the patient or client might be promoted in particular. In the modern era, the ethics of nursing has shifted more toward the promotion of these rights and the duties of the nurse.

The importance of human rights in nursing was made explicit in a statement adopted by the International Council of Nurses in 1983.

Although historically much of nursing ethics has been derived from medical ethics, there are some factors that differentiate it from this. The key difference is that paternalism, which is often a key feature in theories of medical ethics, is generally not compatible with nursing ethics. This is because nursing theory seeks a collaborative relationship with the person in their care. It therefore emphasizes autonomy of the person being nursed over paternalistic practice where the health professional seeks to do what they believe to be in the person's or society's best interests. Codes of conduct for nurses tend to be written in the ethical framework of deontology and are therefore based on the rights of the patient and the duties of the nurse rather than on utilitarian concerns of the consequences justifying the action.

Increasingly, the nurse's role is one of advocate for the interests of the people in their care. In terms of ethical theory, this means having a respect for the autonomy of the person to make decisions about their own treatment and be provided with information available in order to do this. So the principle of informed consent, where a person understands fully the implications of having or refusing a treatment, is one which is held in the nurse's mind when suggesting treatment options. This principle is not absolute as people are sometimes unable to make choices about their own treatment due to being incapacitated or having a mental illness that affects their judgment. This means that the nurse has to weigh their duty of care against the autonomy of the person in care.

2. Nursing Ethics & Values

When teaching ethics to nurses, this question is often raised at the outset of the semester: Is there really any difference between medical ethics and nursing ethics? The question is a very good one, and without wanting to gloss over the discrete differences and just offering a

sweeping statement like Well, not really they are both a part of the bigger picture that is healthcare ethics, I will attempt to explain that there is, in actual fact, a subtle difference between the two.

Nursing is concerned with health, whereas medicine focuses on cure. Also, there is a functional difference between care and healing. It is useful here first to consider the history of nursing as it pertains to ethics. The historical influence on ethics might begin by considering Florence Nightingale's 1893 paper. Since then, nursing has ascribed to the ideals of treating persons rather than to diseases.

According to Hull, the history of nursing is a history of nurses' endeavors to adhere to these ideals through fostering the patient's active role in treatment and prevention through educational movements, home healthcare, improved personal hygiene and food handling, and working for better hospital conditions to reflect better the psychosocial aspects of illness. On the contrary, medicine has elected an approach that underscores curing as a response to the occurrence of a disease, a paternalistic approach to medical decision making, and the hospital as the center of best medicine.

Other differences in the professional approaches of nursing and medicine are worth mentioning here. Nursing has essentially developed as a health-oriented profession that emphasizes the preservation and restoration of health to persons. Medicine, on the contrary, has developed as an illness-oriented profession that gives emphasis to the treatment and prevention of disease, injury, and deformity through complex surgical, biochemical, and technical interventions. Similarly, nursing maintains a locus of care one that compassionately aids individuals to adapt to chronic illness and incapacity, whereas the locus of care of medicine is that of defeating the conditions that render such chronicity and incapacity. Considering the fundamentally different histories and traditions that delineate nursing from medicine, the basic assumption therefore exists that nursing and medicine will have very different values and ethics.

The history of nursing and medicine may not demonstrate their different ethics, yet if we examine the nature and function of what we have come to know of nursing and medicine in today's healthcare climate, we can recognize the differences. In contemporary practice, the typical physician-patient encounter is episodic in its consultative nature. For example, the physician obtains a medical history, reviews signs and symptoms of disease processes,

obtains consent for proposed interventions, documents orders, supervises the training of other medical personnel in administering therapeutic procedures, reviews examination and test results, monitors clinical progress, and arrives at a diagnosis and therapeutic regimen. These activities are normally accomplished in short episodes and serve the goal of cure.

On the contrary, the nurse's interaction with the patient is far more in-depth and personal, focusing on values and adaptive/restorative processes. I call this the nurse's ever-presence, that is, we are there, 24 hours a day, 7 days a week, providing bedside care. It is through this ever-presence that our ethic of care differs from that of medicine, and that has much to do with the trusting relationships that are built with our patients with whom we spend so much time. Continuous nursing care lends itself not only to greater trust but also to advocacy and is different than the segmented consultative nature that is so characteristic of hospital medicine.

3. Advocacy

Advocacy is a perspective of nursing that, I believe, shapes our whole ethics. Advocacy is an intrinsic element of nursing ethics and the legal definition of nursing practice. It arises from a meaningful and respectful relationship between the nurse and the patient, whether person or community. Processes and skills considered necessary in order to successfully advocate for patients include accountability, ethical analysis and decision making, knowledge of and adherence to clinical standards and legal definitions of nursing practice, health education and counseling, leadership, collaboration, communication, and ability to implement change.

Topic : Health Care Delivery Systems

Topic Objective:

At the end of this topic student will able to understand:

- Major Models
- Characteristics of Health care
- Health Informatics
- Providers
- Health Care Delivery Systems
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Definition/Overview:

A health care system is an organization to deliver health care. There are many variations of health care systems around the world.

Key Points:**1. Health Care Delivery Systems****2. Providers**

A health care provider or health professional is an organization or person who delivers proper health care in a systematic way professionally to any individual in need of health care services. A health care provider could be government, the health care industry, a health care equipment company, an institution such as a hospital or medical laboratory, physicians, dentists, support staff, nurses, therapists, psychologists, pharmacists, chiropractors, and optometrists.

3. Health Informatics

Health informatics or medical informatics is the intersection of information science, medicine and health care. It deals with the resources, devices and methods required to optimize the acquisition, storage, retrieval and use of information in health and biomedicine. Health informatics tools include not only computers but also clinical guidelines, formal medical terminologies, and information and communication systems.

The goals for health systems, according to the World Health Report 2000 - Health systems: improving performance (WHO, 2000), are good health, responsiveness to the expectations of the population, and fair financial contribution. Duckett (2004) proposed a two dimensional approach to evaluation of health care systems: quality, efficiency and acceptability on one dimension and equity on another.

There are generally five primary methods of funding health care systems:

- direct or out-of-pocket payments,
- general taxation,
- social health insurance,

- voluntary or private health insurance, and
- Donations or community health insurance.

One recent study published by the National Bureau of Economic Research found no systematic relationship between the cost efficiency of health care systems and the type of financing used. The author concluded "that almost all financing choices are compatible with efficiency in the delivery of health care."

4. Characteristics of Health care

Health care has the following characteristics:

- The provision of critical health care treatment is often regarded as a basic human right, regardless of whether the individual has the means to pay some treatments cost more than a typical family's life savings.
- Health care professionals are bound by law and their oaths of service to provide lifesaving treatment.
- Asymmetric information
- High risk level

There is a debate whether these characteristics necessitate public ownership or increased government regulation of the health care industry.

Purely private enterprise health care systems are comparatively rare. Where they exist, it is usually for a comparatively well-off subpopulation in a poorer country with a poorer standard of health care for instance, private clinics for a small, wealthy expatriate population in an otherwise poor country. But there are countries with a majority-private health care system with residual public service.

5. Major Models

The other major models are public insurance systems:

- Social security health care model, where workers and their families are insured by the State.
- Publicly funded health care model, where the residents of the country are insured by the State.

- Social health insurance, where the whole population or most of the population is a member of a sickness insurance company.

In almost every country with a government health care system a parallel private system is allowed to operate. This is sometimes referred to as two-tier health care. The scale, extent, and funding of these private systems is very variable.

Topic : Community Nursing And Care Continuity

Topic Objective:

At the end of this topic student will able to understand:

- Nursing Techniques
- Community Nursing

Definition/Overview:

The aim of the nursing community worldwide is to develop the profession guided by continuing education based on nursing research, and to regulate standards of competency and ethics. There are a number of educational paths to becoming a professional nurse, which vary greatly worldwide, but all involve extensive study of nursing theory and practice and training in clinical skills.

Key Points:

1. Community Nursing

Community nurses work with people and their families to help prevent disease, maintain health and treat any existing health problems. This service aims to promote, support and maintain the patients independence, safety and healthy lifestyle, at the same time as providing assistance to careers.

Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. Nursing includes the promotion of health, prevention of illness, and the care of ill, disabled and dying people. Advocacy,

promotion of a safe environment, research, participation in shaping health policy and in patient and health systems management, and education are also key nursing roles.

Patient care is part of a nurse's role. Nurses use the nursing process to assess, plan, implement and evaluate patient care. Patient care is founded in critical thinking and caring in a holistic framework. Nursing care is increasingly framed in best practice, which is the application of evidence-based concepts to patient problems in a particular setting. Florence Nightingale is recognized as the first nurse researcher.

Nurses must observe the principles of asepsis at all times to prevent the spread of infection. They wash their hands thoroughly with soap and warm water before and after caring for patients, after handling any waste, before and after eating and drinking, after smoking, coughing, touching clothes, and after wearing gloves. Alcohol gel has come into common use to sanitize the hands in place of washing hands that are not visibly soiled. Infection control regulations states, hand washing must be done after the third instance of using hand sanitizer. Gloves are generally worn when patient care is given, especially when exposure to patient bodily fluids is likely.

2. Nursing Techniques

- Nurses also observe aseptic technique. This speciality is used for procedures such as wound cleaning and any insertion or removal of appliances into or out of the patient's body. Examples are insertion of an intravenous or urinary catheter, or feeding (nasogastric) tube.
- Surgical scrub techniques are also taught to nurses. This speciality is used for operating room technique, where nurses are an important part of any procedure.
- Nurses keep accurate records of all care and observations for many purposes. The patient's record is how the different members of the health care team communicate with each other. The chart is a legal document that serves as evidence of care provided. Since the maintenance of records is a legal responsibility, the charts have to meet certain standards, e.g. records must be permanent, accurate, complete, and kept for years after the care was given.
- Nurses may take a person's vital signs several times a day. Vital signs include taking and recording a patient's temperature, blood pressure, respirations, pulse, and pain level. Other things recorded in vital signs may be weight (especially for renal patients), bowel movements, and blood pressure measurements which are taking in different positions (in

heart patients, for example, it is common to do a lying then standing measurement to assess the cardiovascular system's ability to compensate).

- Vital signs are usually done with an electronic machine (commonly called a Dynamap) in modern first world countries, however all nurses are usually trained to also use manual equipment. These include a sphygmomanometer for blood pressure and a thermometer for temperature. Nurses are also trained in use of a stethoscope to hear heart, lung and bowel sounds on patients of all ages.
- Medications are typically dispensed during nursing care. In some countries a nurse is only responsible to administer medication as prescribed by a doctor. In other countries nurses are legally responsible to ensure that the medication is appropriate for the patient and have the authority to interpret the order. Administration of medication by nurses generally requires the nurse to apply advanced knowledge and critical thinking to determine the safety of the administered medication. Advanced practice nurses (Nurse Practitioners, Nurse Midwives, Clinical Nurse Specialists and Certified Registered Nurse Anesthetists) prescribe medications as regulated by the state boards of nursing. Advanced practice nursing requires additional education, generally at the master's level. Advanced practice nurses, depending on specialty and state regulations may assess order and interpret diagnostic tests, diagnose and treat medical conditions and evaluate the results. Advanced practice varies in the different states from supervised (by a physician) to completely independent practice. Multiple research studies indicate patients treated by advanced practice nurses have the same outcomes as patients treated by physicians. Patient satisfaction has been equal to treatment by physicians. Advanced practice nurses may be part of the solution to an overburdened and costly health care system. Advanced practice nurses retain the holistic and preventative framework of nursing, and are ideally suited to wellness care.

Topic : Home Care

Topic Objective:

At the end of this topic student will able to understand:

- Instrumental Activities of Daily Living
- Concept of Home Care
- Home Care

Definition/Overview:

Home Care: Home care, (commonly referred to as domiciliary care), is health care or supportive care provided in the patient's home by healthcare professionals (often referred to as home health care or formal care; in the United States, it is known as skilled care) or by family and friends (also known as caregivers, primary caregiver, or voluntary caregivers who give informal care). Often, the term home care is used to distinguish non-medical care or custodial care, which is care that is provided by persons who are not nurses, doctors, or other licensed medical personnel, whereas the term home health care, refers to care that is provided by licensed personnel.

Key Points:**1. Concept of Home Care**

"Home care" and "home health care" are phrases that are used interchangeably in the United States to mean any type of care given to a person in their own home. Both phrases have been used in the past interchangeably regardless of whether the person requires skilled care or not. More recently, there is a growing movement to distinguish between "home health care" meaning skilled nursing care and "home care" meaning non-medical care. In the [United Kingdom], "Homecare" and "domiciliary care" are the preferred expressions.

- Home care aims to make it possible for people to remain at home rather than use residential, long-term, or institutional-based nursing care. Home Care providers render services in the client's own home. These services may include some combination of professional health care services and life assistance services.
- Professional Home Health services could include medical or psychological assessment, wound care, medication teaching, pain management, disease education and management, physical therapy, speech therapy, occupational therapy.
- Life assistance services include help with daily tasks such as Meal Preparation, Medication reminders, Laundry, Light Housekeeping, Errands, Shopping, Transportation, and Companionship.
- While there are differences in terms used in describing aspects of Home Care or Home Health Care in the United States and other areas of the world, for the most part the descriptions are very similar.

- Estimates for the U.S. indicate that most home care is informal with families and friends providing a substantial amount of care. For formal care, the health care professionals most often involved are nurses followed by physical therapists and home care aides. Other health care providers include respiratory and occupational therapists, medical social workers and mental health workers. Home health care is generally paid for by health insurance, public payers (Medicare, Medicaid), or paid with the patient's own resources.

2. Instrumental Activities of Daily Living

Instrumental activities of daily living (IADL) refers to six daily tasks (light housework, preparing meals, taking medications, shopping for groceries or clothes, using the telephone, and managing money) that enables the patient to live independently in the community. The patient's need for assistance with these activities was measured in the Study by the receipt of help from agency staff. Help that a patient may have received from persons who are not staff of the agency (for example, family members, friends, or individuals employed directly by the patient and not by the agency) was not included in this Study. While there are differences in terms used in describing aspects of Home Care or Home Health Care in the United States and other areas of the world, for the most part the descriptions are very similar. Estimates for the U.S. indicate that most home care is informal with families and friends providing a substantial amount of care. For formal care, the health care professionals most often involved are nurses followed by physical therapists and home care aides. Other health care providers include respiratory and occupational therapists, medical social workers and mental health workers. Home health care is generally paid for by Medicaid, Long Term Insurance, or paid with the patient's own resources (including though reversed mortgage)

Topic : Nursing Informatics

Topic Objective:

At the end of this topic student will able to understand:

- Healthcare Management Informatics
- History
- Concept of Nursing Informatics
- Nursing Informatics:

Definition/Overview:

Nursing Informatics: Nursing Informatics is a specialty of Health care informatics which deals with the support of nursing by information systems in delivery, documentation, administration and evaluation of patient care and prevention of diseases.

Key Points:**1. Concept of Nursing Informatics**

Various definitions of Nursing Informatics have been proposed; perhaps the most widely currently accepted definition comes from the International Medical Informatics Association - Nursing Informatics Special Interest Group adopted August 1998, Seoul, Korea: Nursing informatics is the integration of nursing, its information, and information management with information processing and communication technology, to support the health of people world wide.

A more recent definition of Nursing Informatics comes from the American Nurses Association's Scope and Standards for Nursing Informatics Practice (2006): Nursing Informatics is a specialty that integrates nursing science, computer science, and information science to manage and communicate data, information, and knowledge in nursing practice.

2. History

An early (and still valid) definition was proposed by Hannah (1985): The use of information technologies in relation to any of the functions that are within the purview of nursing and are carried out by nurses in the performance of their duties. This comprises the care of patients, administration, education and research.

Other definitions also exist. For example, William Goossen, from The Netherlands, developed a more comprehensive definition:

Goossen WTF (1996). Nursing information management and processing: a framework and definition for systems analysis, design and evaluation. International Journal of Biomedical Computing, 40, 187-195.

"Nursing informatics is the multidisciplinary scientific endeavor of analyzing, formalizing and modeling how nurses collect and manage data, process data into information and knowledge, make knowledge-based decisions and inferences for patient care, and use this empirical and experiential knowledge in order to broaden the scope and enhance the quality of their professional practice. The scientific methods central to nursing informatics are focused on:

Using a discourse about motives for computerized systems,

- Analyzing, formalizing and modeling nursing information processing and nursing knowledge for all components of nursing practice: clinical practice, management, education and research,
- Investigating determinants, conditions, elements, models and processes in order to design, and implement as well as test the effectiveness and efficiency of computerized information, telecommunication and network systems for nursing practice, and
- Studying the effects of these systems on nursing practice."

3. Healthcare Management Informatics

Healthcare Management Informatics (HMI) can be defined as that subset of health informatics dedicated to the study, design and implementation of information technology solutions in support of the practice of healthcare management in all its forms primary care and general practice, sub acute and rehabilitation care, hospital care and others. Furthermore, HMI involves the study of the needs of healthcare management practitioners, including in information presentation and in decision support. The Australasian based Special Interest Group in Healthcare Management Informatics and Computing (SHMIC), hosted as a web based group, has a specific focus on this topic, and has members from multiple disciplines from across the Australian and Asian regions interested in developing further the discipline of HMI.

Topic : Critical Thinking And The Nursing Process

Topic Objective:

At the end of this topic student will able to understand:

- Development of the Nursing Process
- Evaluating Phase
- Implementing Phase
- Planning Phase
- Components of a Nursing Diagnosis
- Types of Diagnosis
- Diagnosing Phase
- How to collect data
- Models for data collection
- Assessing Phase
- Phases of the nursing process
- Phases
- Skills of Nursing Process
- Discussion on Nursing Process
- Nursing Process

Definition/Overview:

Nursing Process: The nursing process is a process by which nurses deliver care to patients, supported by nursing models or philosophies. The nursing process was originally an adapted form of problem-solving and is classified as a deductive theory.

Key Points:

1. Discussion on Nursing Process

The nursing process is a cyclical and ongoing process that can end at any stage if the problem is solved. The nursing process exists for every problem that the patient has, and for every element of patient care, rather than once for each patient. The nurse's evaluation of care will lead to changes in the implementation of the care and the patient's needs are likely to change during their stay in hospital as their health either improves or deteriorates. The nursing process not only focuses on ways to improve the patient's physical needs, but also on social and emotional needs as well.

- Cyclic and dynamic

- Goal directed and client centered
- Interpersonal and collaborative
- Universally applicable
- Systematic

The nursing process is not something foreign or unusually complex. On the contrary, we use the nursing process method on a daily basis without even realizing it. For example, a trip to the gas station to get fuel requires. Assessing the various prices and the number of people waiting to get gas among other things. A subsequent decision, or Diagnosis, is made based on the former criteria. This may include pulling into the gas station to fuel up or going down the road for better prices and/or less of a crowd. The price is right and there's not much of a crowd, we're pulling in. Now the Planning can take place. This may include which pump to use, how much gas to put in the tank, whether or not to clean the windows along with other things. We're at the pump and ready to fuel up. We must now implement what we planned prior to pulling up to the pump. We've pulled up on the passenger side because the gas tank resides on this side, part of our plan. We've also given ourselves enough room to exit without getting blocked in by another vehicle, part of our plan also. We now unscrew the gas cap and begin fueling or Implementing what we planned. Things went well. We are fueled up and have exited the gas station without complication. Our Evaluation of the trip to the gas station would be a good one. We may choose to use this method in the future. The Nursing process is that simple in theory. However, as a nurse, the nursing process tool will be used for more complex and difficult situations but is applied the same way as the gas station analogy.

2. Skills of Nursing Process

The nursing process involves skills a nurse should possess when he or she has to initiate the initial phase of the process. Having these skills contributes to the greater improvement of the nurse's delivery of health care to the patient, including the patient's level of health, or health status.

Cognitive or Intellectual skills, such as analyzing the problem, problem solving, critical thinking and making judgments regarding the patient's needs. Included in these skills are the ability to indentify, differentiate actual and potential health problems through observation and decision making by synthesizing nursing knowledge previously acquired.

- Interpersonal skills, which includes therapeutic communication, active listening, conveying knowledge and information, developing trust or rapport-building with the patient, and ethically obtaining needed and relevant information from the patient which is then to be utilized in health problem formulation and analysis.
- Technical skills, which includes knowledge and skills needed to properly and safely manipulate and handle appropriate equipment needed by the patient in performing medical or diagnostic procedures, such as vital signs, and medication administrations.

3. Phases

Phases of the nursing process

The following are the steps or phases of the nursing process.

- Assessment (of patient's needs)
- Diagnosis (of human response needs that nurses can deal with)
- Planning (of patient's care)
- Implementation (of care)
- Evaluation (of the success of the implemented care)

Assessing Phase

The nurse should carry out a complete and holistic nursing assessment of every patient's needs, regardless of the reason for the encounter. Usually, an assessment framework, based on a nursing model or Waterlow scoring, is used. These problems are expressed as either actual or potential. For example, a patient who has been rendered immobile by a road traffic accident may be assessed as having the "potential for impaired skin integrity related to immobility".

Models for data collection

The following nursing models are used to gather the necessary and relevant information from the patient in order to effectively deliver quality nursing care. This will help the nurse determine the ranking of the problems encountered.

- Gordon's functional health patterns

- Roy's adaptation model
- Body systems model
- Maslow's hierarchy of needs

How to collect data

- Client Interview
- Physical Examination
- Observation

Diagnosing Phase

Nursing diagnoses are part of a movement in nursing to standardize terminology which includes standard descriptions of diagnoses, interventions, and outcomes. Those in support of standardized terminology believe that it will help nursing become more scientific and evidence based. The purpose of this stage is to identify the patient's nursing

Types of Diagnosis

- Actual Diagnosis-a judgment on client's response to a health problem that is present
- High Risk-based on most likely to develop
- A Possible Nursing Diagnosis-a health problem is unclear and causative factor is unknown
- Wellness Diagnosis-indicating a well response of the patient

Components of a Nursing Diagnosis

- Problem Statement(diagnostic label)-describes the client's health problem
- Etiology(related factor)-the probable cause of the health problem
- Defining Characteristic-a cluster of signs and symptoms

E.g. Ineffective airway clearance related to the presence of tracheo-bronchial secretion as manifested by thick tenacious sputum upon expectoration.

Problem (Ineffective airway clearance) + Etiology (related to) + Defining Characteristics (as manifested by)

Planning Phase

In agreement with the patient, the nurse addresses each of the problems identified in the planning phase. For each problem a measurable goal is set. For example, for the patient discussed above, the goal would be for the patient's skin to remain intact. The result is a nursing care plan.

Implementing Phase

The methods by which the goal will be achieved is also recorded at this stage. The methods of implementation must be recorded in an explicit and tangible format in a way that the patient can understand should he wish to read it. Clarity is essential as it will aid communication between those tasked with carrying out patient care.

Evaluating Phase

The purpose of this stage is to evaluate progress toward the goals identified in the previous stages. If progress towards the goal is slow, or if regression has occurred, the nurse must change the plan of care accordingly. Conversely, if the goal has been achieved then the care can cease. New problems may be identified at this stage, and thus the process will start all over again. It is due to this stage that measurable goals *must* be set - failure to set measurable goals will result in poor evaluations.

The entire process is recorded or documented in an agreed format in the patient's care plan in order to allow all members of the nursing team to perform the agreed care and make additions or changes where appropriate.

4. Development of the Nursing Process

Since its inception, the nursing process has been developed and honed by different authors. Additional detail has been added for each stage of the process, and new or adapted stages have also been suggested. The most recent 'repackaging' of the nursing process comes in the form of the ASPIRE approach to planning and delivering care. This approach - developed within Hull University (UK) as a teaching and learning tool - takes the 5-stage approach outlined above and enhances it. 'Diagnosis' is retitled 'Systematic Nursing Diagnosis' to reflect the process of diagnosis in addition to the final product. An additional stage -

'Recheck' - is placed between Implementation and Evaluation, and reflects the information-gathering activities carried out by nurses, necessary to make an informed judgement about the effectiveness of patient care.

Topic : Assessing

Topic Objective:

At the end of this topic student will able to understand:

- phases of the nursing process.
- characteristics of the nursing process.
- purpose of assessing.
- activities associated with the assessing phase.
- objective and subjective data and primary and secondary data.
- methods of data collection
- directive and nondirective approaches
- closed and open-ended questions
- important aspects of the interview setting
- frameworks used for nursing assessment.

Definition/Overview:

Nursing assessment is the gathering of information about a patient's physiological, psychological, sociological, and spiritual status.

Key Points:

1. Phases of the nursing process

- The five phases of the nursing process are assessing, diagnosing, planning, implementing, and evaluating.
- Assessing includes collecting, organizing, validating, and documenting data in order to establish a database about the clients response to health concerns or illness and the ability to manage health care.

- Diagnosing includes analyzing and synthesizing data in order to identify client strengths as well as health problems that can be prevented or resolved by collaborative and independent nursing interventions and to develop a list of nursing and collaborative problems.
- Planning includes determining how to prevent, reduce, or resolve the identified priority client problems; how to support client strengths; and how to implement nursing interventions in an organized, individualized, and goal-directed manner in order to develop an individualized care plan that specifies client goals/desired outcomes, and related nursing interventions.
- Implementing includes carrying out (or delegating) and documenting the planned nursing interventions in order to assist the client to meet desired goals/outcomes, promote wellness, prevent illness and disease, restore health, and facilitate coping with altered functioning.
- Evaluating includes measuring the degree to which goals/ outcomes have been achieved and identifying factors that positively or negatively influence goal achievement in order to determine whether to continue, modify, or terminate the plan of care.

2. Characteristics of the Nursing Process

The nursing process has distinctive characteristics that enable the nurse to respond to the changing health status of the client. These characteristics include its cyclic and dynamic nature, client centeredness, a focus on problem solving and decision making, interpersonal and collaborative style, universal applicability, and use of critical thinking.

3. Purpose of Assessing

- The purpose of assessing is to establish a database about the clients response to health concerns or illness and the ability to manage health care needs and is a continuous process carried out during all phases of the nursing process.
- There are four types of assessment: initial assessment, problem-focused assessment, emergency assessment, and time-lapsed reassessment.
- Initial assessment is performed within a specified time after admission to a health care agency for the purpose of establishing a complete database for problem identification, reference, and future comparison.
- Problem-focused assessment is an ongoing process integrated with nursing care to determine the status of a specific problem identified in an earlier assessment.
- Emergency assessment occurs during any physiologic or psychologic crisis of the client to identify the life-threatening problems and to identify new or overlooked problems.

- Time-lapsed reassessment occurs several months after the initial assessment to compare the clients current status to baseline data previously obtained.

4. Assessing Phase

The assessment process involves four closely related activities: collecting, organizing, validating, and documenting data. Collecting data is the process of gathering information about a clients health status. Organizing data is categorizing data systematically using a specified format. Validating data is the act of double-checking or verifying data to confirm that it is accurate and factual. Documenting is accurately and factually recording data.

5. Objective and Subjective Data

- Subjective data, also referred to as symptoms or covert data, are apparent only to the person affected and can be described only by that person. Subjective data include the clients sensations, feelings, values, beliefs, attitudes, and perception of personal health status and life situations.
- Objective data, also referred to as signs or overt data, are detectable by an observer or can be measured or tested against an accepted standard. Objective data can be seen, heard, felt, or smelled, and are obtained through observation or physical examination.
- The primary source of data is the client.
- All sources of data other than the client are considered secondary sources or indirect sources. These include family and other support people, other health care professionals, records and reports, laboratory and diagnostic analyses and relevant literature. All data from secondary sources should be validated, if possible.

6. Methods of Data Collection

- The principal methods used to collect data are observing, interviewing, and examining.
- To observe means to gather data by using the senses. Although nurses observe mainly through sight, most of the senses are engaged during careful observation.
- Observation is useful for gathering data such as skin color or lesions (vision), body or breath odors (smell), lung or heart sounds (hearing), and skin temperature (touch).

- Interviewing is a planned communication or a conversation with a purpose. Interviewing is useful to identify problems of mutual concern, evaluate change, teach, provide support, or provide counseling or therapy.
- Examining, referred to as physical examination or physical assessment, is a systematic data collection method that uses observation (i.e., the senses of sight, hearing, smell, and touch) and techniques of inspection, auscultation, palpation, and percussion to detect health problems. Examining is useful for assessing all body parts and comparing findings on each side of the body.

7. Directive and Nondirective Approaches

- The interviewing approach can be directive or nondirective.
- A directive interview is highly structured and elicits specific information. The nurse establishes the purpose of the interview and controls the interview. Nurses frequently use directive interviews to gather and to give information when time is limited (e.g., in an emergency situation).
- During a nondirective interview, or rapport-building interview, the nurse allows the client to control the purpose, subject matter, and pacing. A combination of directive and nondirective approaches is usually appropriate during the information-gathering interview.

8. Closed and Open-Ended Questions

- Questioning techniques for interviewing include both closed and open-ended questions.
- Closed questions are restrictive and generally require only yes or no or short factual answers giving specific information. Closed questions often begin with when, where, who, what, do, or is. Examples of closed questions are What medications did you take? or Are you having pain now? Closed questions are more effectively controlled by interviewer, require less effort from the client, may be less threatening, obtain information more rapidly than if volunteered, are easily documented, and easier for the unskilled interviewer to use; however, closed questions may provide too little information, may not reveal how client feels, may inhibit volunteering of information by the client, may inhibit communication and convey lack of interest.
- Open-ended questions invite clients to discover and explore, elaborate, clarify, or illustrate their thoughts or feelings. An open-ended question specifies only the broad topic to be discussed, invites answers longer than one or two words, and gives clients the freedom to

divulge only the information that they are ready to disclose. The open-ended question is useful at the beginning of an interview or to change topics and to elicit attitudes. Open-ended questions may begin with what or how. Examples of open-ended questions include How have you been feeling lately? or What would you like to talk about today? lists selected advantages and disadvantages of open-ended questions.

9. Aspects of the Interview Setting

- Each interview is influenced by time, place, seating arrangement, distance, and language.
- Nurses need to plan interviews for when clients are physically comfortable and interruptions are minimal. Schedule interviews in the home at a time selected by the client.
- A well-lit, well-ventilated room that is relatively free of noise, movements, and distractions encourages communication. A place where others cannot overhear or see the client is necessary.

In the hospital, if the nurse stands and looks down on the client, the nurse risks intimidating the client. Sitting at a 45-degree angle to the bed is less formal than sitting behind a table or standing at the foot of the bed. The client may feel less confronted if there is an overbed table between the client and nurse during the initial interview. A seating arrangement with the nurse behind a desk and the client seated across suggests a formal, superior and subordinate setting. If both parties sit on chairs at right angles to a desk or table a few feet apart, a less formal atmosphere is created and the nurse and client feel on equal terms. In groups, a horseshoe or circular chair arrangement can avoid a superior or head-of-the-table position.

- The distance between the interviewer and interviewee should be neither too small nor too great because people feel uncomfortable when talking to someone who is too close or too far away.
- Failure to communicate in a language the client can understand is a form of discrimination. The nurse must convert medical terminology into common English usage. Interpreters or translators are needed if the client and the nurse do not speak the same language or dialect.

10. Frameworks Used For Nursing Assessment

Most schools of nursing and health care agencies have developed their own structured assessment format. Many are based on selected nursing models or frameworks. Examples

include Gordons functional health patterns, Orem's self-care model, and Roy's adaptation model. The assessment formats flow from the model or framework selected. Wellness models are used to assist clients to identify health risks and to explore lifestyle and health behaviors, beliefs, values, and attitudes that influence levels of wellness. Nonnursing models and frameworks from other disciplines may also be helpful for organizing data and are narrower than the model required in nursing; therefore, they usually must be used in combination with other approaches to obtain a complete history. Examples include body systems model, Maslow's hierarchy of needs, and developmental theories.

Assessment is the first stage of the nursing process in which the nurse should carry out a complete and holistic nursing assessment of every patient's needs, regardless of the reason for the encounter. Usually, an assessment framework, based on a nursing model is used. The purpose of this stage is to identify the patient's nursing problems. These problems are expressed as either actual or potential. For example, a patient who has been rendered immobile by a road traffic accident may be assessed as having the "potential for impaired skin integrity related to immobility". Taking a nursing history prior to the physical examination allows a nurse to establish a rapport with the patient and family. Elements of the history include:

- Health status
- Course of present illness including symptoms
- Current management of illness
- Past medical history including family's medical history
- Social history
- Perception of illness

The psychological examination may include;

- Client's perception (why they think they have been referred/are being assessed; what they hope to gain from the meeting)
- Emotional health (mental health state, coping styles etc)
- Social health (accommodation, finances, relationships, genogram, employment status, ethnic background, support networks etc)

- Physical health (general health, illnesses, previous history, appetite, weight, sleep pattern, diurnal variations, alcohol, tobacco, street drugs; list any prescribed medication with comments on effectiveness)
- Spiritual health (is religion important? If so, in what way? What/who provides a sense of purpose?)
- Intellectual health (cognitive functioning, hallucinations, delusions, concentration, interests, hobbies etc)

A nursing assessment includes a physical examination: the observation or measurement of signs, which can be observed or measured, or symptoms such as nausea or vertigo, which can be felt by the patient. The techniques used may include Inspection, Palpation, Auscultation and Percussion in addition to the "vital signs" of temperature, blood pressure, pulse and respiratory rate, and further examination of the body systems such as the cardiovascular or musculoskeletal systems.

The assessment is documented in the patient's medical or nursing records, which may be on paper or as part of the electronic medical record which can be accessed by all members of the healthcare team. A range of instruments has been developed to assist nurses in their assessment role. These include:

- the index of independence in activities of daily living
- the Barthel index
- the Crighton Royal behaviour rating scale
- the Clifton assessment procedures for the elderly
- the general health questionnaire
- the geriatric mental health state schedule

Other assessment tools may focus on a specific aspect of the patient's care. For example, the Waterlow score deals with a patient's risk of developing a Bedsore (decubitus ulcer), the Glasgow Coma Scale measures the conscious state of a person, and various pain scales exist to assess the "fifth vital sign".

In Section 2 of this course you will cover these topics:

- Diagnosing

- Planning
- Implementing And Evaluating
- Documenting And Reporting
- Health Promotion
- Health, Wellness, And Illness
- Culture And Heritage
- Complementary And Alternative Healing Modalities
- Concepts Of Growth And Development
- Promoting Health From Conception Through Adolescence
- Promoting Health In Young And Middle-Aged Adults

Topic : Diagnosing

Topic Objective:

At the end of this topic student will able to understand:

- Various types of nursing diagnoses
- Components of a nursing diagnosis
- Nursing diagnoses, medical diagnoses, and collaborative problems
- Steps in the diagnostic process
- Various formats for writing nursing diagnoses
- Characteristics of a nursing diagnosis
- Writing a nursing diagnosis statement
- Evolution of the nursing diagnosis movement
- taxonomy of nursing diagnoses

Definition/Overview:

A nursing diagnosis is a standardized statement about the health of a client (who can be an individual, a family, or a community) for the purpose of providing nursing care. Nursing diagnoses are developed based on data obtained during the nursing assessment.

The main organization for defining standard diagnoses in North America is the North American Nursing Diagnosis Association, now known as NANDA-International. Other international associations are AENTDE (Spanish), AFEDI (French language) and ACENDIO (Europe).

Nursing diagnoses are part of a movement in nursing to standardize the terminology involved. This includes standard descriptions of diagnoses, interventions and outcomes. Nurses who support of standardized terminology believe that it will help nursing become more scientific and evidence-based. Other nurses feel that nursing diagnoses are an ivory tower mentality and neither help in care planning nor in differentiating nursing from medicine

Key Points:

1. Various Types of Nursing Diagnoses

- There are five types of nursing diagnoses: actual, risk, wellness, possible, and syndrome.
- An actual diagnosis is a client problem that is present at the time of the nursing assessment. An actual nursing diagnosis is based on the presence of associated signs and symptoms.
- A risk diagnosis is a clinical judgment that a problem does not exist, but the presence of risk factors indicates that a problem is likely to develop unless nurses intervene. There are no current signs or symptoms at present.
- A wellness diagnosis describes human responses to levels of wellness in an individual, family, or community that have a readiness enhancement.
- A possible diagnosis is one in which evidence about a health problem is incomplete or unclear. It requires more data to either support or refute it.
- A syndrome diagnosis is associated with a cluster of other diagnoses.

2. Components of Nursing Diagnosis

- A nursing diagnosis has three components: the problem and its definition, the etiology, and the defining characteristics.
- The problem statement, or diagnostic label, describes the clients health problem or response for which nursing therapy is given. It describes the health status clearly and concisely in a few words. The purpose of the diagnostic label is to direct the formation of client goals and desired outcomes. It may also suggest some nursing interventions.
- The etiology (related factors and risk factors) component of a nursing diagnosis identifies one or more probable causes of the health problem, gives direction to the required nursing therapy, and enables the nurse to individualize the clients care. Differentiating possible causes is essential because each may require different nursing interventions.

- Defining characteristics are the cluster of signs and symptoms that indicate the presence of a particular diagnostic label. For actual nursing diagnoses, the defining characteristics are the clients subjective and objective signs. For risk diagnoses, no signs and symptoms exist; thus the factors that cause the client to be more vulnerable to the problem form the etiology.

3. Nursing Diagnoses, Medical Diagnoses, and Collaborative Problems

- Differences among nursing diagnoses, medical diagnoses, and collaborative problems are based on description, orientation, responsibility for diagnosing, treatment orders, nursing focus, nursing actions, duration, and classification system.
- Nursing diagnoses describe human responses to disease processes or health problems. They consist of one-, two-, or three-part statements including problem and etiology. Nursing diagnoses are oriented to the client. The nurse is responsible for diagnosing and ordering most interventions to prevent and treat the health problem. Most interventions are independent nursing actions, and the nursing diagnosis may change frequently. There is a classification system in development and being used but it is not universally accepted.
- Medical diagnoses describe disease and pathology, do not consider human responses, usually consist of a few words, and are oriented to pathology. The primary care provider is responsible for diagnosing and ordering primary interventions. Nurses implement medical orders for treatment and monitor the status of the clients condition; nursing actions are primarily dependent. Diagnosis remains the same while disease is present, and there is a well-developed classification system accepted by the medical profession.
- Collaborative problems involve human responses, mainly physiologic complications of disease, tests, or treatments. They consist of two-part statements of situation/pathophysiology and the potential complication. Collaborative problems are oriented to pathophysiology, and nurses are responsible for diagnosing. Nurses collaborate with physicians and other health care professionals to prevent and treat. Medical orders are required for definitive treatment. The nursing focus is to prevent and monitor for onset and status of condition. There are some independent nursing actions, but primarily for monitoring and preventing. The duration of the problem is present when the disease or situation is present, and there is no universally accepted classification system.

4. Basic Steps in the Diagnostic Process

The diagnostic process includes analyzing data; identifying health problems, risks, and strengths; and formulating diagnostic statements. To analyze data, the nurse must compare data against standards (identify significant cues), cluster the cues (generate tentative hypotheses), and identify gaps and inconsistencies.

To analyze data, the nurse compares data with standards or norms, generally accepted measures, rules, models, or patterns, looking for negative or positive changes in the clients health status or pattern, variation from norms of the population, or a developmental delay. Another step in analyzing is to cluster cues to determine the relationship of facts, determining whether patterns are present or represent isolated incidents, and whether the data are significant. Data clustering involves making inferences about the data, interpreting possible meaning of the cues, and labeling the cues with tentative diagnostic hypotheses. Inconsistencies are conflicting data. Possible sources of conflicting data are measurement errors, expectations, and inconsistent or unreliable reports. All inconsistencies must be clarified before valid patterns can be established. The nurse and the client then identify problems that support tentative actual, risk, and possible diagnoses, and the nurse must determine whether the clients problem is a nursing diagnosis, a medical diagnosis, or a collaborative problem. The nurse and client must establish the clients strengths, resources, and abilities to cope. The last step in the diagnostic process is formulating diagnostic statements.

5. Writing Nursing Diagnoses

Most nursing diagnoses are written as two-part or three-part statements, but there are variations. The basic two-part statement includes problem (P), a statement of the clients response (NANDA label), and etiology (E), factors contributing to or probable causes of the response. The two parts are joined by the words related to rather than due to since relate to merely implies a relationship. The basic three-part nursing diagnosis statement is called the PES format and includes the following: problem (P), a statement of the clients response (NANDA label); etiology (E), factors contributing to or probable causes of the response; and signs and symptoms (S), defining characteristics manifested by the client.. Actual nursing diagnoses can be documented in the PES format because the signs and symptoms have been identified. The format cannot be used for risk diagnoses because the client does not have

signs and symptoms. One-part statements, such as wellness diagnoses and syndrome nursing diagnoses, consist of a NANDA label only. NANDA has specified that any new wellness diagnoses will be developed as one-part statements beginning with the words readiness for enhanced . There are five variations of the basic formats:

- Writing unknown etiology when the defining characteristics are present but the nurse does not know the cause or contributing factors
- Using the phrase complex factors when there are too many etiologic factors or when they are too complex to state in a brief phrase
- Using the word possible to describe either the problem or the etiology when the nurse believes more data are needed about the clients problem or the etiology
- Using secondary to divide the etiology into two parts, thereby making the statement more descriptive and useful (the part following secondary to is often a pathophysiologic or disease process or a medical diagnosis)
- Adding a second part to the general response or NANDA label to make it more precise.

6. Characteristics of Nursing Diagnosis

Nursing diagnoses have diagnostic labels, which are the standardized NANDA names for diagnoses. The clients problem, consisting of the diagnostic label plus etiology, is called a nursing diagnosis. Professional nurses are responsible for making nursing diagnoses, even though other nursing personnel may contribute data to the process of diagnosing and may implement specified nursing care. The domain of nursing diagnoses includes only those health states that nurses are educated and licensed to treat. A nursing diagnosis is a judgment made only after thorough, systematic data collection. Nursing diagnoses describe a continuum of health states: deviations from health, presence of risk factors, and areas of enhanced personal growth

7. Nursing Diagnosis Statement

The following are guidelines for writing nursing diagnosis statements:

- Write statements in terms of a problem instead of a need.
- Word the statement so that it is legally advisable.
- Use nonjudgmental statements.

- Be sure both elements of the statement do not say the same thing.
- Be sure cause and effect are stated correctly.
- Word diagnosis specifically and precisely.
- Use nursing terminology rather than medical terminology to describe the client's response.
- Using nursing terminology rather than medical terminology to describe the probable cause of the client's response.

To improve diagnostic reasoning and avoid diagnostic reasoning errors, the nurse should do the following: verify diagnoses by talking with the client and family, build a good knowledge base and acquire clinical experience, have a working knowledge of what is normal, consult resources, base diagnoses on patterns (that is, behavior over time) rather than an isolated incident, and improve critical-thinking skills.

8. Evolution of the Nursing Diagnosis Movement

The first taxonomy classification system or set of categories arranged based on a single principle or set of principles was alphabetical. In 1982, NANDA accepted the nine patterns of unitary man as an organizing principle. In 1984, NANDA renamed the patterns of unitary man as human response patterns. Having undergone refinements, revisions, and acceptance of new diagnoses, the taxonomy, now called Taxonomy II, has three levels: domains, classes, and nursing diagnoses. The diagnoses are coded according to seven axes: diagnostic concept, time, unit of care, age, health status, descriptor, and topology. Review and refinements of diagnostic labels continue. Nurses submit diagnoses to the Diagnostic Review Committee for review and staging. NANDA's board of directors gives final approval for incorporation of a diagnosis into the official list of labels. Diagnoses on the NANDA list are not finished products but are approved for clinical use and further study. This system includes classification of nursing interventions (NIC) and nursing outcomes (NOC), which are being developed by other research groups and are linked to NANDA diagnostic labels.

9. Taxonomy of Nursing Diagnoses

Research groups are examining what nurses do from these three different perspectives (diagnoses, interventions, and outcomes) to clarify and communicate the role nurses play in the health care system. The development of a standardized nursing language would facilitate

clarification and communication. In addition, a standardized language will also enable nurses to implement a Nursing Minimum Data Set needed for computerized records.

10. NANDA-International System

The NANDA-International system of nursing diagnosis provides for five categories.

- Actual diagnosis - a statement about a health problem that the client has and the benefit from nursing care. An example of an actual nursing diagnosis is: Ineffective airway clearance related to decreased energy as manifested by an ineffective cough.
- Risk diagnosis - a statement about health problems that a client doesn't have yet, but is at a higher than normal risk of developing in the near future. An example of a risk diagnosis is: Risk for injury related to altered mobility and disorientation.
- Possible diagnosis - a statement about a health problem that the client might have now, but the nurse doesn't yet have enough information to make an actual diagnosis. An example of a possible diagnosis is: Possible fluid volume deficit related to frequent vomiting for three days as manifested by increased pulse rate.
- Syndrome diagnosis - used when a cluster of nursing diagnoses are seen together. An example of a syndrome diagnosis is: Rape-trauma syndrome related to anxiety about potential health problems as manifested by anger, genitourinary discomfort, and sleep pattern disturbance.
- Wellness diagnosis - describes an aspect of the client that is at a low level of wellness. An example of a wellness diagnosis is: Potential for enhanced organized infant behavior, related to pre-maturity and as manifested by response to visual and auditory stimuli.

Topic : Planning

Topic Objective:

At the end of this topic student will able to understand:

- initial planning, ongoing planning, and discharge planning
- planning process
- standards of care and preprinted care plans
- writing nursing care plans
- setting priorities

- client goals/desired outcomes
- Nursing Outcomes Classification
- relationship of goals/desired outcomes to the nursing diagnoses
- writing goals/desired outcomes
- process of selecting
- Nursing Interventions Classification

Definition/Overview:

A nursing care plan outlines the nursing care to be provided to a patient. It is a set of actions the nurse will implement to resolve nursing problems identified by assessment. The creation of the plan is an intermediate stage of the nursing process. It guides in the ongoing provision of nursing care and assists in the evaluation of that care.

Key Points:**1. Initial Planning, Ongoing Planning, and Discharge Planning**

- Planning begins with the first client contact and continues until the nurse-client relationship ends, usually when the client is discharged from the health care agency. All planning is multidisciplinary, involves all health care providers interacting with the client, and includes the client and family to the fullest extent possible in every step.
- Initial planning is usually performed by the nurse who completes the admission assessment. This type of planning results in the initial comprehensive plan of care.
- Ongoing planning is done by all nurses who work with the client. Individualization of the initial plan occurs as new information is obtained and the client's response to care is evaluated. Ongoing planning also occurs at the beginning of a shift as nurses plan care to be given for the shift.
- Discharge planning is the process of anticipating and planning for needs after discharge. Effective discharge planning begins at the first client contact and involves comprehensive and ongoing assessment to obtain information about the client's ongoing needs.

2. Planning Process

Activities that occur in the planning phase include prioritizing problems/diagnoses, formulating goals/ desired outcomes, selecting nursing interventions, and writing nursing interventions.

3. Standards of Care and Preprinted Care Plans

- Most health agencies have a variety of preprinted, standardized plans for providing essential nursing care to specified groups of clients who have certain needs in common. Examples include standards of care, standardized care plans, protocols, policies, and procedures.
- Standards of care describe nursing actions for clients with similar medical conditions rather than individuals, and they describe achievable rather than ideal nursing care. They define interventions for which nurses are held accountable. They are written from the perspective of the nurses responsibilities, and do not contain medical interventions.
- Standardized care plans are preprinted guides for nursing care of a client who has a need that arises frequently in the agency (such as a specific nursing diagnosis). They are written from the perspective of what care the client can expect.
- Protocols are preprinted and indicate the actions commonly required for a particular group of patients. They may include both physicians orders and nursing interventions (for example, a protocol for admitting a client to the intensive care unit).
- Policies and procedures are developed to govern the handling of frequently occurring situations. A policy covers a situation pertinent to client care (for example, a policy specifying the number of visitors a client may have).
- Regardless of whether care plans are handwritten, computerized, or standardized, nursing care must be individualized to fit the unique needs of each client. In practice, a care plan usually consists of both preprinted and nurse-created sections. Nurses use standardized care plans for predictable, commonly occurring problems and create an individual plan for unusual problems or problems needing special attention.

4. Writing Nursing Care Plans

Use the following guidelines when writing nursing care plans. Date and sign the plan. The date is essential for evaluation, review, and future planning. The nurses signature indicates accountability. Use category headings; for example, Nursing Diagnosis, Goals/Desired

Outcomes. Use standardized/approved medical or English symbols and key words rather than complete sentences to communicate ideas unless the agency policy dictates otherwise. Be specific. Writing specific times during a 24-hour period will help to clarify interventions. Refer to a procedure book or other sources of information rather than including all the steps on a written plan. Tailor the plan to the unique characteristics of the client by ensuring that the clients choices, such as preferences about the times of care and the methods used, are included. Ensure that the nursing care plan incorporates preventive and health maintenance aspects as well as restorative ones. Ensure that the plan contains interventions for ongoing assessment of the client. Include collaborative and coordination activities in the plan. Include plans for the clients discharge and home care needs.

5. Factors That the Nurse Must Consider When Setting Priorities

Priority setting is the process of establishing a preferential sequence for addressing nursing diagnoses and interventions. Nurses can group nursing diagnoses as having high, medium, or low priority. Life-threatening problems, such as loss of respiratory or cardiac functions, are designated as high priority, health-threatening problems, such as acute illness and decreased coping abilities, are considered to be medium priority, and a problem that arises from normal developmental needs or only requires minimal nursing support is low priority. Factors that must be considered when setting priorities are the following:

- The clients health values and beliefs
- The clients priorities
- Resources available to the nurse and client
- Urgency of the health problem
- The medical treatment plan

6. Establishing Client Goals/Desired Outcomes

The goals/desired outcomes describe, in terms of observable client responses, what the nurse hopes to achieve by implementing the nursing interventions. Goals/desired outcomes serve the following purposes:

- Provide direction for planning nursing interventions
- Serve as criteria for evaluating client progress

- Enable the client and nurse to determine when the problem has been resolved
- Help motivate the client and nurse by providing a sense of achievement

7. Nursing Outcomes Classification

Standardized or common nursing language is required in all phases of the nursing process if nursing data are to be included in computerized databases that are analyzed and used in nursing practice. Since 1991 nurse researchers and leaders have been developing the Nursing Outcomes Classification (NOC), taxonomy for describing client outcomes that respond to nursing interventions. In the taxonomy, over 330 outcomes belong to one of seven domains and a class within the domains. Each NOC outcome is assigned a four-digit identifier. A NOC outcome is similar to a goal in traditional language. It is an individual, family, or community state, behavior, or perception measured along a continuum in response to a nursing intervention(s). The NOC outcomes are broadly stated and conceptual. To be measured, an outcome must be made more specific by identifying the indicators that apply to a particular client. An indicator is a more concrete individual, family, or community state, behavior, or perception that serves as a cue for measuring an outcome and is similar to desired outcomes in traditional language. Indicators are stated in neutral terms, but each outcome includes a five-point scale (a measure) that is used to rate the clients status on each indicator. When using the NOC taxonomy to write a desired outcome on a care plan, the nurse writes the label, the indicators that apply to the particular client, and the location on the measuring scale that is desired for each indicator. NOC outcomes can be stated in traditional language.

8. Relationship of Goals/Desired Outcomes

1) Goals are derived from the clients nursing diagnosis primarily from the diagnostic label. The diagnostic label contains the unhealthy response: It states what should change. For every nursing diagnosis, the nurse must write the desired outcome or outcomes that, when achieved, directly demonstrate resolution of the problem. When developing goals/desired outcomes, the nurse should address the following questions:

- What is the clients problem?
- What is the opposite, healthy response?

- How will the client look or behave if the healthy response is achieved (what will the nurse be able to see, hear, measure, palpate, smell, or otherwise observe with the senses)?
- What must the client do and how well must the client do it to demonstrate problem resolution or to demonstrate the capability of resolving the problem?

9. Guidelines for Writing Goals/Desired Outcomes

The goal/desired outcome statement usually has the following components: subject, verb, condition or modifier, and criterion of desired performance. The subject is the client, any part of the client, or some attribute of the client such as pulse. The word client is often omitted in goals since it is assumed that the subject is the client unless otherwise indicated. The verb specifies an action that the client is expected to perform. Verbs that denote directly observable behaviors must be used. Examples include: apply, identify, name, or demonstrate. Conditions or modifiers may be added to verbs to explain the circumstances under which the behavior is observed. They explain what, where, when, or how. The criterion of desired performance indicates the standard by which performance is evaluated or the level at which the client will perform the specified behavior. They may specify time or speed, accuracy, distance, and quality. Guidelines for writing goals/desired outcomes include the following:

- Write goals/desired outcomes in terms of client responses, not nurse activities.
- Be sure that goals/desired outcomes are realistic for the clients capabilities, limitations, and designated time span, if it is indicated.
- Ensure that goals/outcomes are compatible with the therapies of other professionals.
- Make sure that each goal/desired outcome is derived from only one nursing diagnosis.
- Use observable, measurable terms for goals/desired outcomes.
- Make sure the client considers the goals/desired outcomes important and values them

10. Process of Selecting and Choosing Nursing Interventions

- Nursing interventions and activities are the actions a nurse performs to achieve client goals/desired outcomes. They should focus on eliminating or reducing the etiology of the nursing diagnosis, which is the second clause of the diagnostic statement. When it is not possible to change the etiologic factors, the nurse chooses interventions to treat the signs and symptoms or defining characteristics in NANDA terminology. Interventions for risk diagnoses should focus on measures to reduce the clients risk factors, which are also found in

the second clause. Correct identification of the etiologies provides the framework for choosing successful nursing intervention.

- Nursing interventions include both direct and indirect care. Direct care is an intervention performed through interaction with the client. Indirect care is an intervention performed away from but on behalf of the client such as interdisciplinary collaboration or management of the care environment. Other types of nursing interventions include (a) independent interventions, those activities that nurses are licensed to initiate on the basis of their knowledge and skills; (b) dependent interventions, activities carried out under the primary care providers orders or supervision, or according to specified routines; and (c) collaborative interventions, actions the nurse carries out in collaboration with other health team members. The nurse must choose interventions that are most likely to achieve the goal/desired outcome. In addition, the nurse must consider the risks and benefits of each intervention which requires nursing knowledge and experience.

The best nursing interventions will meet the following criteria.

- Safe and appropriate for the clients age, health, and condition
- Achievable with the resources available
- Congruent with the clients values, beliefs, and culture
- Congruent with other therapies
- Based on nursing knowledge and experience or knowledge from relevant sciences
- Within established standards of care as determined by state laws, professional associations (ANA), and the policies of the institution

11. Nursing Interventions Classification

- A taxonomy of nursing interventions referred to as the Nursing Interventions Classification System (NIC) was developed by the Iowa Intervention Project and was first published in 1992. It is updated every 4 years.
- This taxonomy consists of three levels: level 1 domains, level 2 classes, and level 3 interventions.
- More than 514 interventions have been developed. Each broadly stated intervention includes a label (name), a definition, and a list of activities that outline key actions of nurses in carrying out interventions. All NIC interventions have been linked to NANDA nursing diagnostic labels. Each nursing diagnosis contains suggestions for several interventions, so

nurses need to select the appropriate interventions based on their judgment and knowledge of the client.

- When writing individualized nursing interventions on a care plan, the nurse should record customized activities rather than the broad intervention labels.

It focuses on actions which are designed to solve or minimize the existing problem.

- It is a product of a deliberate systematic process.
- It relates to the future.
- It is based upon identifiable health and nursing problems.
- Its focus is holistic.
- It focuses to meet all the needs of the service user.

Care plans are formed using the nursing process. First the nurse collects subjective data and objective data, and then organizes the data into a systematic pattern, such as Marjory Gordon's functional health patterns. This step helps identify the areas in which the client needs nursing care. Based on this, the nurse makes a nursing diagnosis. As mentioned above, the full nursing diagnosis also includes the relating factors and the evidence that supports the diagnosis. For example, a nurse may give the following diagnosis to a patient with pneumonia that has difficulty breathing: Ineffective Airway Clearance related to tracheobronchial infection (pneumonia) and excess thick secretions as evidenced by abnormal breath sounds; crackles, wheezes; change in rate and depth of respiration; and effective cough with sputum.

- After determining the nursing diagnosis, the nurse must state the expected outcomes, or goals. A common method of formulating the expected outcomes is to reverse the nursing diagnosis, stating what evidence should be present in the absence of the problem. The expected outcomes must also contain a goal date. Following the example above, the expected outcome would be: Effective airway clearance as evidenced by normal breath sounds; no crackles or wheezes; respiration rate 14-18/min; and no cough.
- After the goal is set, the nursing interventions must be established. This is the plan of nursing care to be followed to assist the client in recovery. The interventions must be specific, noting how often it is to be performed, so that any nurse or appropriate faculty can read and understand the care plan easily and follow the directions exactly. An example for the patient

above would be: Instruct and assist client to TCDB (turn, cough, deep breathe) to assist in loosening and expectoration of mucous every 2 hours.

- The evaluation is made on the goal date set. It is stated whether or not the client has met the goal, the evidence of whether or not the goal was met, and if the care plan is to be continued, discontinued or modified. If the care plan is problem-based and the client has recovered, the plan would be discontinued. If the client has not recovered, or if the care plan was written for a chronic illness or ongoing problem, it may be continued. If certain interventions are not helping or other interventions are to be added, the care plan is modified and continued.
- There are also care plans written for "at risk" problems, as well as "wellness" care plans. These follow a similar format, only designed to prevent problems from happening and continue or promote healthy behavior.

Topic : Implementing And Evaluating

Topic Objective:

At the end of this topic student will able to understand:

- Implementing relates to other phases of the nursing process
- Implement nursing interventions
- Activities of the implementing phase
- implementing nursing interventions
- Phases of the nursing process
- Evaluation process
- Reviewing and modifying the clients care plan
- Quality improvement from quality assurance
- An evaluation statement
- Three components of quality evaluation: structure, process, and outcomes

Definition/Overview:

The nurse's evaluation of care will lead to changes in the implementation of the care and the patient's needs are likely to change during their stay in hospital as their health either improves or deteriorates. The nursing process not only focuses on ways to improve the patient's physical needs, but also on social and emotional needs as well.

- Cyclic and dynamic
- Goal directed and client centered
- Interpersonal and collaborative
- Universally applicable
- Systematic

Key Points:

The purpose of this stage is to evaluate progress toward the goals identified in the previous stages.

- If progress towards the goal is slow, or if regression has occurred, the nurse must change the plan of care accordingly.
- Conversely, if the goal has been achieved then the care can cease. New problems may be identified at this stage, and thus the process will start all over again.
- It is due to this stage that measurable goals must be set - failure to set measurable goals will result in poor evaluations.
- The entire process is recorded or documented in an agreed format in the patient's care plan in order to allow all members of the nursing team to perform the agreed care and make additions or changes where appropriate.

1. Implementing Relates To Other Phases of the Nursing Process

The first three nursing process phases provide the basis for the nursing actions performed during the implementing phase. In turn, the implementing phase provides the actual nursing activities and client responses that are examined in the final phase, evaluating. Using data acquired during assessment, the nurse can individualize the care given in the implementing phase.

2. Implement Nursing Interventions

- To implement the care plan successfully, nurses need cognitive, interpersonal, and technical skills. Although these skills are distinct from one another, nurses use them in various combinations and with different emphasis depending on the activity.
- Cognitive skills (intellectual) include problem solving, decision making, critical thinking, and creativity.

- Interpersonal skills are all of the activities, verbal and nonverbal, people use when interacting directly with one another. The effectiveness of a nursing action often depends largely on the nurses ability to communicate with others. Nurses use therapeutic communication to understand the client and in turn to be understood. Interpersonal skills are necessary for all nursing activities: caring, comforting, advocating, referring, counseling, and supporting, for example. These skills include conveying knowledge, attitudes, feelings, interest, and appreciation of the clients cultural values and lifestyle.
- Technical skills are purposeful hands-on skills such as manipulating equipment or giving injections. These skills are often called tasks, procedures, or psychomotor skills. Psychomotor refers to physical actions that are controlled by the mind; they are not reflexive. Technical skills require knowledge and, frequently, manual dexterity.

3. Implementing Phase

The five activities of the implementing phase are reassessing the client, determining the nurses need for assistance, implementing nursing interventions, supervising delegated care, and documenting nursing activities. Before implementing an intervention, the nurse must reassess the client to make sure the intervention is still needed. New data may indicate a need to change the priorities of care or the nursing activities. When implementing some nursing interventions, the nurse may require assistance for one or more of the following reasons: the nurse is unable to implement the nursing activity safely or efficiently alone; assistance would reduce stress on the client; or the nurse lacks the knowledge or skills to implement a particular nursing activity. When implementing nursing interventions, it is important to explain to the client what interventions will be done, what sensations to expect, what the client is expected to do, and what the expected outcome is. It is important to ensure privacy. Nurses also coordinate client care. This involves scheduling client contacts with other departments and serving as a liaison among the members of the health care team. If care is delegated, the nurse is responsible for the clients overall care and must ensure that the activities have been implemented according to the care plan. The nurse completes the implementing phase by recording the interventions and client responses in the progress notes. Care must not be recorded in advance because the nurse may determine on reassessment that the intervention should not or cannot be implemented. The nurse may record routine or recurring activities in the client record at the end of the shift, keeping a personal record of

these interventions on a worksheet. Nursing activities are communicated verbally as well as in writing.

4. Implementing Nursing Interventions

Base nursing interventions on scientific knowledge, nursing research, and professional standards (evidence-based practice) when these exist. Be aware of the scientific rationale as well as possible side effects or complications of all interventions. Clearly understand the interventions to be implemented and question any that are not understood. This requires knowledge of each intervention, its purpose in the clients plan of care, and any considerations and changes in the clients condition that may affect the order. Adapt activities to the individual client. A clients beliefs, values, age, health status, and environment are factors that can affect the success of nursing action. Implement safe care. Provide teaching, support, and comfort. Explain the purpose of interventions, what the client will experience, and how the client can participate. The client must have sufficient knowledge to agree to the plan of care and to assume responsibility for as much self-care as possible. Be holistic. Respect the dignity of the client and enhance the clients self-esteem. Provide privacy and encourage clients to make own decisions. Encourage clients to participate actively in implementing the nursing interventions. This enhances clients sense of independence and control.

5. Phases of the Nursing Process

Evaluating is a planned, ongoing, purposeful activity in which clients and health care professionals determine the clients progress toward achievement of goals/ outcomes and the effectiveness of the nursing care plan. Successful evaluation depends on the effectiveness of the steps that precede it. Assessment data must be accurate and complete so the nurse can formulate appropriate nursing diagnoses and goals/desired outcomes. The goals/desired outcomes must be stated concretely in behavioral terms to be useful for evaluating client responses. Without the implementing phase in which the plan is put into action, there would be nothing to evaluate. The evaluating and assessing phases overlap.

During the assessment phase the nurse collects data for the purpose of making diagnoses. During the evaluation step the nurse collects data for the purpose of comparing the data to preselected goals and judging the effectiveness of the nursing care. The act of assessing (data

collection) is the same. The differences lie in when the data are collected and how the data are used.

6. Components of the Evaluation Process

The evaluation process has five components: collecting data related to the desired outcomes (NOC indicators), comparing the data with outcomes, relating nursing activities to outcomes, drawing conclusions about problem status, and continuing, modifying, or terminating the nursing care plan. Using the clearly stated, precise, and measurable goals/desired outcomes as a guide, the nurse collects data so that conclusions can be drawn about whether goals have been met. Data must be recorded concisely and accurately to facilitate the next part of the evaluating process. The nurse and client compare the clients actual responses with the goals/desired outcomes. If NOC indicators are being used with the outcomes, scores on the scales after intervention would be compared with those measured at baseline to determine improvement. The next aspect of the evaluating process is determining whether the nursing activities had any relation to the outcomes. It should never be assumed that a nursing activity was the cause of or the only factor in meeting, partially meeting, or not meeting a goal. The nurse must collect data about what the client actually did to meet the goal/desired outcome to establish the relationship (or lack of) between the nursing actions and the clients responses. Drawing conclusions about the problem status involves using judgments about goal achievement to determine whether the care plan was effective in resolving, reducing, or preventing client problems.

After drawing conclusions about the status of the clients problems, the nurse modifies the care plan as indicated. This is done according to agency policy.

Before making individual modifications to a care plan if the problem was only partially resolved or not resolved, the nurse must first determine why the plan as a whole was not completely effective.

7. Reviewing and Modifying the Clients Care Plan

Before making modifications to the care plan, the nurse must review the entire care plan and critique each step of the nursing process. During assessing phase were data complete, accurate, validated, and does any new data require changes in the care plan? Are nursing

diagnoses relevant, accurate, supported by data, clearly stated in the correct format and has the status of any problem changed or been resolved? Do any new nursing diagnoses require new goal? Are goals realistic and is enough time allowed for achievement? Do the goals address all aspects of the problem and does the client still concur with the goals? Are nursing interventions related to goals, address all aspects of the goals, clear, specific, detailed, supported with rationale, are available resources available to implement the intervention, are any new interventions required, and were the interventions actually carried out? During implementing phase was the clients input obtained, were the goals and nursing interventions acceptable to the client, did caregivers have the knowledge and skills to correctly perform the interventions and was the client given explanation prior to implementing? Even if all sections of the care plan appear to be satisfactory, the manner in which the plan was implemented may have interfered with goal achievement. The nurse should check whether the interventions were carried out, or were unclear or unreasonable in terms of external constraints such as money, staff, time, and equipment.

After making necessary modifications to the care plan, the nurse implements the modified plan and begins the nursing process cycle again.

8. Quality Improvement from Quality Assurance

A quality-assurance (QA) program is an ongoing, systematic process designed to evaluate and promote excellence in the health care provided to clients. QA frequently refers to evaluation of the level of care provided in a health care agency, but it may be limited to evaluation of the performance of one nurse or more broadly involve evaluation of the quality of care in an agency or even in a country.

Quality improvement (QI) follows client care rather than organizational structure, focuses on process rather than individuals, and uses a systematic approach with the intention of improving the quality of care rather than ensuring the quality of care. QI studies often focus on identifying and correcting a systems problems.

QI is also known as continuous quality improvement (CQI), total quality management (TQM), performance improvement (PI), or persistent quality improvement (PQI).

9. Components of an Evaluation Statement

The evaluation statement consists of two parts: a conclusion and supporting data. The conclusion is a statement that the goal/desired outcome was met, partially met, or not met. The supporting data are the list of client responses that support the conclusion.

10. Components of Quality Evaluation

- Quality assurance evaluation involves three components of care: structure, process, and outcome. Each requires different criteria and methods, and each has a different focus.
- Structure evaluation focuses on the setting in which the care is given. It answers the question What effect does the setting have on the quality of care? Structure standards describe desirable environmental and organizational characteristics that influence care.
- Process evaluation focuses on how the care was given. It answers questions such as Is the care relevant to the clients needs? and Is the care appropriate, complete, and timely? Process standards focus on the manner in which the nurse uses the nursing process.
- Outcome evaluation focuses on demonstrable changes in the clients health status as a result of nursing care. Outcome criteria are written in terms of client responses or health status.

Topic : Documenting And Reporting

Topic Objective:

At the end of this topic student will able to understand:

- Confidentiality of client records
- Client records
- Different documentation methods
- various forms in the client record
- Documentation needed for clients in acute care
- effective recording
- Reporting client data
- Prohibited abbreviations

Definition/Overview:

The assessment is documented in the patient's medical or nursing records, which may be on paper or as part of the electronic medical record which can be accessed by all members of the healthcare team.

Key Points:**1. Confidentiality Of Client Records**

- Access is restricted to health professionals involved in giving care to the client. The institution or agency is the rightful owner of the clients record. However, the client has rights to the same document.
- For purposes of education and research, most agencies allow students and graduate health professionals access to client records for use in client conferences, clinics, rounds, client studies, and written papers.
- The student or graduate is bound by a strict ethical code and legal responsibility to hold all information in confidence by not using a name or any statements in the notations that would identify the client.

Health care agencies have developed policies and procedures to ensure the privacy and confidentiality of client information stored in computers. The following are some suggestions for ensuring confidentiality and security of computerized records:

- A personal password is required to enter and sign off computer files.
- Personal passwords should not be shared.
- Never leave the computer terminal unattended after logging on.
- Do not leave client information displayed on the monitor where others may see it.
- Shred all unneeded computer-generated worksheets.
- Know the facility's policy and procedure for correcting an entry error.
- Follow agency procedures for documenting sensitive material such as a diagnosis of AIDS.
- Information technology (IT) personnel must install a firewall to protect the server from unauthorized access.

2. Keeping Client Records

Client records are kept for a number of purposes: communication, planning client care, auditing health agencies, research, education, reimbursement, legal documentation, and health care analysis. Client records serve as a vehicle by which health professionals who interact with a client communicate with each other to prevent fragmentation, repetition, and delays in client care.

Each health professional uses data from the clients record to plan care for that client.

An audit is a review of client records for quality assurance purposes. Accrediting agencies may review client records to determine if a particular agency is meeting stated standards. The information contained in the record can be a valuable source of data for research. Treatment plans for clients with the same diagnosis can yield information helpful in treating other clients. The health record can frequently provide a comprehensive view of the client, the illness, effective treatment strategies, and factors that affect the outcomes of illness for education of students in the health disciplines. Documentation helps a facility receive reimbursement from the federal government. For Medicare reimbursement the record must contain the correct diagnostic-related group (DRG) codes and reveal that the appropriate care has been given. Other insurance companies and other third-party payers also require appropriate documentation for reimbursement. If additional care, treatment, or length of stay becomes necessary for the clients welfare, thorough charting will help justify these needs.

The clients record is a legal document and is usually admissible in court as evidence.

Information from records may assist health care planners to identify agency needs such as overutilized and underutilized services, costs of various services, and those services that cost the agency money and those that generate revenue.

3. Different Documentation Methods

- In the source-oriented record, the traditional client record, each person or department makes notations in separate sections of the clients chart. Information about a particular problem is distributed throughout the record . Narrative charting is used which consists of written notes that include routine care, normal findings, and client problems, often in chronological order.

- Source-oriented records are convenient and disciplines can easily locate the forms on which to record data; however, information about a particular problem is scattered throughout the chart, which can lead to decreased communication among health team members, an incomplete picture of the clients care, and a lack of coordination of care.
- In the problem-oriented medical record (POMR) or problem-oriented record (POR), the data are arranged according to the problem the client has rather than the source of the information. Health team members contribute to the problem list, plan of care for each problem, and progress notes. Progress notes are documented in the SOAP, SOAPIE, or SOAPIER format: Subjective data, Objective data, Assessment (interpretation or conclusions), Plan, Interventions, Evaluation, and Revisions. This format encourages collaboration, problem lists alert caregivers to clients needs, and makes it easier to track the status of the problems; however, caregivers differ in ability to use the format, problem lists must be current, and documentation is somewhat inefficient since assessment and interventions that apply to more than one problem must be repeated.
- The PIE documentation model groups information into three categories: Problem, Interventions, and Evaluation of nursing care. It consists of a client assessment flow sheet and progress notes. The PIE system eliminates the traditional care plan and incorporates an ongoing care plan into the progress notes; however, the nurse must review all the nursing notes before giving care to determine which problems are current and which interventions were effective.
- Focus charting is intended to make the client and the clients concerns and strengths the focus of care. The focus may be a condition, a nursing diagnosis, a medical diagnosis, a behavior, a sign or symptom, an acute change in the clients condition, or a clients strength. Progress notes are organized into the DAR format: data, action, and response. Focus charting provides a holistic perspective of the client and the clients needs and provides a nursing process framework for the progress notes.
- Charting by exception (CBE) is a documentation system in which any abnormal or significant findings or exceptions to norms are recorded. CBE incorporates three elements: flow sheets, standards of nursing care, and bedside access to chart forms. Agencies using CBE must develop standards of nursing practice that identify minimum criteria for client care regardless of clinical area. Care is documented using only a check mark if these standards are met. If not all standards are met (an exception), an asterisk is made on the flow sheet with reference to the nurses notes. All exceptions to the standards are fully described in narrative form on the

nurses notes. This type of documentation eliminates lengthy, repetitive charting and makes changes in the clients condition more obvious.

- Computerized documentation systems are being developed to manage the huge volume of information required in contemporary health care. Computers store the clients database, add new data, create and revise care plans, and document the clients progress. Multiple flow sheets are not necessary because information can be easily retrieved in a variety of formats. The computerization of clinical records has made it possible to transmit information from one care setting to another.
- The case management model emphasizes quality, cost-effective care delivered within an established length of stay. It uses a multidisciplinary approach to planning and documenting client care, using critical pathways that identify outcomes certain groups of clients are expected to achieve on each day of care along with the interventions necessary for each day. The case management model incorporates graphics and flow sheets. Progress notes use some type of CBE. If the client deviates from what is planned on the critical pathway, a variance occurs. The nurse writes a note documenting the unexpected event, the cause, and actions taken to correct the situation or justify the actions taken.

4. Various Forms in the Client Record

The client record should describe the clients ongoing status and reflect the full range of the nursing process. Assessment data are located in initial assessment forms, various flow sheets, and progress notes (nurses notes). Nursing diagnoses are found in care plans, critical pathways, progress notes, and problem lists. Planning activities are found in nursing care plans, critical pathways, and Kardexes. Implementation is found in progress notes and flow sheets. Evaluation is located in progress notes. All steps in the nursing process are recorded on discharge and referral documents.

5. Documentation Needed For Clients In Acute Care

Requirements for documentation in long-term care settings are based on professional standards, federal and state regulations, and policies of the health care agency. Laws influencing the kind and frequency of documentation required are the Health Care Financing Administration and the Omnibus Budget Reconciliation Act (OBRA) of 1987. OBRA law requires that a comprehensive assessment (Minimum Data Set [MDS] for Resident Assessment and Care Screening) be performed within 4 days of admission. A formulated plan

of care must be completed within 7 days, and the reassessment and care screening process must be reviewed every 3 months. Documentation must also comply with requirements set by Medicare and Medicaid. These vary based on level of service provided.

General guidelines for long-term care documentation include:

- complete the assessment/screening forms (MDS) within the time period specified by regulatory bodies
- keep a record of any visits and of phone calls from family, friends, and others regarding the client
- write nursing summaries and progress notes that comply with the frequency and standards required by regulatory bodies
- review and revise plan of care every 3 months or whenever health status changes
- document and report any changes in clients condition to primary care provider and clients family within 24 hours
- document all measures implemented in response to changes in clients condition
- make sure progress notes address progress related to goals and outcomes defined in plan of care

In 1985 the Health Care Financing Administration mandated that home health care agencies standardize their documentation methods to meet requirements for Medicare and Medicaid and other third-party disbursements. Two records are required: a home health certification and plan of treatment form, and a medical update and patient information form. Guidelines for home care documentation include:

- complete the comprehensive nursing assessment and develop plan of care to meet Medicare and other third-party payers
- write progress notes at each visit noting any change in clients condition, nursing interventions, client responses, and vital signs as indicated
- provide monthly nursing progress summary to the attending physician and reimbursement to confirm need to continue services
- keep a copy of the plan of care in clients home and update as clients condition changes
- report changes in plan of care to primary care provider and document that these were reported
- encourage client or home caregiver to record data when appropriate

- write a discharge summary for the primary care provider to approve and to notify reimbursers that services have been discontinued

6. Effective Recording That Meets Legal and Ethical Standards

Because the clients record is a legal document and may be used to provide evidence in court, health care personnel must not only maintain confidentiality but also meet legal standards in the process of recording. Factors to be considered include timing, legibility, permanence, accepted terminology, correct spelling, signature, accuracy, sequence, appropriateness, completeness, conciseness, and legal prudence.

- **Timing:** Document the date and time of each recording in the format required by the agency. Follow the agency's policy about the frequency of documenting, adjusting as a client's condition indicates. In addition, documenting should be done as soon as possible after the assessment or intervention. No recording should be done before providing the care.
- **Legibility:** All entries must be legible and easy to read. Printing or easily understood handwriting is usually permissible. Follow agency policies.
- **Permanence:** All entries are made in dark ink so that the record is permanent and changes can be identified. Dark ink reproduces well in duplication processes. Follow agency policies.
- **Accepted terminology:** Use only commonly accepted abbreviations, symbols, and terms that are specified by the agency. When in doubt about whether to use an abbreviation, write the term out in full. Follow JCAHO requirements by conforming to the agency's Do Not Use list of abbreviations, acronyms, and symbols.
- **Correct spelling:** Correct spelling is essential for accuracy in recording. If unsure how to spell a word, look it up in a dictionary or other resource book.
- **Signature:** Each recording is signed by the nurse making it, including name and title. Some agencies have a signature sheet and after signing this signature sheet, nurses can use their initials. With computerized documenting, each nurse has a code that allows documentation to be identified.
- **Accuracy:** The client's name and identifying information should be stamped or written on each page of the record. Before making an entry, check that it is the correct chart. Notations must be accurate and correct; accurate notations consist of facts or observations rather than opinions or interpretations. When describing, avoid general terms such as large, good, or normal, which can be interpreted differently. When a mistake in recording has been made, draw a line through it and write the words mistaken entry above or next to the original entry,

with your initials or name (follow agency policy). Do not erase, blot out, or use correction fluid. Follow agency policy for correcting documentation errors in computerized documentation. Write on every line but never between lines. If a blank appears in a notation, draw a line through the blank space so that no additional information can be recorded at any other time or by any other person, and sign the notation.

- **Sequence:** Document events in the order in which they occur. Update or delete problems as needed.
- **Appropriateness:** Record only information that pertains to the clients health problems and care. Recording irrelevant information may be considered an invasion of privacy or libelous.
- **Completeness:** Information that is recorded needs to be complete and helpful to the client and health care professionals. Nurses notes need to reflect the nursing process. Care that is omitted because of the clients condition or refusal of treatment must also be recorded including what was omitted, why it was omitted, and who was notified.
- **Conciseness:** Recordings need to be brief as well as complete to save time in communication. The clients name and the word client are omitted. End each thought or sentence with a period.
- **Legal prudence:** Accurate, complete documentation should give legal protection to the nurse, the clients other caregivers, the health care facility, and the client. The record provides proof of the quality of care given. Documentation is usually viewed by juries and attorneys as the best evidence of what really happened to the client.

7. Essential Guidelines for Reporting Client Data

- The purpose of reporting is to communicate specific information to a person or group of people. A report, whether oral or written, should be concise, including pertinent information but no extraneous detail. In addition to change-of-shift reports and telephone reports, reporting can also include the sharing of information or ideas with colleagues and other health professionals about some aspect of a clients care (e.g., care plan conference and nursing rounds).
- Key elements of a change-of-shift report include the following: follow a particular order (e.g., room numbers); provide basic identifying information for each client; for new clients provide the reason for admission or medical diagnoses, surgery, diagnostic tests, and therapies in the past 24 hours; include significant changes in the clients condition and present information in order; provide exact information; report the clients need for emotional support; include current nurse and primary care provider-prescribed orders; provide a summary of newly

admitted clients, including diagnosis, age, general condition, plan of therapy, and significant information about the clients support people; report on clients who have been transferred or discharged; clearly state priorities of care and care that is due after the shift begins; and be concise .

- Health professionals frequently report about a client by telephone. Nurses inform primary care provider about a change in a clients condition. A nurse may report to another nurse on another unit about a transferred client. The nurse receiving a telephone report should document the date and time, the name of the person giving the information, and the subject of the information received, and sign the notation. If there is any doubt about the information, the nurse receiving the information should repeat it back to the sender to ensure accuracy. When giving a telephone report to a primary care provider, it is important to be concise and accurate. Begin with your name and relationship to the client, the clients name and medical diagnosis, changes in nursing assessment, vital signs related to baseline, significant laboratory data, and related nursing interventions. The nurse should have the clients chart ready to give the primary care provider any further information. After reporting, the nurse should document the date, time, and content of the call.
- Primary care provider often order therapy for a client by telephone. Most agencies have specific policies about who may take such an order as may state nursing boards of nursing. Guidelines for taking telephone orders include: know the state nursing boards position on who can give and accept, know the agencys policy; ask prescriber to speak slowly and clearly, to spell out medication name if nurse is unfamiliar with it; question the drug, dosage, or changes if seem inappropriate for the client; write the order down or enter into a computer; read the order back; use words instead of abbreviations; write the order on the physicians order sheet, record date, time, indicate it was a telephone order, sign name with credentials; when writing a dosage always put a number before a decimal, but never after a decimal; write out units; transcribe the order; follow agency protocol about signing telephone orders; and never follow a voice-mail order, call the prescriber for the order.
- A care plan conference is a meeting of nurses to discuss possible solutions to certain problems. Other health professionals may be invited to attend the conference to offer their expertise. Care plan conferences are most effective when there is a climate of respect that is, nonjudgmental acceptance of others even though their values, opinions, and beliefs may seem different.
- Nursing rounds are procedures in which two or more nurses visit selected clients at their bedside to obtain information that helps plan nursing care, to provide clients the opportunity

to discuss their care, and to evaluate the nursing care the clients have received. The nurse assigned to the client provides a brief summary of the clients nursing needs and the interventions being implemented. To facilitate the clients participation in nursing rounds, nurses need to use terms that the client can understand.

8. Prohibited Abbreviations

In 2004, JCAHO developed National Patient Safety Goals (NPSGs) to reduce communication errors. These goals are required to be implemented by all organizations accredited by JCAHO. As a result, the accredited organizations must develop a Do Not Use list of abbreviations, acronyms, and symbols. This list must include those banned by JCAHO. Many of the banned abbreviations are related to medication administration such as U, IU, MS, and S.C. Other banned abbreviations are derived from Latin such as H.S., A.S., A.D., Q.D., or Q.O.D.

Topic : Health Promotion

Topic Objective:

At the end of this topic student will able to understand:

- relationship of individuality and holism to nursing practice
- characteristics of homeostatic mechanisms
- theoretical frameworks used in individual health promotion
- Maslows characteristics of the self-actualized person
- Healthy People 2010 leading health indicators
- health promotion from health protection or illness prevention
- health promotion programs
- Health Promotion Model
- health behavior change
- nurses role in health promotion
- health of individuals
- Develop, implement, and evaluate plans for health promotion

Definition/Overview:

Health promotion, as defined by the World Health Organization, is the process of enabling people to increase control over, and to improve, their health.. In the USA, health promotion is much more narrowly conceived as "the science and art of helping people change their lifestyle to move toward a state of optimal health

Key Points:**1. Relationship of Individuality and Holism to Nursing Practice**

Assessing and planning health care of the client is enhanced when the nurse understands the concepts of individuality, holism, homeostasis, and human needs.

To help clients attain, maintain, or regain an optimal level of health, nurses need to understand clients as unique individuals who are different from every other human being. Nurses need to focus on both a total care context and an individualized care context. In the total care context, nurses consider all the principles and areas that apply when taking care of any client of that age and condition. In the individualized context, nurses become acquainted with clients as individuals, using the total care principles that apply to this person at this time.

Nurses are concerned with the individual as a whole, complete, or holistic person, not as an assembly of parts.

When applied in nursing, the concept of holism emphasizes that nurses must keep the whole person in mind and strives to understand how one area of concern relates to the whole person. Nurses must also consider the relationship of the client to the environment and to others.

2. Characteristics of Homeostatic Mechanisms

Homeostasis is the tendency of the body to maintain a state of balance or equilibrium while constantly changing. Homeostatic mechanisms have four main characteristics:

- Self-regulation
- Compensatory
- Regulated by negative feedback systems
- May require several feedback mechanisms to correct only one physiologic imbalance

3. Theoretical Frameworks Used In Individual Health Promotion

A variety of theoretical frameworks provide the nurse with a holistic overview of health promotion. Two major theoretical frameworks that nurses use in promoting health of an individual are needs theories and developmental stage theories. In needs theories, human needs are ranked on an ascending scale according to how essential the needs are for survival. Maslow (1970) ranked human needs on five levels in ascending order: physiologic, safety and security, love and belonging, self-esteem, and self-actualization. Kalish (1983) adapted Maslow's hierarchy, adding one more level between physiologic and safety and security-stimulation needs. Human needs serve as a framework for assessing behaviors, assigning priorities to desired outcomes, and planning nursing interventions. Developmental stage theories categorize a person's behavior or tasks into approximate age ranges or in terms that describe the features of an age group.

These theories allow nurses to describe typical behaviors of an individual within a certain age group, explain the significance of those behaviors, predict behaviors that might occur in a given situation, and provide a rationale to control behavioral manifestations.

4. Maslow's Characteristics

The self-actualized person has the following characteristics (see Figure 163):

- Is realistic, sees life clearly, and is objective about his or her observations
- Judges people correctly
- Has superior perception, is more decisive
- Has a clear notion of right and wrong
- Is usually accurate in predicting future events
- Understands art, music, politics, and philosophy
- Possesses humility, listens to others carefully
- Is dedicated to some work, task, duty, or vocation
- Is highly creative, flexible, spontaneous, courageous, and willing to make mistakes
- Is open to new ideas
- Is self-confident and has self-respect
- Has a low degree of self-conflict, personality is integrated
- Respects self, does not need fame, possesses a feeling of self-control

- Is highly independent, desires privacy
- Can appear remote and detached
- Is friendly, loving, and governed more by inner directives than by society
- Can make decisions contrary to popular opinion
- Is problem centered rather than self-centered
- Accepts the world for what it is

5. Healthy People 2010 Leading Health Indicators

- Healthy People 2010 present a comprehensive 10-year strategy for promoting health and preventing illness, disability, and premature death. Its two major goals are to increase quality and years of healthy life and to eliminate health disparities.
- To support these goals, Healthy People 2010 is organized around 28 focus areas to improve health. It also establishes a set of leading health indicators that reflect the major public health concerns in the United States at the beginning of the 21st century.

It is expected that these indicators will help develop action plans to improve the health of both individuals and communities. The foundation for Healthy People 2010 is the belief that individual health is closely linked to community health and the reverse; thus the vision for Healthy People 2010 is Healthy People in Healthy Communities. As a result, partnerships are important to improve individual and community health. Businesses, local government, and civic, professional, and religious organizations can all participate.

6. Health Promotion from Health Protection

- Considerable differences appear in the literature regarding the use of the terms health promotion, health protection, and illness prevention . The individuals motivation for the behavior is the major difference.
- Health promotion is not disease oriented. It is motivated by a personal, positive approach to wellness, and seeks to expand positive health potential.
- Health protection/illness prevention is illness or injury specific, is motivated by avoidance of illness, and seeks to thwart the occurrence of insults to health and well-being.

7. Various Types and Sites of Health Promotion Programs

Health promotion programs are found in many settings. They may be offered to individuals and families in the home or in the community setting and at schools, hospitals, or worksites. The type of program depends on the current concerns and the expertise of the sponsoring department or group.

For example, the local health department may offer a town-wide immunization program, the fire department may disseminate fire prevention information, and the police may offer a bicycle safety program for children or a safe-driving campaign for young adults.

Programs offered by health care organizations initially began with a specific focus on prevention such as infection control or fire prevention and gradually expanded to include issues related to employee health and lifestyle such as smoking cessation and exercise. Increasingly, hospitals have offered a variety of these programs to the community.

School health promotion programs may serve as a foundation for children of all ages to gain basic knowledge about personal hygiene and issues in the health science providing a cost-effective and convenient setting for health-focused programs. The school nurse may teach programs about basic nutrition, dental care, activity and play, drug and alcohol abuse, for example. Classroom teachers may include health-related topics in their lesson plans.

Worksite programs for health promotion have developed out of the need for businesses to control the rising cost of health care and employee absenteeism. Worksite programs may include health promotion programs that affect all employees such as air quality standards for the office or plant; programs aimed at specific populations, such as accident prevention for the machine worker; screening programs such as blood pressure screening; or health enhancement programs, such as fitness information and relaxation techniques.

8. Health Promotion Model

- The Health Promotion Model (revised) (HPM) is a competence or approach-oriented model in which the motivational source for behavior change is based on the individuals subjective value of the change that is, how the client perceives the benefits of changing the given health behavior.

- There are a number of variables in this model: individual characteristics and experiences, behavior-specific cognitions and affect, commitment to a plan of action, immediate competing demands and preferences, and behavioral outcomes.

Individual characteristics and experiences include personal factors and prior related experiences. Some personal factors, categorized as biological, psychological, and socio-cultural, can be changed and others cannot. Nursing intervention usually focuses on factors that can be modified; however, it can be just as important to focus on factors that cannot be changed, such as family history.

Prior health-related behavior includes previous experience, knowledge, and skill in health-promoting behavior. Individuals who made a habit of previous health-promoting behaviors and received a positive benefit as a result will engage in future health-promoting behaviors in contrast to those persons with a history of barriers to achieving the behavior. Behavior-specific cognitions and affect include a set of variables that is of major motivational significance for acquiring and maintaining health-promoting behaviors that can be modified through nursing interventions. These variables include perceived benefits of action, perceived barriers to action, perceived self-efficacy, activity-related affect, interpersonal influences, and situational influences. Commitment to action includes specifying strategies for carrying out and reinforcing the behavior.

Immediate competing demands and preferences can interfere with carrying out the plan to change behavior. A competing demand is a behavior over which an individual has a low level of control. Not responding to this demand may cause a more negative outcome than not performing the health-promoting behavior. Competing preferences are behaviors over which an individual has a high level of control; however, this control depends on the individual's ability to be self-regulating or to not give in. The health-promoting behavior is the outcome of the HPM and is directed toward obtaining positive health outcomes for the client.

9. Stages of Health Behavior Change

Health behavior change is a cyclic phenomenon in which a person goes through several stages. In the Transtheoretical Model (TTM) proposed by Prochaska, Redding, and Evers, there are six stages: precontemplation, contemplation, preparation, action, maintenance, and termination. If the person is not successful in changing behaviors, relapse occurs.

In the precontemplation stage, the person does not think about changing behavior in the next 6 months and may be uninformed or under informed about the consequences of the risk behaviors. If a person has tried changing previously and was unsuccessful, he or she may now see the behavior as fate or believe that change is hopeless. In the contemplation stage, the person acknowledges having a problem, seriously considers making a specific behavior change, actively gathers information, and verbalizes plans to change in the near future (e.g., next 6 months). Some people stay in this stage for months or years. When contemplators begin to transition to preparation, their thinking is marked by two changes: focusing on the solution and thinking more about the future than the past. The preparation stage occurs when the person intends to take action in the immediate future, may have started making small behavioral changes, and makes the final specific plans to accomplish the change. In the action stage, the person actively implements the behavioral and cognitive strategies of the action plan. This stage requires the greatest commitment of time and energy. In the maintenance stage, the person strives to prevent relapse by integrating newly adopted behaviors into his or her lifestyle. This stage lasts until the person no longer experiences temptation to return to previous unhealthy behaviors. Without a commitment, there will be a relapse. In the termination stage, the individual has complete confidence that the problem is no longer a temptation or threat. Experts debate whether some behaviors can be terminated versus requiring continual maintenance.

10. Nurses Role in Health Promotion

1) The nurses role in health promotion includes:

- Model healthy lifestyle behaviors and attitudes.
- Facilitate client involvement in the assessment, implementation, and evaluation of health goals.
- Teach clients self-care strategies to enhance fitness, improve nutrition, manage stress, and enhance relationships.
- Assist clients, families, and communities to increase their levels of health.
- Educate clients to be effective health care consumers.
- Assist clients, families, and communities to develop and choose health-promoting options.
- Guide clients development in effective problem solving and decision making.
- Reinforce clients personal and family health-promoting behaviors.
- Advocate in the community for changes that promote a healthy environment.

11. Health of Individuals

Plans for health promotion are based on a thorough assessment of the individuals health status. Components of this assessment are the health history and physical examination, physical fitness, lifestyle, spiritual health, social support system, and health risk assessments, health beliefs review, and life-stress review.

12. Develop, Implement, and Evaluate Plans for Health Promotion

Health promotion plans need to be developed according to the needs, desires, and priorities of the client. The client decides on goals, activities or interventions to achieve these goals, the frequency and duration of the activities, and the method of evaluation. Another essential aspect of planning is identifying support resources available to the client. Implementing is the doing part of the behavior change. Self-responsibility is emphasized. Nursing interventions may include supporting, counseling, facilitating, teaching, consulting, enhancing the behavior change, and modeling.

Evaluating takes place on an ongoing basis, both during the attainment of short-term goals and after the completion of long-term goals. During evaluation, the client may decide to continue with the plan, reorder priorities, change strategies, or revise the health protection/health promotion contract. Evaluation of the plan is a collaborative effort between the nurse and the client.

Topic : Health, Wellness, And Illness

Topic Objective:

At the end of this topic student will able to understand:

- health, wellness, and well-being
- five dimensions of wellness
- models of health
- factors affecting health status
- factors affecting health care adherence
- illness from disease and acute illness from chronic illness
- Parsons four aspects of the sick role

- Suchmans stages of illness
- effects of illness on individuals and family members roles and functions

Definition/Overview:

Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. Wellness (alternative medicine) -Wellness is generally used to mean a healthy balance of the mind-body and spirit that results in an overall feeling of well-being. This article discusses wellness from an alternative medicine perspective where wellness means being much more than just disease free. Illness (sometimes referred to as ill-health or ail) can be defined as a state of poor health.

Key Points:

Physical fitness is good bodily health, and is the result of regular exercise, proper diet and nutrition, and proper rest for physical recovery.

Mental health refers to a human individual's emotional and psychological well-being. Merriam-Webster defines mental health as "A state of emotional and psychological well-being in which an individual is able to use his or her cognitive and emotional capabilities, function in society, and meet the ordinary demands of everyday life."

According to the World Health Organization, there is no one "official" definition of mental health. Cultural differences, subjective assessments, and competing professional theories all affect how "mental health" is defined. In general, most experts agree that "mental health" and "mental illness" are not opposites. In other words, the absence of a recognized mental disorder is not necessarily an indicator of mental health.

One way to think about mental health is by looking at how effectively and successfully a person functions. Feeling capable and competent; being able to handle normal levels of stress, maintain satisfying relationships, and lead an independent life; and being able to "bounce back," or recover from difficult situations, are all signs of mental health.

Encompassing your emotional, social, and most importantly your mental well-being; All these aspects emotional, physical, and social must function together to achieve overall health.

1. Health, Wellness, and Well-Being

- Health, wellness, and well-being have many definitions and interpretations.
- Traditionally health was defined in terms of the presence or absence of disease.
- The World Health Organization (WHO) defines health as a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. This definition reflects concern for the total individual and places health in the context of the environment.
- Health has also been defined in terms of role and performance. Talcott Parson conceptualized health as the ability to maintain normal roles.
- The Presidents Commission on Health Needs of the Nation (1953) stated: Health is not a condition, it is an adjustment. It is not a state but a process. The process adapts the individual not only to our physical but also our social environment.
- In 1980 the ANA defined health as a dynamic state of being in which the developmental and behavioral potential of an individual is realized to the fullest extent possible. In this definition health includes striving toward optimal functioning. In 2004 the ANA also stated that health was an experience that is often expressed in terms of wellness and illness, and may occur in the presence or absence of disease or injury.
- Many people define and describe health as being free of disease and pain as much as possible; being able to be active and to do what they want or must; and being in good spirits most of the time.
- Wellness is a state of well-being. Basic aspects of wellness include self-responsibility; an ultimate goal; a dynamic, growing process; daily decision making in the areas of nutrition, stress management, physical fitness, preventive health care, and emotional health; and, most importantly, the whole being of the individual.

2. Dimensions of Wellness

- The dimensions of wellness are: physical, social, emotional, intellectual, spiritual, occupational, and environmental.
- The physical dimension of wellness is the ability to carry out daily tasks, to achieve fitness (e.g., pulmonary, cardiovascular, gastrointestinal), to maintain adequate nutrition and proper body fat, to avoid abusing drugs and alcohol or using tobacco products, and generally to practice positive lifestyle habits.

- The social dimension of wellness includes the ability to interact successfully with people and within the environment of which each person is a part, to develop and maintain intimacy with significant others, and to develop respect and tolerance for those with different opinions and beliefs.
- The emotional dimension is the ability to manage stress and to express emotions appropriately. Emotional wellness involves the ability to recognize, accept, and express feelings and to accept ones limitations.
- The intellectual dimension includes the ability to learn and use information effectively for personal, family, and career development. Intellectual wellness involves striving for continued growth and learning to deal with new challenges effectively.
- The spiritual dimension of wellness is the belief in some force (nature, science, religion, or a higher power) that serves to unite human beings and provide meaning and purpose to life. It includes a persons own morals, values, and ethics.
- The occupational dimension of wellness is the ability to achieve a balance between work and leisure time. A persons beliefs about education, employment, and home influence personal satisfaction and relationships with others.
- The environmental dimension of wellness is the ability to promote health measures that improve the standard of living and quality of life in the community. This includes influences such as food, water, and air.

3. Various Models of Health Outlined

- Models of health include the clinical model, the role performance model, the adaptive model, the eudemonistic model, the agent-host-environment model, and the health-illness continuum.
- The clinical model provides the narrowest interpretation of health. People are viewed as physiologic systems with related functions. Health is identified by the absence of signs and symptoms of disease or injury. It is considered the state of not being sick. In this model the opposite of health is disease or injury.
- In the role performance model, health is defined in terms of the individuals ability to fulfill societal roles. People who can fulfill their roles are healthy even if they have clinical illness. Sickness is the inability to perform ones role.
- In the adaptive model, health is a creative process. Disease is a failure in adaptation, or maladaptation. The aim of treatment is to restore the ability of the person to adapt. Extreme good health is flexible adaptation to the environment and interaction with the environment to

maximum advantage. The focus of this model is stability, although there is also an element of growth and change.

- The eudemonistic model incorporates a comprehensive view of health. Health is seen as a condition of actualization or realization of a persons potential. In this model the highest aspiration of people is fulfillment and complete development, which is actualization. Illness in this model is a condition that prevents self-actualization.
- The agent-host-environment model, also called the ecologic model, has three dynamic, interactive elements: agent (any environmental factor or stressor that by its presence or absence can lead to illness or disease), host (one or more persons who may or may not be at risk of acquiring a disease), and environment (all factors external to the host that may or may not predispose the person to the development of disease). Because each of the agent-host-environment factors constantly interacts with the others, health is an ever-changing state. When the variables are in balance, health is maintained. When variables are not in balance, disease occurs.
- Health-illness continua (grids or graduated scales) can be used to measure a persons perceived level of wellness. Health and illness or disease can be viewed as the opposite ends of a health continuum. People move back and forth within this continuum day by day. The ranges in which people can be thought of as healthy or ill are considerable. Examples include Dunns high-level wellness grid, Traviss illness-wellness continuum, and the 4+ model of wellness.

4. Factors Affecting Health Status, Beliefs, and Practices

- Many factors influence a persons health status, beliefs, behaviors and practices. These factors may or may not be under conscious control. People can usually control their health behaviors and can choose healthy or unhealthy activities. In contrast, people have little or no choices over their genetic makeup, age, gender, culture, and sometimes their geographical environments.
- Factors affecting health status, beliefs, and practices include internal variables and external variables. Internal variables are biologic, psychologic, and cognitive dimensions.
- Biologic dimension variables include genetic make-up, gender, age, and developmental level. Psychologic dimension variables include mindbody interactions and self-concept. Cognitive dimension variables include lifestyle choices and spiritual and religious beliefs.

- External variables are physical environment, standards of living, family and cultural beliefs, and social support networks.

5. Factors Affecting Health Care Adherence

- Adherence is the extent to which an individual's behavior coincides with medical or health advice. The degree of adherence may range from disregarding every aspect of the recommendations to following the total therapeutic plan.
- Factors influencing adherence include client motivation to become well; degree of lifestyle change necessary; perceived severity of the health care problem; value placed on reducing the threat of illness; difficulty in understanding and performing specific behaviors; degree of inconvenience of the illness itself or of the regimens; complexity, side effects, and duration of the proposed therapy; specific cultural heritage that may make adherence difficult; degree of satisfaction and quality and type of relationship with the health care providers; and overall cost of prescribed therapy.

Conditions of the body or mind that cause pain, dysfunction, or distress to the person afflicted or those in contact with the person can be deemed an illness. Sometimes the term is used broadly to include injuries, disabilities, syndromes, infections, symptoms, deviant behaviors, and atypical variations of structure and function, while in other contexts these may be considered distinguishable categories. A pathogen or infectious agent is a biological agent that causes disease or illness to its host. A passenger virus is a virus that simply hitchhikes in the body of a person or infects the body without causing symptoms, illness or disease. Foodborne illness or food poisoning is any illness resulting from the consumption of food contaminated with pathogenic bacteria, toxins, viruses, prions or parasite

6. Illness from Disease and Acute Illness from Chronic Illness

- Illness is a highly personal state in which the person's physical, emotional, intellectual, social, developmental, or spiritual functioning is thought to be diminished. It is not synonymous with disease and may or may not be related to disease. Illness is highly subjective. Only the individual person can say he or she is ill.
- Disease can be described as an alteration in body function resulting in a reduction of capacities or a shortening of the normal life span.

- Acute illness is typically characterized by severe symptoms of relatively short duration. Symptoms often appear abruptly and subside quickly and, depending upon the cause, may or may not require intervention by health care professionals. Following an acute illness, most people return to their normal level of wellness.
- A chronic illness lasts for an extended period, usually 6 months or longer and often for the person's life. Chronic illnesses usually have a slow onset and often have periods of remissions, when symptoms disappear, and exacerbations, when the symptoms reappear. Care needs to be focused on promoting the highest level possible of independence, sense of control, and wellness. In addition, many must learn how to live with increasing physical limitations and discomfort.

The governmental involvement is vital and may also be required to study a range of illnesses and treatments. Health care is the prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by the medical, nursing, and allied health professions. The organized provision of such services may constitute a health care system. Before the term "healthcare" became popular, English-speakers referred to medicine or to the health sector and spoke of the treatment and prevention of illness and disease. A patient is any person who receives medical attention, care, or treatment. The person is most often ill or injured and is being treated by, or in need of treatment by, a physician or other medical professional. Health consumer or health care consumer is another name for patient, usually used by some governmental agencies, insurance companies, and/or patient groups. Medical emergencies are injuries or illnesses that pose an immediate threat to a person's health or life which require help from a doctor or hospital. The doctor's specialization of emergency medicine includes techniques for effective handling of medical emergencies and resuscitation of patients. Emergency departments provides initial treatment to patients with a broad spectrum of illnesses and injuries, some of which may be life-threatening and requiring immediate attention. A drug is any chemical substance other than a food or device that affects the function of living things. Drugs can be used to treat illness, or they can be used recreationally to alter behavior and perception. Medications are typically produced by pharmaceutical companies and are often patented. Those that are not patented are called generic drugs. Some physicians can prescribe to overwhelm the homeostasis of a living organism, causing severe illness or death. Essentially it is a type of poisoning. In the context of biology, poisons are substances that can cause illness.

7. Parsons Four Aspects of the Sick Role

Parsons (1979) described four aspects of the sick role.

- Clients are not held responsible for their condition.
- Clients are excused from certain social roles and tasks.
- Clients are obligated to try to get well as quickly as possible.
- Clients or their families are obligated to seek competent help.

Bedrest as a medical treatment refers to staying in bed day and night, as in a treatment for a hangover. Even though most patients in hospitals spend most of their time in the hospital beds, bedrest more often refers to an extended period of recumbence at home.

Human enhancement technologies (HET) are technologies that can be used not simply for treating illness and disability, but also for enhancing human capacities and characteristics. Medication is a licenced drug taken to cure or reduce symptoms of an illness or medical condition. A wheelchair is mobility device that takes the form of a chair on wheels, used by people for whom walking is difficult or impossible due to illness or disability. Shock therapy is the deliberate and controlled induction of some form of physiological state of shock in an individual for the purpose of psychiatric treatment. Electrotherapy is the use of electrical energy in the treatment of impairments of health and conditions of abnormal functioning.

8. Suchmans Stages of Illness

Suchman (1979) described five stages of illness. Not all clients progress through each stage. Others may progress through only the first two stages and then recover.

- Stage 1 Symptom experience: The person comes to believe something is wrong.
- Stage 2 Assumption of the sick role: The person accepts the sick role and seeks confirmation from family and friends.
- Stage 3 Medical care contact: The person seeks advice of a health professional either on his or her own initiative or at the urging of significant others.
- Stage 4 Dependent client role: After accepting the illness and seeking treatment, the client becomes dependent on the professional for help.
- Stage 5 Recovery or rehabilitation: The client is expected to relinquish the dependent role and resume former roles and responsibilities.

9. Effects of Illness on Individuals and Family Members Roles and Functions

- Ill clients may experience behavioral and emotional changes, changes in self-concept and body image, and lifestyle changes.
- Behavioral and emotional changes associated with short-term illness are generally mild and short-lived. More acute responses are likely with severe, life-threatening, chronic, or disabling illness.
- Ill clients are also vulnerable to loss of autonomy. Family interactions may change so that the client may no longer be involved in making family decisions or even decisions about his or her own health care.
- Illness also often necessitates a change in lifestyle such as changing diet, activity, and exercise.
- A person's illness affects not only the person who is ill but also the family or significant others. The kind of effect and its extent depend chiefly on three factors: the member of the family who is ill, the seriousness and length of the illness, and the cultural and social customs the family follows.
- The changes that can occur in the family include role changes, task reassignments, and increased demands on time, increased stress due to anxiety about the outcome of the illness, conflict about unaccustomed responsibilities, financial problems, loneliness as a result of separation and pending loss, and changes in social customs.

Topic : Culture And Heritage

Topic Objective:

At the end of this topic student will be able to understand:

- role of federal agencies
- components of culturally focused nursing
- different health views of culturally diverse people
- biomedical care from folk healing
- communication with culturally diverse clients and colleagues
- core practice competencies of culturally competent nursing care
- methods of heritage assessment
- Plan culturally sensitive

Definition/Overview:

Cultural heritage ("national heritage" or just "heritage") is the legacy of physical artifacts and intangible attributes of a group or society that are inherited from past generations, maintained in the present and bestowed for the benefit of future generations. Often though, what is considered cultural heritage by one generation may be rejected by the next generation, only to be revived by a succeeding generation.

Physical or "tangible cultural heritage" includes buildings and historic places, monuments, artifacts, etc., that are considered worthy of preservation for the future. These include objects significant to the archaeology, architecture, science or technology of a specific culture.

"Natural heritage" is also an important part of a culture, encompassing the countryside and natural environment, including flora and fauna. These kind of heritage sites often serve as an important component in a country's tourist industry, attracting many visitors from abroad as well as locally.

The heritage that survives from the past is often unique and irreplaceable, which places the responsibility of preservation on the current generation. Smaller objects such as artworks and other cultural masterpieces are collected in museums and art galleries. Grass roots organizations and political groups have been successful at gaining the necessary support to preserve the heritage

Key Points:

Significant was the Convention Concerning the Protection of World Cultural and Natural Heritage that was adopted by the General Conference of UNESCO in 1972. As of 2006, there are 830 World Heritage Sites: 644 cultural, 162 natural, and 24 mixed properties, in 138 countries. Each of these sites is considered important to the international community.

A broader definition includes intangible aspects of a particular culture, often maintained by social customs during a specific period in history. The ways and means of behavior in a society, and the often formal rules for operating in a particular cultural climate. These include social values and traditions, customs and practices, aesthetic and spiritual beliefs, artistic expression, language and other aspects of human activity. The significance of physical artifacts can be interpreted against the backdrop of socioeconomic, political, ethnic, religious

and philosophical values of a particular group of people. Naturally, intangible cultural heritage is more difficult to preserve than physical objects.

1. The Role of Federal Agencies, Initiatives, and Laws on Provision of Cultural Health Care

The U.S. Department of Health and Human Services (DHHS) houses the Office of Minority Health to improve and protect the health of racial and ethnic minority populations through the development of health policies and programs that will eliminate health disparities. In collaboration with other organizations, it developed the National Standards for Culturally and Linguistically Appropriate Services in Health Care (CLAS).

The Centers for Disease Control and Prevention (CDC) also has an Office of Minority Health to promote health and quality of life by preventing and controlling the disproportionate burden of disease, injury, and disability among racial and ethnic minority populations.

The purpose of the National Center on Minority Health and Health Disparities (NCMHD) in the National Institutes of Health is to promote minority health and to lead, coordinate, support, and access the NIH effort to reduce and ultimately eliminate health disparities.

The nursing profession plays a major role in REACH: Racial and Ethnic Approaches to Community Health, which strives to eliminate racial and ethnic disparities in infant mortality, in screening and management of breast and cervical cancer, cardiovascular diseases, diabetes, HIV infections/AIDS, and child and adult immunizations.

One of the major goals of Healthy People 2010 is to eliminate health disparities by gender, race or ethnicity, education, income, disability, geographic location, and sexual orientation. To achieve this goal, the Health Resources and Services Administration (HRSA) aim to increase the number of under-represented racial and ethnic groups entering the nursing profession.

Current nursing practice has been influenced by the National Healthcare Disparities Report, which is a comprehensive overview of disparities in health care among racial, ethnic, and socioeconomic groups in the general U.S. population and among priority populations. This report indicates that, although overall the quality of health care has improved, differences in

access and quality of care between whites and minorities have decreased overall, and the quality and access disparity for Hispanics has widened.

2. Components of Culturally Focused Nursing, Heritage Consistency, and Health Traditions

Cultural nursing care is the provision of nursing care across cultural boundaries and takes into account the context in which the client lives as well as the situations in which the clients health problems arise. Professional nursing care is culturally sensitive, culturally appropriate, and culturally competent. Culturally sensitive implies that nurses possess some basic knowledge of and constructive attitudes toward the health traditions observed among the diverse cultural groups found in the setting in which they practice. Culturally appropriate implies that nurses apply the underlying background knowledge that must be possessed to provide a client with the best possible care. Culturally competent implies that, within the delivered care, nurses understand and attend to the total context of the clients situation and use a complex combination of knowledge, attitudes, and skills.

Heritage consistency relates to the observance of beliefs and practices of a persons traditional cultural system. It has been expanded in an attempt to study the degree to which a persons lifestyle reflects his or her traditional culture. The model of heritage consistency has four overlapping components: culture, ethnicity, religion, and socialization. The health traditions model is predicated on the concept of holistic health and describes what people do from a traditional perspective to maintain, protect, and restore health. This model describes health as a balance of all aspects of the personbody, mind, and spirit. The Health traditions model consists of nine interrelated facets, represented by traditional methods of maintaining health, traditional methods of protecting health, and traditional methods of restoring health.

3. Different Health Views Of Culturally Diverse People

- Three views of health beliefs include magico-religious, scientific, and holistic. In the magico-religious health belief view, health and illness are controlled by supernatural forces. Individuals may believe that illness is the result of being bad or opposing Gods will. Getting well is also viewed as dependent on Gods will. Some cultures believe that magic can cause illness through spells or hexes. Such illnesses may require magical treatments in addition to scientific treatment.

- Scientific or biomedical health belief is based on the belief that life and life processes are controlled by physical and biochemical processes that can be manipulated by humans. Illness is caused by germs, bacteria, or a breakdown of the human machine, the body. Clients will expect a pill, a treatment, or surgery to cure the problem.
- The holistic health belief holds that the forces of nature must be maintained in balance or harmony. Human life is one aspect of nature that must be in harmony with the rest of nature. When the natural balance or harmony is disturbed, illness results.

4. Biomedical Care from Folk Healing

Folk medicine is defined as those beliefs and practices relating to illness prevention and healing that derive from cultural traditions rather than from modern medicines scientific base. Folk medicine is thought to be more humanistic than biomedical health care. The consultation and treatment takes place in the community of the recipient, frequently in the home of the healer. It may be less expensive than scientific or biomedical care. A frequent component of treatment is some ritual practiced on the part of the healer or the client to cause healing to occur. Folk healing is more culturally based and it is often more comfortable and less frightening for the client.

5. Communication with Culturally Diverse Clients And Colleagues

- Communicating effectively with clients of various ethnic and cultural backgrounds is critical to providing culturally competent nursing care. There are cultural variations in both verbal and nonverbal communication.
- The most obvious cultural difference is in verbal communication: vocabulary, grammatical structure, voice qualities, intonation, rhythm, speed, pronunciation, and silence.
- Initiating verbal communication may be influenced by cultural values. Verbal communication becomes even more difficult when an interaction involves people who speak different languages. The assistance of a translator or interpreter may be required. Techniques for therapeutic communication are listed in Practice Guidelines: Verbal Communication with Clients Who Have Limited Knowledge of English.
- Nurses must remember that clients for whom English is a second language may lose command of their English when they are in stressful situations. Clients may forget and revert to their primary language when they are ill or distressed. Nurses must be aware of two

aspects of nonverbal communication behaviors: what nonverbal behaviors mean to the client and what specific nonverbal behaviors mean in the clients culture.

Nonverbal communication can include the use of silence, touch, eye movement, facial expressions, and body posture. Some cultures are comfortable with silence. Other cultures consider it appropriate to speak before others have finished talking. Others view silence as a sign of respect. For others, silence may indicate agreement. Touching is a learned behavior that can have both positive and negative meanings. Cultures dictate what forms of touch are appropriate for individuals of the same and opposite gender.

Facial expressions can vary between cultures. Some cultures smile and use facial expressions, and others are less open in response. Facial expressions can also convey a meaning opposite to what is felt or understood. Eye movement during communication has cultural foundations. In some cultures direct eye contact is regarded as important, conveys self-confidence, openness, interest, and honesty. In these cultures lack of eye contact may be interpreted as secretiveness, shyness, guilt, lack of interest, or even a sign of mental illness. In other cultures direct eye contact is considered rude, but intermittent eye contact may be acceptable. Body posture and hand gestures are also culturally learned. A gesture can be accepted in one culture and be offensive in another.

6. Core Practice Competencies of Culturally Competent Nursing Care

Include cultural assessment of the client and family as part of overall assessment.

Learn the rituals, customs, and practices of the major cultural groups with whom you come into contact. Learn to appreciate the richness of diversity and consider it an asset rather than a hindrance in your practice. Dont make assumptions about beliefs or practices. Ask about the clients use of cultural or alternative approaches to healing.

Identify your personal biases, attitudes, prejudices, and stereotypes. Recognize that it is the clients (or familys) right to make their own health care choices. Explain in detail the clients condition and the treatment plan if the client is willing for you to do this. Convey respect and cooperate with traditional helpers and caregivers. Campinha-Bacotes model of cultural competence (2003) is also of special relevance to understand the core practice competencies of culturally appropriate nursing care. In this model, nurses are encouraged to integrate into

their practice the following five constructs: cultural awareness, cultural knowledge, cultural skills, cultural encounters, and cultural desires.

Objects are important to the study of human history because they provide a concrete basis for ideas, and can validate them. Their preservation demonstrates recognition of the necessity of the past and of the things that tell its story. In *The Past is a Foreign Country*, David Lowenthal observes that preserved objects also validate memories; and the actuality of the object, as opposed to a reproduction or surrogate, draws people in and gives them a literal way of touching the past. This unfortunately poses a danger as places and things are damaged by the hands of tourists, the light required to display them, and other risks of making an object known and available. The reality of this risk reinforces the fact that all artifacts are in a constant state of chemical transformation, so that what is considered to be preserved is actually changing it is never as it once was. Similarly changing is the value each generation may place on the past and on the artifacts that link it to the past. Decisions made about maintenance and access at any time will affect whether an artifact will survive as part of the cultural heritage.

7. Methods of Heritage Assessment

An assessment interview questionnaire is a tool that can be used to ask the client questions specific to the heritage assessment. This tool facilitates communication with clients and their families and is designed to determine if clients are identifying with their traditional cultural heritage (heritage consistency) or if they have acculturated into the dominant culture (see the Assessment Interview: Heritage Assessment Tool). Several factors are indicative of heritage consistency. These can be explored by the nurse to determine the depth to which a person identifies with his or her traditional heritage.

Before a heritage assessment begins, the nurse should determine what language the client speaks and the clients degree of fluency in the English language. The nurse needs to spend some time with clients, introduce some social conversation, and convey a genuine desire to understand the clients values and beliefs. How and when questions are asked requires sensitivity and clinical judgment. Timing is important in introducing questions, and sensitivity is needed in phrasing questions.

8. Plan Culturally Sensitive, Appropriate, and Competent Nursing Interventions

Nursing diagnoses developed by NANDA are based on Western cultural beliefs. Nurses must provide appropriate care to clients of any culture. This is accomplished through developing cultural sensitivity and considering how a client's culture influences his or her responses to health conditions. Potential outcome is that the client can promote, maintain, and/or regain mutually desired and obtainable levels of health within the realities of their life circumstances.

There are several steps involved:

- Nurses must become aware of their own cultural heritage.
- The nurse must become aware of the client's heritage and health traditions as described by the client.
- The nurse must become aware of adaptations the client made to live in a North American culture.
- The nurse must form a nursing plan with the client that incorporates his or her cultural beliefs regarding the maintenance, protection, and restoration of health.

9. Culturally Sensitive Care Planning

Provide appropriate care to clients of any culture

- Become aware of own cultural heritage
- Become aware of client's heritage and health traditions
- Become aware of adaptations client made to live in North American culture
- Form a nursing plan that incorporates cultural beliefs regarding maintenance, protection, and restoration of health

Topic : Complementary And Alternative Healing Modalities

Topic Objective:

At the end of this topic student will be able to understand:

- Concepts basic to alternative practices
- Healing environments

- Self-care plan using alternative practices
- Herbs are similar to many prescription drugs
- Naturopathic medicine may be the model health care system of the future
- role of manual healing methods
- Goals that yoga, meditation, hypnotherapy
- Bio-electromagnetic and infrared photo energy therapy
- Various types of detoxification
- Uses of animals, prayer, and humor as treatment modalities

Definition/Overview:

Complementary and alternative medicine (CAM) is an umbrella term for complementary medicine and alternative medicine. The term also incorporates integrative medicine. Typical examples of CAM approaches are herbalism, meditation, chiropractic, yoga, body work and diet-based therapies. Definitions of CAM vary with culture and time and can change with scientific evidence. CAM therapies have been criticized by scientific researchers.

Key Points:

According to the Institute of Medicine (IOM), "A lack of consistency in the definition of what is included in CAM is found throughout the literature." For the purposes of their report, entitled "Complementary and Alternative Medicine in the United States" (2005), the IOM adopted this definition: "Complementary and alternative medicine (CAM) is a broad domain of resources that encompasses health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the dominant health system of a particular society or culture in a given historical period. CAM includes such resources perceived by their users as associated with positive health outcomes. Boundaries within CAM and between the CAM domain and the domain of the dominant system are not always sharp or fixed."

1. Concepts Basic to Alternative Practices

- Several concepts are common to most alternative practices: holism, humanism, balance, spirituality, energy, and healing environments.

- Holism is a paradigm of the whole systems belief that people are more than physical bodies with fixable and replaceable parts. Combined mental, emotional, spiritual, relationship and environmental components, referred to as holism, are considered to play crucial and equal roles in a persons state of health. Interventions are individualized within the entire context of the persons life.
- Humanism is a perspective that includes propositions such as the mind and body are indivisible, people have the power to solve their own problems, people are responsible for the patterns of their lives, and well-being is a combination of personal satisfaction and contributions to the larger community.
- Balance consists of mental, physical, emotional, spiritual, and environmental components. Not only does each component have to be balanced, equilibrium is needed among the components.
- Spirituality includes the drive to become all that one can, and is bound to intuition, creativity, and motivation. It is the dimension that involves relationship with oneself, with others, and with a higher power. Spirituality gives people meaning and purpose in their lives. It involves significant meaning in the entirety of life, including illness and death.
- Energy is viewed as the force that integrates the body, mind, and spirit. It is that which connects everything. Grounding relates to ones connection with the ground and to ones whole contact with reality. Being grounded suggests stability, security, independence, having a solid foundation, and living in the present rather than escaping into dreams. Centering refers to the process of bringing oneself to the center or middle; being fully connected to the part of their bodies where all energies meet. It is the process of focusing ones mind on the center of energy allowing one to operate intuitively and with awareness, and to channel energy throughout the body.

2. Healing Environments

Healing environments are created when nurses use hands, heart, and mind to provide holistic nursing care. Healing environments are created by providing knowledge, skills, and the support that allow clients to tap into their inner wisdom and make healthy decisions. Healing environments are a synthesis of the medical-curing approach and the nursing-healing approach. Healing environments are created when time is taken to be with clients in deeply caring ways, to become still and enter the others subjective world, and to be wholly present

for that person. Nurses must also create healing environments for themselves. They need to learn how to restore energy and replenish themselves.

3. Self-Care Plan Using Alternative Practices

Clarify values and beliefs. Identify those things that are important, meaningful, and valuable to you, and assess whether your actions are consistent with your beliefs. For example, do you value time spent with your children and time reading or listening to music? Set realistic goals. Identify long-term goals and then short-term goals that will help you meet the long-term goals. For example, a long-term goal might be to experience an increase in emotional and physical comfort, and a short-term goal might be to take a 30-minute walk each evening. Challenge the belief that others always come first. Over involvement with clients leads to overwork and overly solicitous helping that neglects the clients responsibilities, autonomy, and resources. It leaves little time for fulfillment of personal needs. Learn to ask for what you need, acknowledge that you are doing the best you can, and affirm that you can meet your own needs as well as care for others. Learn to manage stress.

4. Managing Stress

- Acknowledge the mindbody connectionthe relationship among thoughts, feelings, behaviors, and the physiologic response to stress.
- Monitor stress warning signals. Invoke the relaxation response on a regular basis such as once a day for 20 minutes or twice a day for 10 minutes.
- Develop the skill of personal presencephysically being there and psychologically being with a client or other person. To be available to others in this way requires practicing the skill of being present to yourself. Focus full attention on the activity you are doing at the moment.
- Maintain and enhance physical health. Eat healthy, balanced meals; exercise regularly; and obtain adequate rest.
- Develop a support network. Fellow nurses can often provide perspectives and insights to help cope with commonly shared experiences.

Other groups and individuals have offered various definitions and distinguishing characteristics of CAM. The NationalCenter for Complementary and Alternative Medicine defines CAM as "a group of diverse medical and health care systems, practices, and products that are not currently part of conventional medicine." NCCAM has developed what the IOM

calls "one of the most widely used classification structures" for the branches of complementary and alternative medicine. David M. Eisenberg defines CAM as "medical interventions not taught widely at U.S. medical schools or generally available at U.S.hospitals." Richard Dawkins defines CAM as a "set of practices which cannot be tested, refuse to be tested, or consistently fail tests." Marcia Angell and J. P. Kassirer state that "There is only medicine that has been adequately tested and medicine that has not, medicine that works and medicine that may or may not work." Fontanarosa and Lundberg also deny that such a thing as "alternative medicine" exists, saying there is only "evidence-based medicine supported by solid data or unproven medicine."

5. Herbs Are Similar To Many Prescription Drugs

Conventional primary care providers use plant-derived products regularly. Thirty percent of all prescription drugs in the United States are derived from plants (e.g., aspirin from willow tree bark, morphine from opium poppy, atropine from nightshade).

The vast majority of herbal medicines present no danger if taken appropriately. Some can cause serious side effects if taken in excess or, for some, if taken over a prolonged period of time. Herbs can also interact with drugs, and caution should be used when combining herbs with prescription and over-the-counter (OTC) medications. (See Practice Guidelines: Cautions and Contraindications for Popular Herbal Preparations.)

Although herbs can be quite effective, like prescription drugs it is important to caution people about becoming dependent on them. Pregnant and breast-feeding women should be cautioned not to take herbs internally except for mild herb teas. Nurses must be open to exploring and discussing their clients uses of and questions regarding herbal medicine. This allows for evaluation of herbal intake against known and potential adverse interactions with prescriptions and OTC medications. The term "alternative medicine" is used to describe these practices when they are used in place of conventional medicine. Used in conjunction and cooperation with conventional medicine they are termed "complementary medicine". "Integrative" or "integrated medicine" combines conventional medical treatments with CAM treatments which have some high-quality scientific evidence. It is viewed by its advocates as the best of complementary medicine. Ralph Snyderman and Andrew Weil considered "integrative medicine is not synonymous with complementary and alternative medicine (CAM). It has a far larger meaning and mission in that it calls for restoration of the

focus of medicine on health and healing and emphasizes the centrality of the patient-physician relationship." The combination of orthodox and complementary medicine with an emphasis on prevention and lifestyle changes is known as integrated health.

6. Naturopathic Medicine May Be The Model Health Care System Of The Future

- Naturopathic medicine is not only a system of medicine but also a way of life with emphasis on client responsibility, client education, health maintenance, and disease prevention.
- It may be the model health system of the future with the movement toward healthy lifestyles, healthy diets, and preventive health care.
- Naturopathic physicians do not provide emergency care nor do major surgery. They rarely prescribe drugs, and they treat clients in private practice and outpatient clinics, not in hospitals.
- The goal of treatment is the restoration of health and normal body functions rather than the application of a particular therapy. Virtually every CAM therapy is utilized. Physicians mix and match different approaches, customizing treatment for each person. The least invasive intervention to support the body's natural healing processes is a primary consideration.
- According to the NCCAM formerly unproven remedies may be incorporated into conventional medicine if they are shown to be safe and effective.

According to Angell and Kassirer, "What most sets alternative medicine apart, in our view, is that it has not been scientifically tested and its advocates largely deny the need for such testing." They also state "many treatments used in conventional medicine have not been rigorously tested, either, but the scientific community generally acknowledges that this is a failing that needs to be remedied." They state: "Once a treatment has been tested rigorously, it no longer matters whether it was considered alternative at the outset. If it is found to be reasonably safe and effective, it will be accepted." According to Dawkins, disproven practices remain in the realm of CAM. Edzard Ernst, Professor of Complementary Medicine at the University of Exeter, believes that CAM can and should be subjected to scientific testing. In his view, there can be "good CAM" or "bad CAM" based on evidentiary support.

7. Role of Manual Healing Methods in Health And Illness

- Manual healing methods include chiropractic, massage, acupuncture/acupressure/reflexology, and hand-mediated biofield therapies.

- The goals of chiropractic interventions are to reduce or eliminate pain; to correct spinal dysfunction thereby restoring biomechanical balance to reestablish shock absorption, leverage, and range of motion; to strengthen muscles and ligaments by spinal rehabilitative exercises in order to increase resistance to further injury; and to practice preventive maintenance to ensure the problem does not recur.
- Massage aids the ability of the body to heal itself and is aimed at achieving or increasing health and well-being.
- Acupuncture, acupressure, and reflexology are treatments rooted in the traditional Eastern philosophy that qi, or life energy, flows through the body along pathways known as meridians, forming tiny whirlpools close to the skin's surface at places called acupuncture points. When the flow of energy becomes blocked or congested, people experience discomfort or pain on a physical level, may feel frustrated or irritable on an emotional level, and may experience a sense of vulnerability or lack of purpose in life on a spiritual level. The goal of care is to recognize and manage disruption before illness or disease occurs. Practitioners bring balance to the body's energies, which promotes optimal health and well-being and facilitates people's own healing capacity.
- Hand-mediated biofield therapies include therapeutic touch (TT), healing touch (HT), and reiki. All three approaches could be simply defined as the use of the hands on or near the body with the intention to heal. The goals are to accelerate the person's own healing process and to facilitate healing at all levels of body, mind, emotions, and spirit. All three are forms of treatment and are not designed to diagnose physical conditions, nor are they meant to replace conventional surgery, medicine, or drugs in treating organic disease. These therapies are helpful for people with a variety of medical and nursing diagnoses.

M.R. Tonelli argues that CAM cannot be evidence-based unless the definition of evidence is changed. He states that "the methods of developing knowledge within CAM currently have limitations and are subject to bias and varied interpretation. CAM must develop and defend a rational and coherent method for assessing causality and efficacy, though not necessarily one based on the results of controlled clinical trials."

8. Goals that Yoga, Meditation, Hypnotherapy, Guided Imagery, Qigong, And Tai Chi Have In Common

- Mindbody therapies include yoga, meditation, hypnotherapy, guided imagery, qigong, and tai chi.

- In mindbody therapies, clients focus on realigning or creating balance in mental processes to bring about healing. The goal of mindbody therapies is to decrease stress and bring increased relaxation to the body and mind.

A review of Michael L. Millenson's book *Demanding Medical Excellence: Doctors and Accountability in the Information Age* described it as "a wake up call to both medicine and nursing" due to what Millenson calls a "lack of scientific-based medical practice". According to the review, the book states that "85% of current practice has not been scientifically validated" and that it suggests that users of the research presented by Medline should question research articles rather than assuming they are accurate simply because they are published. The review states that Millenson's thesis and conclusion call for all health researchers and policy makers do a better job in assuring valid methodology and avoidance of bias in published research. Michael Dixon, the Director of the NHS Alliance stated that "People argue against complementary therapies on the basis of a lack of evidence. But I'd say only 10 per cent of what doctors do in primary care is evidence-based." Many CAMs are criticized by the activist non-profit organization Quackwatch.

A survey of websites providing information about breast cancer found that about one in twenty such sites contained inaccurate information, and that CAM websites were 15 more likely to contain inaccuracies.

9. Theory Underlying Bioelectromagnetics and Infrared Photoenergy Therapy

- Bioelectromagnetics is the emerging science that studies how living organisms interact with electromagnetic fields. It works on the principle that every animal, plant, and mineral has an electromagnetic field that enables organic and inorganic objects, such as crystals, to communicate and interact as part of a single, unified energy system. Magnetic fields are able to penetrate the body and affect the functioning of cells, tissues, organs, and systems.
- Infrared photoenergy therapy is believed to work by increasing energy inside cells, as well as by improving circulation.

10. Various Types Of Detoxi

- Detoxification is the belief that physical impurities and toxins must be cleared from the body to achieve better health. Hydrotherapy, colonics, and chelation therapy are types of detoxification.
- Hydrotherapy is the use of water as a healing treatment. The use of hot and cold moisture in the form of solid, liquid, or gas makes use of the body's response to heat and cold. Hydrotherapy is used to decrease pain, decrease fever, reduce swelling, reduce cramps, induce sleep, and improve physical and mental tone.
- Colonics, or colon therapy, is based on the idea that a high-fat, Western diet leads to an accumulation of a thick, glue-like substance in the colon, which in turn produces toxins that lead to disease. Colonics is the procedure for washing the inner walls of the colon by filling it with water or herbal solutions and then draining it. Colon cleansing is a controversial method of detoxification.
- Chelation therapy is the introduction of chemicals into the bloodstream that bind with heavy metals in the body.

11. Uses of Animals, Prayer, and Humor as Treatment Modalities

Animal-assisted therapy: The use of specifically selected animals as a treatment modality in health and human service settings has been shown to be a successful intervention for people with a variety of physical or psychological conditions. For example, throwing a ball for a dog increases upper extremity range of motion, ambulating with a dog improves mobility, and attending to the animal and the situation increases attention and concentration. Resident animals live in long-term health care facilities. Residents who have regular visits by the animals are more receptive to treatment, have a greater incentive to recover, and have an increased will to live. The contributions companion animals (personal pets) make to the emotional well-being of people include providing unconditional love and opportunities for affection, achievement of trust, responsibility, and empathy toward others. Companion animals provide a reason to get up in the morning and a source of reassurance.

Prayer: Prayer is most often defined simply as a form of communication and fellowship with the Deity or Creator. It is also defined as an active process of appealing to a higher spiritual power, specifically for health reasons when used with CAM. Prayer is a self-care strategy that provides comfort, increases hope, and promotes healing and psychological well-being.

Humor: Humor is the ability to discover, express, or appreciate the comical or bizarre; to be amused by ones own imperfections or the whimsical aspects of life; and to see the funny side of an otherwise serious situation. Humor in nursing is defined as helping the client to perceive, appreciate, and express what is funny, amusing, or ludicrous in order to establish relationships, relieve tension, release anger, facilitate learning or cope with painful feeling. Humor has physiologic benefits that involve alternating states of stimulation and relaxation. Humor brings out and integrates peoples positive emotionshope, faith, will to live, festivity, purpose, and determinationand therefore has healing properties.

Topic : Concepts Of Growth And Development

Topic Objective:

At the end of this topic student will able to understand:

- Growth and development
- Influence growth and development
- Concept of temperament
- Stages of growth and development according to various theorists
- Characteristics and implications of Freuds five stages of development
- Eriksons eight stages of development
- Developmental tasks associated with Havighursts six age periods
- Pecks and Goulds stages of adult development
- Piagets theory of cognitive development
- Kohlbergs and Gilligans theories of moral development
- Fowlers and Westerhoffs stages of spiritual development

Definition/Overview:

Growth refers to an increase in some quantity over time. The quantity can be physical (e.g., growth in height, growth in an amount of money) or abstract (e.g., a system becoming more complex, an organism becoming more mature).

Key Points:**1. Growth and Development**

Growth and development both refer to dynamic processes and are often used interchangeably but have different meanings.

Growth is physical change and increase in size. It can be measured quantitatively. Indicators of growth include height, weight, and bone size, for example. Patterns of physiological growth are similar for all people. However, growth rates vary during different stages of growth and development. Growth is most rapid during prenatal, neonatal, infancy, and adolescent stages. Growth slows during childhood and is minimal in adulthood.

Development is an increase in the complexity of function and skill progression. It is the capacity and skill of a person to adapt to the environment. Examples of development of abilities include learning to walk, talk, and run. Development is the behavioral aspects of growth.

Growth and development are independent, interrelated processes. Growth generally takes place during the first 20 years of life. Development takes place during that time and also continues after that point.

2. Principles Related To Growth and Development

Growth and development are continuous, orderly, sequential processes influenced by maturational, environmental, and genetic factors. All humans follow the same pattern of growth and development. The sequence of each stage is predictable although the time of onset, the length of the stage, and the effects of each stage vary with the person. Learning can either help or hinder the maturational process, depending upon what is learned. Each developmental stage has its own characteristics. Growth and development occur in a cephalocaudal direction: starting at the head and moving to the trunk, legs, and feet. Growth and development occur in a proximodistal direction: from the center of the body outward. Development proceeds from simple to complex or from single acts to integrated acts. Development becomes increasingly differentiated. Certain stages of growth and development are more critical than others. The pace of growth and development is uneven.

3. Influence Growth and Development

Many factors influence growth and development, including genetics, temperament, family, nutrition, environment, health, and culture.

4. Concept of Temperament

- Temperament is the way individuals respond to their external and internal environment. This sets the stage for interactive dynamics of growth and development.
- Temperament may persist throughout the life span, though caution must be taken not to irrevocably label or categorize infants and children. The goodness of fit between children's temperamental qualities and the demand of their environment contribute to positive growth and development. When parents understand the child's temperament, they are better able to shape environment to meet the child's needs.
- Chess and Thomas identified nine temperamental qualities seen in children's behavior: activity level, sensitivity, intensity, adaptability, distractibility, approach/withdrawal, mood, persistence, and regularity.

5. Stages of Growth and Development According To Various Theorists

The rate of a person's growth and development is highly individual; however, the sequence of growth and development is predictable. The neonatal period is from birth to 28 days.

Behavior is largely reflexive but develops to more purposeful behavior. During infancy (1 month to 1 year), physical growth is rapid. During toddlerhood (1 to 3 years), motor

development permits increased physical autonomy, and psychosocial skills increase. For

preschoolers (3 to 6 years), the world is expanding. New experiences and social roles are

tried during play. Physical growth slows. School age (6 to 12 years) includes the

preadolescent period (10 to 12 years). Peer groups have an increasing influence on behavior.

Physical, cognitive, and social development increase and communication skills improve.

During adolescence (12 to 20 years), self-concept changes with biologic development.

Values are tested, physical growth accelerates, and stress increases, especially in the face of conflicts. During young adulthood (20 to 40 years), a personal lifestyle develops. The young adult establishes a relationship with a significant other and a commitment to something.

Middle adulthood (40 to 65 years) includes lifestyle changes due to other changes. For

example, children leave home and occupational goals change. During older adulthood, the

young-old (65 to 74 years) adapt to retirement and changing physical abilities. Chronic illness may develop. The middle-old (75 to 84 years) adapt to decline in speed of movement and reaction time. Increasing dependence on others may be necessary. The old-old (85 and over) may develop increasing physical problems.

6. Characteristics and Implications of Freuds Five Stages of Development

- According to Freuds theory of psychosexual development, the personality develops in five overlapping stages from birth to adulthood.
- The oral stage is from birth to 1 1/2 years. The mouth is the center of pleasure (gratification and exploration). Security is the primary need. The major conflict is weaning. Feeding produces pleasure and a sense of comfort and safety. Feeding should be pleasurable and provided when required.
- The anal stage is from 1 1/2 to 3 years. The anus and bladder are the source of pleasure (sensual satisfaction, self-control). The major conflict is toilet training. Controlling and expelling feces provide pleasure and a sense of control. Toilet training should be a pleasurable experience.
- The phallic stage is from 4 to 6 years. The genitals are the center of pleasure; masturbation offers pleasure. Fantasy, experimentation with peers, and questioning adults about sexual topics become common. The major conflict is the Oedipus or Electra complex, which resolves when the child identifies with the parent of the same gender, identifies with the parent of the opposite sex, and later takes on a love relationship outside the family. This stage encourages identity.
- The latency stage is from 6 years to puberty. Energy is directed to physical and intellectual activities. Sexual impulses tend to be repressed. Relationships develop between peers of the same gender. The child should be encouraged in physical and intellectual pursuits. Encourage sports and other activities with same- gender peers.
- The genital stage is puberty and after. Energy is directed toward full sexual maturity and function and development of skills needed to cope with the environment. Encourage separation from parents and achievement of independence and decision making.

7. Eriksons EightStages of Development

Eriksons stages of development reflect both positive and negative aspects of the critical life periods. The resolution of conflicts at each stage enables the person to function effectively in

society. Failure to resolve crises damages the ego. The infancy stage is from birth to 18 months. The central task at this stage is trust versus mistrust. The early childhood stage is from 18 months to 3 years. The central task is autonomy versus shame and doubt. The late childhood stage is from 3 to 5 years. The central task is initiative versus guilt.

The school-age stage is from 6 to 12 years. The central task is industry versus inferiority. The stage of adolescence is from 12 to 20 years. The central task is identity versus role confusion. The stage of young adulthood is from 18 to 25 years. The central task is intimacy versus isolation. Adulthood is from 25 to 65 years. The central task of this stage is generativity versus stagnation. The maturity stage is from 65 years to death. The central task is integrity versus despair.

8. Havighursts Six Age Periods

- Havighurst believed that learning is basic to life and people continue to learn throughout life. Developmental tasks arise at or about a certain period of life. Successful achievement of these tasks leads to happiness and success in later tasks while failure to accomplish these tasks leads to unhappiness, disapproval by society and difficulty achieving later tasks.
- Infancy and early childhood: The child is learning to walk; learning to eat solid foods; learning to talk; learning to control the elimination of body wastes; learning sex differences and sexual modesty; achieving psychologic stability; forming simple concepts of social and physical reality; learning to relate emotionally to parents, siblings, and other people; and learning to distinguish right from wrong and developing a conscience.
- Middle childhood: The child is learning physical skills necessary for ordinary games; building wholesome attitudes toward oneself as a growing organism; learning to get along with age-mates; learning an appropriate masculine or feminine social role; developing fundamental skills in reading, writing, and calculating; developing concepts necessary for everyday living; developing conscience, morality, and a scale of values; achieving personal independence; and developing attitudes toward social groups and institutions.
- Adolescence: The adolescent is achieving new and more mature relations with age-mates of both sexes, achieving a masculine or feminine social role, accepting one's physique and using the body effectively, achieving emotional independence from parents and other adults, achieving assurance of economic independence, selecting and preparing for an occupation, preparing for marriage and family life, developing intellectual skills and concepts necessary

for civic competence, desiring and achieving socially responsible behaviors, and acquiring a set of values and an ethical system as a guide to behavior.

- Early adulthood: The young adult is concerned with selecting a mate, learning to live with a partner, starting a family, rearing children, managing a home, getting started in an occupation, taking on civic responsibility, and finding a congenial social group.
- Middle age: The middle-aged adult is focused on achieving adult civic and social responsibility, establishing and maintaining an economic standard of living, assisting teenage children to become responsible and happy adults, developing adult leisure-time activities, relating oneself to ones spouse as a person, accepting and adjusting to the physiologic changes of middle age, and adjusting to aging parents.
- Later maturity: The older adult is concerned with adjusting to decreasing physical strength and health, adjusting to retirement and reduced income, adjusting to death of a spouse, establishing an explicit affiliation with ones age group, meeting social and civil obligations, and establishing physical living arrangements.

9. Pecks and Goulds Stages of Adult Development

Peck believes that although physical capabilities and functions decrease with old age, mental and social capacities tend to increase in the latter part of life. Peck proposes three development tasks during old age in contrast to Eriksons one (integrity versus despair): Ego differentiation versus work-role preoccupation. An adults identity and feelings of worth are highly dependent on the work role. On retirement, adults may experience feelings of worthlessness unless they derive their sense of identity from a number of roles so that one role can replace the work role as a source of self-esteem.

Body transcendence versus body preoccupation

The adult must adjust to decreasing physical capacities and at the same time maintain feelings of well-being.

Ego transcendence versus ego preoccupation

This task is the acceptance without fear of ones death as inevitable and being actively involved in ones own future beyond death. Gould believes that transformation is a central

theme of adulthood and that adults continue to change over the period of time considered to be adulthood. Gould describes seven stages of adult development:

- Stage 1 (ages 16-18): Individuals consider themselves part of a family instead of individuals and want to separate from their parents.
- Stage 2 (ages 18-22): Although individuals have established autonomy, they feel it is in jeopardy; they feel they could be pulled back into the family.
- Stage 3 (ages 22-28): Individuals feel they are established as adults and autonomous from their families. They see themselves as well defined but still feel the need to prove themselves to their parents. This is the time for growing and building a future.
- Stage 4 (ages 29-34): Marriage and careers are well established. Individuals question what life is all about, wish to be accepted as they are, and are no longer trying to prove themselves.
- Stage 5 (ages 35-43): This is a period of self-reflection. Individuals question values and life itself. They see time as finite, with little time left to shape the lives of adolescent children.
- Stage 6 (ages 43-50): The personality is set. Time is accepted as finite. The individual is interested in social activities with friends and spouse and desires both sympathy and affection from spouse.
- Stage 7 (ages 50-60): This is a period of transformation, with a realization of mortality and a concern for health. There is an increase in warmth and a decrease in negativism. The spouse is seen as a valuable companion.

10. Piagets Theory of Cognitive Development

- Cognitive development refers to the manner in which people learn to think, reason, and use language. It involves a persons intelligence, perceptual ability, and ability to process information.
- Cognitive development represents a progression of mental abilities from illogical to logical thinking, from simple to complex problem solving, and from understanding concrete ideas to understanding abstract ideas.
- Piaget is the most widely known cognitive theorist. According to Piaget, cognitive development is an orderly, sequential process in which a variety of experiences must exist before intellectual abilities can develop. This process is divided into five major phases: sensorimotor, preconceptual, intuitive thought, concrete operations, and formal operations.
- In each phase, the person uses three primary abilities: assimilation, accommodation, and adaptation. Assimilation is the process through which humans encounter and react to new

situations by using the mechanisms already possessed. Accommodation is a process of change whereby cognitive processes mature sufficiently to allow the person to solve problems that were unsolvable before. Adaptation, or coping behavior, is the ability to handle the demands made by the environment.

11. Kohlbergs and Gilligans Theories of Moral Development

- Kohlbergs theory specifically addresses moral development in children and adults. The morality of an individuals decision was not his concern rather he focused on the reasons an individual makes a decision.
- According to Kohlberg, moral development progresses through three levels and six stages. The levels and stages are not always linked to a certain developmental stage, because some people progress to a higher level of moral development than others.
- Gilligans theory is based on research with women subjects. She reported that women often consider the dilemmas Kohlberg used in his research to be irrelevant. Women scored consistently lower on Kohlbergs scale of moral development in spite of the fact that they approached moral dilemmas with considerable sophistication. Gilligan believes that most frameworks for research in moral development do not include the concepts of caring and responsibility.
- Gilligan found that moral development proceeds through three levels and two transitions, with each level representing a more complex understanding of the relationship of self and others and each transition resulting in a crucial reevaluation of the conflict between selfishness and responsibility.

12. Fowlers and Westerhoffs Stages of Spiritual Development

- Fowler describes the development of faith as a force that gives meaning to a persons life. He believes the development of faith is an interactive process between the person and the environment.
- Fowlers stages of spiritual development were influenced by the work of Piaget, Kohlberg, and Erikson. In each of Fowlers stages, new patterns of thought, values, and beliefs are added to those already held by the individual. Therefore, the stages must follow in sequence. Faith stages, according to Fowler, are separate from the cognitive stages of Piaget. They evolve from a combination of knowledge and values.

- Westerhoff describes faith as a way of being and behaving that evolves from an experienced faith guided by parents and others during a person's infancy and childhood to an owned faith that is internalized in adulthood and serves as a directive for personal action.

Topic : Promoting Health From Conception Through Adolescence

Topic Objective:

At the end of this topic student will be able to understand:

- characteristic of different stages of development from infancy through adolescence
- physical development from infancy through adolescence
- Trace psychosocial development
- cognitive development according to Piaget
- moral development according to Kohlberg
- spiritual development
- characteristics from birth through late childhood
- essential activities of health promotion and protection

Definition/Overview:

Health promotion, as defined by the World Health Organization, is the process of enabling people to increase control over, and to improve, their health. In the USA, health promotion is much more narrowly conceived as "the science and art of helping people change their lifestyle to move toward a state of optimal health."

Key Points:

1. Characteristic of Different Stages of Development from Infancy Through Adolescence

- Neonates and infants (birth to 1 year): A neonate's basic task is adjustment to the environment outside the uterus, which requires breathing, sleeping, sucking, eating, swallowing, digesting, and eliminating.
- Toddlers (1 to 3 years): Toddlers develop from having no voluntary control to being able to walk and speak. They also learn to control their bladder and bowels, and they acquire a wide variety of information about their environment.

- Preschoolers (4 to 5 years): During the preschool period, physical growth slows, but control of the body and coordination increase greatly. A preschoolers world enlarges as he or she meets relatives and neighbors, and forms friendships.
- School-age children (6 to 12 years): The school-age period starts when the deciduous teeth are shed. This period includes the preadolescent (prepuberty) period. It ends with the onset of puberty. In general, this period is one of significant growth. Skills learned in this stage are particularly important in relationship to work in later life and in willingness to try new tasks.
- Adolescents (12 to 18 years): This is the period in which the person becomes physically and psychologically mature and acquires a personal identity. At the end of this critical period in development, the person should be ready to enter adulthood and assume its responsibilities.

2. Physical Development from Infancy through Adolescence

2.1 Neonates and infants (0 to 1 year):

- Weight: The infant weighs 2.7 to 3.8 kg (6.0 to 8.5 lb) at birth; loses 5% to 10% after birth but regains it in about 1 week; gains weight at a rate of 150 to 210 g (5 to 7 oz) per week for 6 months; doubles birth weight by 5 months; and triples birth weight by 12 months.
- Length: Average length at birth is 50 cm (20 in.). The infant gains 13.75 cm (5.5 in.) by 6 months and gains another 7.5 cm (3 in.) by 12 months.
- Head and chest circumference: Average head circumference is 35 cm (14 in.); chest circumference is usually about 2.5 cm (1 in.) less than head circumference. By about 9 to 10 months, the head equals chest circumference; after 1 year, chest circumference is larger than head. The anterior fontanel closes between 9 to 18 months and the posterior fontanel closes between 2 and 3 months.
- Vision: The newborn follows large moving objects and blinks in response to bright light and sound. The pupils respond slowly; the newborn cannot focus on close objects. At 1 month, the infant can focus gaze on objects and follow moving objects. At 4 months, the infant recognizes a parents smile, has almost complete color vision, and follows objects through a 180-degree arc. At 5 months, the infant reaches for objects. By 6 to 10 months, the infant can fix on an object and follow it in all directions. By 12 months, depth perception is fully developed and the child is able to recognize a change in levels (such as the edge of a bed).
- Hearing: The newborn has intact hearing at birth, responds to loud noises with the Moro reflex, and can distinguish sounds within a few days. At 2 to 3 months the infant can actively coo, smile, or gurgle to sounds and voices. By 3 to 6 months, the infant looks for sounds,

pausing an activity to listen, and responds with distress or pleasure to angry or happy voices. By 6 to 9 months, individual words begin to take on meaning, and the baby may look at named objects or people. By 9 to 12 months, the baby understands many words, uses gestures, and may articulate one or two words with a specific reference. By 12 months, the child responds to simple commands.

- **Smell and taste:** These senses are functional shortly after birth. The newborn prefers sweet tastes, is able to recognize the smell of the mother's milk, and responds by turning toward the mother.
- **Touch:** The sense of touch is well developed at birth. The newborn responds positively when touched, held, and cuddled. Because of poor regulation of body temperature, the newborn is sensitive to extreme temperatures. The newborn responds to pain diffusely but cannot isolate discomfort.
- **Reflexes:** The rooting, sucking, Moro, palmar grasp, plantar, tonic neck, stepping, and Babinski reflexes are present at birth. They disappear during the first year in an orderly sequence to permit development of voluntary movements. The newborn can also yawn, stretch, sneeze, burp, and hiccup at birth.
- **Motor development:** The newborn is initially uncoordinated. By 1 month, the infant lifts the head momentarily when prone, turns the head when prone, and has head lag when pulled to a sitting position. By 4 months, there is minimal head lag. By 6 months the infant can sit without support; by 9 months, he or she can reach, grasp a rattle, and transfer it from hand to hand; and by 12 months, the child can turn pages in a book, put objects into a container, walk with some assistance, and help to dress self.

3. Toddlers (1 to 3 years):

- **Appearance:** The toddler appears chubby, with relatively short legs and a large head. The face appears small when compared to the skull. As the child grows, the face becomes better proportioned. Toddlers have pronounced lumbar lordosis and a protruding abdomen. The abdominal muscles develop with growth, and the abdomen flattens.
- **Weight:** By 2 years, weight is about four times birth weight. Between 1 and 2 years, weight gain is about 2 kg (5 lb); between 2 and 3 years, weight gain is about 1 to 2 kg (2 to 5 lb). A 3-year-old weighs about 13.6 kg (30 lb).
- **Height:** Between ages 1 and 2 years, average growth is 10 to 12 cm (4 to 5 in.); between ages 2 and 3 years, growth slows to 6 to 8 cm (2 1/2 to 3 1/2 in.).

- **Head circumference:** Head circumference increases about 2.5 cm (1 in.) on average each year. By 24 months the head is 80% of average adult size and the brain is 70% of adult size.
- **Vision:** Acuity is fairly well established at 1 year, 20/70 at 18 months, and 20/40 at 2 years. Accommodation is fairly well developed by 18 months. By 3 years the child can look away from a toy prior to reaching out and picking it up.
- **Hearing, taste, smell, and touch:** These senses are increasingly developed and associated with each other. A 3-year-old's hearing is at adult levels. Taste buds are sensitive to natural flavors or food. A 3-year-old will prefer familiar odors and tastes. Touch is very important; the child is often soothed by tactile sensation.
- **Motor abilities:** Fine motor coordination and gross motor skills improve during this period. At 18 months the toddler can pick up raisins or cereal pieces and place them into a receptacle, hold a spoon and cup, walk upstairs with assistance, and probably crawl down. The 2-year-old can hold a spoon and put it into the mouth correctly, run, has a steady gait, can balance on one foot, and ride a tricycle. Most 3-year-olds are toilet trained, with occasional accidents at night or when playing.

4. Preschoolers (4 to 5 years):

- **Appearance:** The child appears taller and thinner; the brain is almost adult size at 5 years. The extremities grow more quickly than the body, making the body appear out of proportion. The child appears slender with an erect posture.
- **Weight:** Gain is generally slow. By 5 years the child has added 3 to 5 kg (7 to 12 lb), weighing around 18 to 20 kg (40 to 45 lb).
- **Height:** The child grows about 5 to 6.25 cm (2 to 2.5 in.) each year, doubling birth length by 4 years and measures about 102 cm (41 in.).
- **Vision:** The child is generally hyperopic (farsighted) and unable to focus on near objects. Normal vision for 5-year-olds is approximately 20/30.
- **Hearing and taste:** Hearing has reached optimal levels, and the ability to listen has matured. The child shows food preferences and may develop food jags.
- **Motor abilities:** Children are able to wash their hands and face, and brush their teeth by 5 years. They are self-conscious about exposing their bodies and go to the bathroom without telling others. They can run with increasing skill each year. By 5 years they can run skillfully, jump three steps, balance on their toes, and dress without assistance.
-

5. School-age children (6 to 12 years):

- **Weight:** Average weight gain is about 3.2 kg (7 lb) per year between 6 and 12 years; major weight gain occurs from age 10 to 12 for boys and from age 9 to 12 for girls.
- **Height:** At 6 years, boys and girls are about the same height. The growth spurt for girls occurs at age 10 to 12 and for boys at 12 to 14. The extremities grow more quickly than the trunk. By age 6, thoracic curvature develops and lordosis disappears.
- **Vision:** By 6 to 8 years, depth and distance perception is accurate. By age 6, the child has full binocular vision, eye muscles are well developed and coordinated, and the child can focus on one object at the same time. The child develops 20/20 vision between 9 and 11 years of age.
- **Hearing and touch:** Auditory perception is fully developed; the child can identify fine differences in voices. The child has a well-developed sense of touch and can locate points of heat and cold on all body surfaces. Stereognosis is developed.
- **Prepubertal changes:** Endocrine functions slowly increase at ages 9 to 13. Perspiration increases, sebaceous glands become more active, and leukorrhea occurs prior to puberty.
- **Motor abilities:** Muscular skills and coordination are perfected in the middle years (6 to 10). By 9 years most children are skilled in games of interest. Fine motor control is sufficient for activities such as drawing, building models, or playing musical instruments.

6. Adolescents (12 to 18 years):

- **Appearance:** Growth is accelerated, with sudden, dramatic physical changes (adolescent growth spurt). The head, hands, and feet are first to grow to adult status, next the extremities. The adolescent looks leggy, awkward, and uncoordinated until the trunk grows to full size. The shoulders, chest, and hips grow. The skull and facial bones change proportion, the forehead becomes more prominent, and jawbones develop.
- **Weight and height:** Boys reach their maximum height at about 18 to 19 years; between ages 10 and 18 their weight doubles. Girls reach their maximum height at about 15 to 16 years; between 10 and 18 they gain an average of 25 kg (55 lb).
- **Glandular changes:** Eccrine and apocrine glands increase secretion and become fully functional after puberty. Sebaceous glands also become active, and primary and secondary sex characteristics develop. For males the first noticeable sign of puberty is the appearance of pubic hair and the enlargement of the scrotum and testes. First ejaculation occurs about age 14 years, and fertility follows several months later. Sexual maturity is achieved by age 18. For females often the first noticeable sign is appearance of the breast bud (thelarche) although

appearance of hair along the labia may precede this. Menarche occurs about 1 1/2 to 2 years later, and ovulation is usually established 1 to 2 years after that. The female internal reproductive organs reach adult size about age 18 to 20.

7. Trace Psychosocial Development

According to Erikson the central crisis at this stage is trust versus mistrust. Resolution determines how the person approaches subsequent developmental stages. Fulfillment of needs is required to develop a basic sense of trust.

Erikson sees the period from 18 months to 3 years as the time when the central developmental task is autonomy versus shame and doubt. Toddlers begin to assert themselves with frequent use of the word no. They become frustrated by restraints to behavior and between 1 and 3 may have temper tantrums. With guidance from their parents, toddlers slowly gain control over their emotions. Erikson writes that the major developmental crisis of the preschooler is initiative versus guilt. Erikson views the success of this milestone as determining the individual's self-concept. Preschoolers must learn what they can do; as a result, they imitate behavior, and their imaginations and creativity become lively.

According to Erikson, the central task of school-age children is industry versus inferiority. They begin to create and develop a sense of competence and perseverance and are motivated by activities that provide a sense of worth. They work hard to succeed, but are always faced with the possibility of failure which can lead to inferiority. If they have been successful in previous stages, they are motivated to be industrious and to cooperate with others toward a common goal. According to Erikson, the psychosocial task of the adolescent is the establishment of identity. The danger of this stage is role confusion. The inability to settle on an occupational identity commonly disturbs the adolescent. Less commonly, doubts about sexual identity arise. Because of dramatic body changes, the development of a stable identity is difficult. Adolescents help one another through this identity crisis by forming cliques and a separate youth culture; cliques often exclude those who are different.

8. Cognitive Development

- Piaget refers to the initial period of cognitive development as the sensorimotor phase. This phase has six stages, three of which take place during the first year. From 4 to 8 months,

infants begin to have perceptual recognition. By 6 months, they respond to new stimuli and remember objects and look for them a short time. By 12 months, they have a concept of both space and time, experiment to reach a goal such as a toy on a chair, and proceed from the reflexive ability of the newborn to using one or two actions to attain a goal by the age of 1 year.

- According to Piaget, the toddler completes the fifth and sixth stages of the sensorimotor phase and starts the pre-conceptual phase at about 2 years of age. In the fifth stage the toddler solves problems by a trial-and-error process; by stage 6 the toddler can solve problems mentally. During the pre-conceptual phase, toddlers develop considerable cognitive and intellectual skills, learn about the sequence of time, and have some symbolic thought. Concepts start to develop when words represent classes of objects or thoughts.
- The preschoolers cognitive development, according to Piaget, is the phase of intuitive thought. Children are still egocentric, but this subsides as they experience their expanding world. They learn through trial and error, think of only one idea at a time, and do not understand relationships. They start to understand that words are associated with objects in late toddlerhood or the early preschool years. Preschoolers become concerned about death as something inevitable, but they do not explain it. They also associate death with others rather than themselves. By the age of 5, children can count pennies. Reading skills develop at this age; they like fairy tales, and books about animals and other children.
- According to Piaget, the ages 7 to 11 years mark the phase of cognitive operations. The child changes from egocentric interactions to cooperative interactions, develops increased understanding of concepts that are associated with specific objects, develops logical reasoning from intuitive thinking, learns to add and subtract, and learns about cause and effect. Money is a concept that gains meaning; most 7- to 8-year-olds know the value of most coins. The concept of time is also learned. Not until age 9 or 10 are children able to understand the long periods of time in the past. They begin to read a clock by age 6. Reading skills are usually well developed in later childhood. By age 9 most are self-motivated, compete with them, and like to plan in advance. By 12 they are motivated by inner drive rather than competition with peers. They like to talk and discuss different subjects and to debate.
- Cognitive abilities mature during adolescence. Between the ages of 11 and 15 begins Piagets formal operations stage. The main feature of this stage is that children think beyond the present and beyond the world of reality. Adolescents are highly imaginative and idealistic, consider things that do not exist but that might be and consider ways things could be or ought

to be, and in social interactions often practice this increasing ability to think abstractly. Parents may misunderstand their child's intent, seeing the teen as being argumentative or contrary. The child becomes more informed about the world and environment. Adolescents use this new information to solve everyday problems, and can communicate with adults on most subjects. The capacity to absorb and use knowledge is great. Adolescents usually select their own areas for learning and explore interests from which they may evolve a career plan. Study habits and learning skills developed in adolescence are used throughout life.

9. Moral Development

- Infants associate right and wrong with pleasure and pain; what gives them pleasure is right. When they receive abundant positive responses from parents, they learn that certain behaviors are wrong or good and that pain or pleasure is the consequence. In later months and years, children can tell easily and quickly by changes in parental facial expressions and voice tones that their behavior is either approved or disapproved.
- According to Kohlberg, the first level of moral development is the pre-conventional level when children respond to punishment and reward. During the second year of life, they begin to know that some activities elicit affection and approval. They also recognize that certain rituals such as repeating phrases from prayers also elicit approval and provide a sense of security. By age 2, children are learning what attitudes parents hold about moral matters.
- Preschoolers are capable of pro-social behavior that is, any action that a person takes to benefit someone else. They do not have a fully formed conscience; however, they do develop some internal controls. Moral behavior is learned largely through modeling, initially after parents and later significant others. Preschoolers usually behave well in social settings and control their behavior because they want love and approval from their parents. Moral behavior may mean taking turns at play or sharing.
- Some school-age children are at Kohlberg's stage 1 of the pre-conventional level, punishment and obedience, and act to avoid being punished; however, some are at stage 2, instrumental-relativist orientation. At this stage, they do things to benefit themselves; fairness becomes important. Later in childhood most progress to the conventional level, which has two stages: Stage 3 is the good boy/nice girl stage, and stage 4 is the law and order orientation. Children usually reach the conventional level between 10 and 13. Concrete interests of the individual shift to the interests of the group. Motivation for moral action is to live up to what significant others think of the child.

- According to Kohlberg, the young adolescent is usually at the conventional level of moral development. Most still accept the Golden Rule; want to abide by social order and existing laws; examine their own values, standards, and morals; and may discard values adopted from parents in favor of values they consider more suitable. When adolescents move into the post-conventional or principled level, they start to question the rules and laws of society. Right thinking and right action become a matter of personal values and opinions, which may conflict with societal laws. They consider the possibility of rationally changing the law and emphasize individual rights; not all adolescents or even adults proceed to the post-conventional level.

10. Spiritual Development

According to Fowler, the toddlers stage of spiritual development is undifferentiated. Toddlers may be aware of some religious practice. They are primarily involved in learning knowledge and emotional reactions rather than establishing spiritual beliefs. The toddler may repeat prayers at bedtime, conforming to a ritual, because praise and affection result. Parental or caregiver response enhances the toddlers sense of security.

Many preschoolers enroll in Sunday school or faith-oriented classes. They usually enjoy the social interaction of these classes. Ages 4 to 6 years are the intuitive-projection stage of spiritual development; faith is primarily a result of the teaching of significant others. Preschoolers learn to imitate religious behavior although they don't understand the meaning of the behavior. They require simple explanations of spiritual matters and use their imagination to envision such ideas as angels or the devil.

According to Fowler, the school-age child is in stage 2 of spiritual development (mythic-literal). The child learns to distinguish fantasy from fact. Spiritual facts are those beliefs that are accepted by a religious group; fantasy is the thoughts and images formed in the child's mind. Parents and religious advisers help the child distinguish fact from fantasy. These people still influence the child more than peers in spiritual matters. When children do not understand events, they use fantasy to explain them. They need to have concepts such as prayer presented in concrete terms, they ask many questions about God and religion, and they generally believe God is good and always present to help. Just before puberty, children become aware that their prayers are not always answered and become disappointed. Some will reject religion, and others will continue to accept it; the decision is largely influenced by

the parents. If the child continues religious training, the child is ready to apply reason rather than blind belief in most situations.

According to Fowler, the adolescent or young adult reaches the synthetic-conventional stage of spiritual development. As they encounter different groups in society, adolescents are exposed to a wide variety of opinions, beliefs, and behaviors regarding religious matters. They may reconcile the difference in one of the following ways: by deciding any differences are wrong, compartmentalizing the differences, or obtaining advice from a significant other. They believe that various religious beliefs and practices have more similarities than differences; focus is on interpersonal rather than conceptual matters.

11. Characteristics from Birth Through Late Childhood

12. Neonates and infants:

- Health assessment occurs immediately at birth and continues for the promotion of wellness; newborns can be assessed immediately by the Apgar scoring system.
- Development can be assessed by observing the infants behavior and by using standardized tests such as the Denver Developmental Screening Test (DDST-II).
- Physical development: The infant demonstrates growth in the normal range, manifests appropriately sized fontanelles for age, manifests vital signs in the normal range, and displays the ability to habituate to stimuli and to calm self.
- Motor development: The infant performs gross and fine motor skills in the normal range, exhibits reflexes appropriate for age, displays symmetric movements, and exhibits no hyper- or hypotonia.
- Sensory development: The infant follows a moving object; responds to sounds, such as talking or clapping; and can coo, babble, laugh, and imitate sounds as expected for age range.
- Psychosocial development: The infant interacts appropriately with parents through body movements and vocalization.
- Development in activities of daily living: The baby eats and drinks appropriate amounts of breast milk, formula, or solid foods; exhibits an elimination pattern normal for age; and exhibits a normal rest and sleep pattern.

13. Toddlers:

- It is essential that nurses do accurate and timely assessments to promote health and detect problems early, thus allowing for early interventions.
- Assessment activities for toddlers are similar to those for infants in terms of measuring weight, length (height), and vital signs.
- Physical development: The toddler should demonstrate physical growth (weight, height, head circumference) within normal range, manifest vital signs within normal range for age, and exhibit vision and hearing abilities within normal range.
- Motor development: The toddler performs gross and fine motor milestones within normal range for the age (e.g., walks up steps with assistance, balances on one foot, copies a circle).
- Psychosocial development: The toddler performs psychosocial development milestones for the age (e.g., expresses likes and dislikes, displays curiosity and asks questions, begins to play and communicate with children).
- Development in activities of daily living: The toddler feeds self, eats and drinks a variety of foods, begins to develop bowel and bladder control, exhibits a rest and sleep pattern appropriate for age, and dresses self.

14. Preschoolers:

- During assessment the preschooler can often participate in answering questions with assistance from parents or caregivers. Preschoolers can describe the types of activities they enjoy.
- Physical development: Preschoolers demonstrate physical growth (weight, height) within normal range, manifest vital signs within normal range for age, and exhibit vision and hearing abilities within normal range.
- Motor development: The preschooler performs gross and fine motor milestones within normal range for age (e.g., jumps rope, climbs playground equipment, prints letters and numbers).
- Psychosocial development: The preschooler performs psychosocial milestones for age (e.g., separates easily from parents, displays imagination and creativity, exhibits increasing vocabulary).
- Development in activities of daily living: The child demonstrates development of toilet training, performs simple hygiene measures, dresses and undresses self, engages in bedtime rituals, and demonstrates the ability to put self to sleep.

15. School-age children:

- During assessment the nurse responds to questions from the parent or other caregiver, gives appropriate feedback, and lends support. The nurse also demonstrates interest in the child and enthusiasm for the child's strength.
- Physical development: The school-age child demonstrates physical growth (height, weight) within normal range, manifests vital signs within normal range, exhibits vision and hearing abilities within normal range, and demonstrates male or female pre-pubertal changes within normal range.
- Motor development: The child possesses coordinated motor skills for age (e.g., climbs a tree, throws and catches a ball, plays a musical instrument).
- Psychosocial development: The child performs psychosocial milestones for age (e.g., interacts well with parents, becomes less dependent on family, articulates an understanding of right and wrong, expresses self in a logical manner).
- Development in activities of daily living: The child demonstrates concern for personal cleanliness and appearance, and expresses the need for privacy.

16. Adolescents

- Adolescents are usually self-directed in meeting their health needs. Because of maturation changes, however, they need teaching and guidance in a number of health care areas.
- Physical development: The adolescent should exhibit physical growth within normal range for age and gender, demonstrate male or female sexual development consistent with standards, manifest vital signs within normal range for age and gender, and exhibit vision and hearing abilities within normal range.
- Psychosocial development: The adolescent interacts well with parents, teachers, peers, siblings, and persons in authority; likes self; thinks and plans for the future; chooses a lifestyle and interests that fit own identity; determines own beliefs and values; begins to establish a sense of identity in the family; and seeks help from appropriate persons about problems.
- Development in activities of daily living: The adolescent demonstrates knowledge of physical development, menstruation, reproduction, and birth control; exhibits healthy lifestyle practices in nutrition, exercise, recreation, sleep patterns, and personal habits; and demonstrates concern for personal cleanliness and appearance.

17. Activities of Health Promotion

18. Health promotion guidelines for infants:

- Health examinations are at 2 weeks, 2 months, 4 months, 5 months, and 12 months.
- Protective measures should include immunizations, fluoride supplementation as necessary, screening for tuberculosis and phenylketonuria, prompt attention for illness, and appropriate skin hygiene and clothing.
- Infant safety: Review the importance of supervision; car seat, crib, playpen, bath, and home environment safety measures; feeding measures; and providing toys without small parts or sharp edges.
- Nutrition: Review breast-feeding and bottle-feeding techniques, formula preparation, feeding schedule, introduction of solid foods, and the need for iron supplementation at 4 to 6 months.
- Elimination: Topics include characteristics and frequency of stool and urine elimination, and diarrhea and its effects.
- Rest/sleep: Establish usual sleep and rest patterns.
- Sensory stimulation: Touch stimulation should include holding, cuddling, and rocking. Provide colorful, moving toys to stimulate vision. Screen the newborn for hearing loss with follow-up at 3 months and early intervention by 6 months if appropriate. Soothing voice tones, music, and singing help to stimulate hearing. Provide toys appropriate for development.
- Additional safety and health concerns for infancy include failure to thrive, infant colic, crying, child abuse (including shaken baby syndrome), and sudden infant death.

19. Health promotion guidelines for toddlers:

- Health examinations should occur at 15 and 18 months, then as recommended by the primary care provider. Dental visits should start at age 3, hearing tests by 18 months or earlier.
- Protective measures should include immunizations, screening for tuberculosis and lead poisoning, and fluoride supplementation as needed.
- Toddler safety: Review the importance of supervision and teaching the child to obey commands, home environment safety measures, outdoor safety, and appropriate toys.
- Nutrition: Review the importance of nutritious meals and snacks, teaching simple mealtime manners, dental care, and elimination/toilet training techniques.
- Rest/sleep: Deal with sleep disturbances.

- Play: Provide adequate space, a variety of activities, and toys that allow acting on behaviors and provide motor and sensory stimulation.
- Additional safety and health concerns for toddlers include accidents, visual problems, dental caries, and respiratory tract and ear infections.
- 3. Health promotion guidelines for preschoolers:
 - Health examinations should take place every 1 to 2 years.
 - Protective measures include immunizations, screening for tuberculosis, vision and hearing screening, regular dental screenings, and fluoride treatment.
 - Preschooler safety includes educating the child about simple safety rules, teaching the child to play safely, and educating to prevent poisoning.
 - Nutrition: Review the importance of nutritious meals and snacks.
 - Elimination: Teach proper hygiene.
 - Rest/sleep: Deal with sleep disturbances.
 - Play: Provide time for group play activities, teach the child simple games that require cooperation and interaction, and provide toys and dress-up for role-playing.
 - In addition, preschoolers often have health problems similar to those they had as a toddler. Respiratory tract and communicable diseases, accidents, and dental caries continue to be problems. Congenital abnormalities such as cardiac disorders and hernias are often corrected at this age.

20. Health promotion guidelines for school-age children:

- Health examinations include annual physical examinations or as recommended.
- Protective measures include immunizations; screening for tuberculosis; periodic vision, speech, and hearing screenings; regular dental screenings and fluoride treatment; and providing accurate information about sexual issues.
- School-age child safety: Children should use proper equipment when participating in sports and other physical activities. Encourage children to take responsibility for their own safety.
- Nutrition: It is important that the child does not skip meals, eats a balanced diet, and limits foods that may lead to obesity.
- Elimination: Use positive approaches for elimination problems.
- Play and social interactions: Provide opportunities for a variety of organized group activities, accept realistic expectations of the child's ability, act as role models in acceptance of other

persons who may be different, and provide a home environment that limits TV viewing and video games and encourages completion of homework and healthy exercise.

- School-age children continue to have as many communicable diseases, dental caries, and accidents as preschoolers. The increasing number of overweight children is another health risk.

21. Health promotion guidelines for adolescents:

- Health examinations should occur as recommended by the primary care provider.
- Protective measures include immunizations, screening for tuberculosis, periodic vision and hearing screenings, regular dental assessments, and providing accurate information about sexual issues.
- Adolescent safety issues include the adolescents taking responsibility for using motor vehicles safely, making certain that proper precautions are taken during all athletic activity, and parents keeping lines of communication open and being alert to signs of substance abuse and emotional disturbances in the adolescent.
- Nutrition and exercise: Stress the importance of healthy snacks and appropriate patterns of food intake and exercise, factors that may lead to nutritional problems, and balancing sedentary activities with regular exercise.
- Social interactions: The adolescent should be encouraged to succeed in school, establish relationships that promote discussion of feelings, concerns, and fears. Parents need to encourage adolescent peer group activities that promote appropriate moral and spiritual values, act as role models for appropriate social interactions, provide a comfortable home environment for appropriate adolescent peer group activities and expect adolescent to participate in and contribute to family activities. Adolescents face many health risks, including the consequences of risky behavior, such as injury related to accidents, sexually transmitted disease, and teen pregnancy. Psychological and emotional challenges may lead to psychological problems, the developing brain is more susceptible to addiction, and the first manifestations of schizophrenia may appear. In the late adolescence with communal living (college dorms), adolescents are at increased risk for infectious diseases such as measles and pneumococcal meningitis.
- The fundamental conditions and resources for health are peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice and equity. Improvement in health requires a secure foundation in these basic prerequisites.

- Good health is a major resource for social, economic and personal development and an important dimension of quality of life. Political, economic, social, cultural, environmental, behavioral and biological factors can all favor health or be harmful to it. Health promotion action aims at making these conditions favorable through advocacy for health.
- Health promotion focuses on achieving equity in health. Health promotion action aims at reducing differences in current health status and ensuring equal opportunities and resources to enable all people to achieve their fullest health potential. This includes a secure foundation in a supportive environment, access to information, life skills and opportunities for making healthy choices. People cannot achieve their fullest health potential unless they are able to take control of those things which determine their health. This must apply equally to women and men.
- Health promotion works through concrete and effective community action in setting priorities, making decisions, planning strategies and implementing them to achieve better health. At the heart of this process is the empowerment of communities, their ownership and control of their own endeavors and destinies.
- Community development draws on existing human and material resources in the community to enhance self-help and social support, and to develop flexible systems for strengthening public participation and direction of health matters. This requires full and continuous access to information, learning opportunities for health, as well as funding support.

Topic : Promoting Health In Young And Middle-Aged Adults

Topic Objective:

At the end of this topic student will able to understand:

- generational groups
- physical development
- characteristic tasks of development
- changes in cognitive development
- moral development
- spiritual development
- health problems associated with young
- developmental assessment guidelines
- health promotion

Definition/Overview:

The prerequisites and prospects for health cannot be ensured by the health sector alone. More importantly, health promotion demands coordinated action by all concerned: by governments, by health and other social and economic sectors, by non-governmental and voluntary organizations, by local authorities, by industry and by the media. People in all walks of life are involved as individuals, families and communities. Professional and social groups and health personnel have a major responsibility to mediate between differing interests in society for the pursuit of health.

Health promotion strategies and programmes should be adapted to the local needs and possibilities of individual countries and regions to take into account differing social, cultural and economic systems.

Key Points:**1. Generational Groups**

- Baby Boomers (born 1945-1964), Generation X (born 1965-1978), and Generation Y (born 1979-2000) compose cohorts that share specific life events and have their own world views. Baby Boomers are characterized by an individualistic outlook, tend toward a workaholic orientation, want to be respected at work, but feel role overload.
- Gen Xers were frequently raised in two-worker households where long work hours were common. They may now be less impressed with corporate values, be more skeptical, and resist authority, but they enjoy challenges and opportunities to creatively problem solve.
- Generation Y (or Millennials) have come of age in an increasingly multicultural America. They are technologically sophisticated (and dependent), and they enjoy public affirmations of their efforts.

2. Usual Physical Development

Young adults (ages 20 to 40 years) are in the prime physical years. The musculoskeletal system is well developed and coordinated, athletic endeavors reach their peak, and all other body systems are functioning at peak efficiency. Weight and muscle mass may change as a result of diet and exercise. Extensive physical changes occur in pregnant and lactating women.

- Physical changes occurring in middle-aged adults (40 to 65 years) include changes in (a) appearance: hair thins, gray hair appears, skin turgor and moisture decreases, subcutaneous fat decreases, wrinkling occurs, and fatty tissue is redistributed resulting in fat deposits in abdominal areas; (b) the musculoskeletal system: skeletal muscle bulk decreases around age 60, thinning intervertebral discs cause a decrease in height of about 1 inch, calcium is lost from bone, and muscle growth continues in proportion to use; (c) the cardiovascular system: blood vessels lose elasticity and become thicker; (d) sensory perception: visual acuity declines, often by 40 years presbyopia develops, auditory acuity especially for high-frequency sounds decreases (presbycusis), and taste sensation also diminishes; (e) metabolism: slows resulting in weight gain; (f) the gastrointestinal system: gradual decrease in tone of large intestines may predispose to constipation; (g) the urinary system: nephron units are lost and glomerular filtration rate decreases; and (h) sexuality: hormonal changes occur in men (climacteric) and women (menopause).

3. Characteristic Tasks of Development

- According to Freud's theory, young adults are in the genital stage in which energy is directed toward attaining a mature sexual relationship. Young adults are in Erikson's stage of intimacy versus isolation. They have the following tasks according to Havighurst: selecting a mate, learning to live with a partner, starting a family, rearing children, managing a home, getting started in an occupation, taking on civic responsibility, and finding a congenial social group. According to Nelson and Barry (2005) young adults have the following characteristics: separation from parents, exploration of new identities for self, personal discovery and self-discovery, and high risk behaviors.
- According to Erikson, middle-aged adults are in the generativity versus stagnation phase of development. According to Havighurst, middle-aged adults have the following developmental tasks: achieving adult civic and social responsibility, establishing and maintaining an economic standard of living, assisting teenage children to become responsible and happy adults, developing adult leisure-time activities, relating oneself to one's spouse as a person, accepting and adjusting to the physiologic changes of middle age, adjusting to aging parents, balancing the needs of multiple constituencies, and maintaining work as a central theme. Slater (2003) added the additional developmental tasks of inclusivity versus exclusivity, pride versus embarrassment (in children, work, or creativity), responsibility versus ambivalence (making choices about commitments), career productivity versus

inadequacy, parenthood versus self-absorption, being needed versus alienation, and honesty versus denial (with oneself).

4. Changes in Cognitive Development throughout Adulthood

- Young adults are able to use formal operations characterized by the ability to think abstractly and employ logic. Recently researchers have proposed a concept of postformal thought as a further stage of cognitive development.
- Postformal thought includes cognitive and intellectual abilities change very little. Reaction time may diminish during the later part of the middle years. Memory and problem solving are maintained through middle creativity, intuition, and the ability to consider information in relationship to other ideas, to possess an understanding of the temporary or relative nature of knowledge, and to comprehend and balance arguments created by both logic and emotion. Few adults achieve this cognitive stage, but those who do are marked by greater tolerance and skills of noting and resolving complex problems.
- The middle-aged adults adulthood. Learning continues and can be enhanced by increased motivation. Genetic, environmental, and personality factors in early and middle adulthood account, for the large difference in the ways in which individuals maintain mental abilities.

5. Moral Development According To Kohlberg throughout Adulthood

Young and middle-aged adults who have mastered the previous stages of Kohlbergs theory of moral development now enter the postconventional level. The individual is able to separate self from the expectations and rules of others and to define morality in terms of personal principles. In stage 5, a social contract orientation, the individual believes that rights of others take precedence. Recent research demonstrates that moral development continues throughout adulthood and that few individuals attain stage 5, before age 40.

- Health promotion works through concrete and effective community action in setting priorities, making decisions, planning strategies and implementing them to achieve better health. At the heart of this process is the empowerment of communities, their ownership and control of their own endeavours and destinies.
- Community development draws on existing human and material resources in the community to enhance self-help and social support, and to develop flexible systems for strengthening

public participation and direction of health matters. This requires full and continuous access to information, learning opportunities for health, as well as funding support.

- Health promotion supports personal and social development through providing information, education for health and enhancing life skills. By so doing, it increases the options available to people to exercise more control over their own health and over their environments, and to make choices conducive to health.
- Enabling people to learn throughout life, to prepare them for all of its stages and to cope with chronic illness and injuries is essential. This has to be facilitated in school, home, work and community settings. Action is required through educational, professional, commercial and voluntary bodies, and within the institutions themselves.
- The responsibility for health promotion in health services is shared among individuals, community groups, health professionals, health service institutions and governments. They must work together towards a health care system which contributes to the pursuit of health.
- The role of the health sector must move increasingly in a health promotion direction, beyond its responsibility for providing clinical and curative services. Health services need to embrace an expanded mandate which is sensitive and respects cultural needs. This mandate should support the needs of individuals and communities for a healthier life, and open channels between the health sector and broader social, political, economic and physical environmental components.
- Reorienting health services also requires stronger attention to health research as well as changes in professional education and training. This must lead to a change of attitude and organization of health services, which refocuses on the total needs of the individual as a whole person.

6. Spiritual Development

According to Fowler, the individual enters the individuating reflective period sometime after 18 years. The individual focuses on reality, may ask philosophical questions regarding spirituality, and may be self-conscious about spiritual matters. The religious teaching from childhood may now be accepted or redefined. The young adult may depend on spirituality and seek guidance from a Higher Power, but do so.

Not all adults progress through Fowlers stages to the fifth, called the paradoxical-consolidative stage. At this stage the individual can view truth from a number of viewpoints. Fowler believes that only some individuals after the age of 30 years reach this stage.

In middle age, people tend to be less dogmatic about religious beliefs, and religion offers more comfort to middle-aged persons than it did previously. They often rely on spiritual beliefs to help them deal with illness, death, and tragedy.

7. Health Problems Associated With Young and Middle-Aged Adults

Health problems that occur in young adulthood include injuries, suicide, hypertension, substance abuse (including smoking), sexually transmitted infections (STIs), eating disorders (including obesity), violence, abuse of women, and certain malignancies (testicular cancer and cervical cancer).

Leading causes of death in middle adulthood include injuries (motor vehicle and occupational accidents), chronic disease such as cancer (in men, cancer of the lung and bladder; in women, breast cancer followed by cancer of the colon and rectum, uterus, and lung), and cardiovascular disease (coronary heart disease). Other health problems include obesity, alcoholism, and mental health alterations (anxiety and depression).

8. Developmental Assessment Guidelines for Young and Middle-Aged Adults

Developmental assessment guidelines for the young adult:

- Physical development: The young adult should exhibit weight within normal range for age and gender, manifest vital signs within normal range for age and gender, demonstrate visual and hearing abilities within normal range, and exhibit appropriate knowledge and attitudes about sexuality.
- Psychosocial development: The young adult should feel independent from parents; have a realistic self-concept; like self and direction life is going; interact well with family; cope with stresses of change and growth; have well-established bonds with a significant other; have a meaningful social life; demonstrate emotional, social, and economic responsibility; and have a set of values that guide behavior.
- Development in activities of daily living (ADL): It is important for the young adult to have a healthy lifestyle.

Developmental assessment guidelines for the middle-aged adult:

- Physical development: The middle-aged adult should exhibit weight, vital signs, and visual and hearing abilities within normal range; exhibit appropriate knowledge and attitudes about sexuality; and verbalize any changes in eating, elimination, or exercise.
- Psychosocial development: The middle-aged adult should accept the aging body, feel comfortable and respect self, enjoy the new freedom to be independent, accept changes in family roles, interact effectively and share companionable activities with a life partner, expand and renew previous interests, pursue charitable and altruistic activities, and have a meaningful philosophy of life.
- Development in ADL: It is important to follow preventive health practices.

9. Health Promotion Topics for Young and Middle Adulthood**Health promotion topics for the young adult:**

- Health tests and screening: These include routine physical examinations, immunizations as recommended, regular dental assessments, periodic vision and hearing screenings, professional breast examinations, Papanicolaou smear, testicular examination, screening for cardiovascular disease, tuberculosis skin test, and smoking history and counseling, if needed.
- Safety: These include motor vehicle safety, sun protection, and workplace and water safety measures.
- Nutrition and exercise: Review the importance of adequate iron intake, and nutritional and exercise factors that may lead to cardiovascular disease.
- Social interactions: These include encouraging personal relationships that promote discussion of feelings, concerns, and fears; and setting short- and long-term goals for work and career choices.

Health promotion topics for the middle-aged adult:

- Health tests and screening: The middle-aged adult should have routine physical examinations, immunizations as recommended, regular dental assessments, tonometry for signs of glaucoma and other eye diseases, breast self-examination, testicular self-examination, screening for cardiovascular disease, screening for tuberculosis, and screenings for colorectal, breast, cervical, uterine, and prostate cancer, smoking history and counseling as needed.

- Safety: Issues include motor vehicle safety reinforcement, workplace safety measures, and home safety measures.
- Nutrition and exercise: The middle-aged adult needs to understand the importance of adequate protein, calcium, and vitamin D; nutrition and exercise factors that may lead to cardiovascular disease; and the importance of an exercise program that emphasizes skill and coordination.
- Social interactions: Issues include the possibility of a midlife crisis, providing time to expand and to review previous interests, and retirement planning with a partner if appropriate.

In Section 3 of this course you will cover these topics:

- Promoting Health In Elders
- Promoting Family Health
- Caring
- Communicating
- Teaching
- Delegating, Managing, And Leading
- Vital Signs
- Health Assessment
- Asepsis
- Safety

Topic : Promoting Health In Elders

Topic Objective:

At the end of this topic student will able to understand:

- categories of elders
- demographic, socioeconomic
- ageism and its contribution
- gerontology and geriatrics
- development of gerontological nursing and the roles of the gerontological nurse
- care settings for elders
- biologic theories of aging
- physical changes that occur during older adulthood
- psychosocial theories about aging
- developmental tasks of the older adult

- psychosocial changes that the older adult adjusts to during the aging process
- cognitive abilities while aging
- Kohlbergs and Gilligans theories of moral reasoning in elders
- spirituality and aging
- health problems associated with elders
- health promotion topics for older adulthood

Definition/Overview:

Health promotion policy requires the identification of obstacles to the adoption of healthy public policies in non-health sectors, and ways of removing them. The aim must be to make the healthier choice the easier choice for policy-makers as well.

Key Points:**1. Categories of Elders**

The categories of elders include young-old (65 to 75 years), old (75 to 85 years), old-old (85 to 100 years), and elite old (over 100 years).

2. Demographic, Socioeconomic, Ethnicity, And Health Characteristics Of Elders In The United States

- There are demographic, socioeconomic, ethnic and health characteristics for elders.
- Demographic characteristics: People are living longer; adults 85 years and older are the fastest growing of all age groups in the United States.
- Socioeconomic characteristics (gender, marital status, education, income, living arrangements): Women have a longer life expectancy and are more likely to be widowed. Men are more likely to remarry. Higher education is associated with higher income. Educational levels for older adults are gradually increasing with an increased percentage of those over age 65 who have completed high school. Usually older adults have lower incomes, and people over 85 years have the lowest median income. Living arrangements are linked to income and health status. Most older adults live in a variety of community settings; only 4.3% live in nursing homes. Older people who live alone are more likely to live in poverty than married people in the same age category. Older women are twice as likely to be living along.

- Ethnicity characteristics: The number of minority elders is increasing; however, the higher proportion of the elder white population will continue. The nonwhite elder population is expected to increase, with elder Hispanics being the fastest growing subpopulation.
- Health characteristics: Chronic health problems and disabilities increase as age increases. The vast majority (73%) of older Americans rate their health as good, very good, or excellent even though most have chronic health conditions and 20% report disability. Disease is not a normal outcome of aging.

3. Contribution to the Development of Negative Stereotypes about Elders

Ageism describes the deep and profound prejudice in American society against older adults. It is discrimination based solely on age, and it exists among some professionals.

Ageism contributes to the development of negative stereotypes about older adults. Stereotypes occur when younger people do not understand or identify with elders as unique human beings, and generalizations of undesirable characteristics are made. Many negative attitudes are based on myths and incorrect information.

4. Gerontology and Geriatrics

- Gerontology is a term used to define the study of aging and older adults. It is a multidisciplinary and specialized area within various disciplines, including nursing, psychology, and social work.
- Geriatrics is associated with the medical care, e.g., diseases and disabilities, of the elderly.

5. Development of Gerontological

Gerontological nursing involves advocating for the health of older persons at all levels of prevention. In the 1960s, gerontological nursing became a subspecialty of nursing. In the 1980s, gerontological nursing leaders stated that most practicing nurses did not have sufficient knowledge about gerontology. This prompted discussion of how to prepare nurses for gerontological nursing. Since the 1990s the nursing profession has recognized the importance of preparing all practicing nurses with basic gerontological knowledge. As a result, schools of nursing provide classes or courses about nursing care of the elderly.

Practicing gerontological nurses can obtain gerontological nursing certification through the American Nurses Association. Advanced practice in gerontological nursing requires a masters degree in nursing, of which there are two options: the gerontological clinical nurse specialist and the gerontological nurse practitioner.

The roles of the gerontological nurse are provider of care, teacher, manager, advocate, and research consumer. As a provider of care, the nurse gives direct care to older adults in a variety of settings. As a teacher, the nurse often focuses on modifiable risk factors. The gerontological nurse manager balances the concerns of the elder, family, and nursing and other interdisciplinary team members. As an advocate, the nurse helps elders remain independent and strengthens their autonomy and decision making. Being a research consumer requires the nurse to read the latest professional literature for evidence-based practice to improve quality of nursing care for the elderly.

6. Care Settings for Elders

- Gerontological nurses practice in many settings, including acute care facilities, long-term care facilities, and the community.
- Elders are the majority of clients cared for in acute care. People who are 65 and older use the emergency department (ED) at a higher rate than any other age group. Nurses in this setting focus on protecting the health of older adults with the goal of returning clients to prior level of independence.
- The objective of long-term care is to provide a place of safety and care to attain optimal wellness and independence for each individual. The clients in this setting are often referred to as residents. Long-term care includes many different levels of care such as assisted living, intermediate care, skilled care, and Alzheimers units.
- Elders who do not feel safe living alone or who require additional help with ADLs may desire assisted living. When residents require additional assistance, they may enter intermediate care. Skilled care units or skilled nursing facilities (SNFs) are for those who require a higher level of nursing care because the acuity level requires a greater nurse-to-patient ratio. Many long-term care facilities offer specialized units for clients with Alzheimers disease.
- Gerontological nurses may also work in hospice and care for dying persons and their families. The majority of hospice patients are elders.
- Rehabilitation may be found in several settings: acute care hospitals, subacute or transitional care, and long-term care facilities. The goal is to maintain physical independence.

- Gerontological nurses provide nursing care in many types of community settings, including home health care for those who are homebound due to severity of illness or disability, nurse-run clinics focusing on managing chronic illnesses, and adult day care where the focus is on social activities or health care. The level of nursing care can vary.
- Societies are complex and interrelated. Health cannot be separated from other goals. The inextricable links between people and their environment constitute the basis for a socioecological approach to health.

7. Common Biologic Theories of Aging

- Common biologic theories of aging include the wear-and-tear, endocrine; free-radical, genetic, cross-linking, and immunological theories.
- Wear-and-tear theories propose that humans are like cars that run down over time.
- Endocrine theories propose that events in the hypothalamus and pituitary are responsible for decline.
- Free radical theories propose that free radical resulting from oxidation of organic material cause biochemical changes in cells. Cells can no longer regenerate.
- Genetic theories propose the cells are preprogrammed for predetermined number of cell divisions. After this, cells die.
- Cross-linking theories propose that irreversible aging of proteins cause ultimate failure of tissues and organs.
- Immunological theories propose that the immune system becomes less efficient causing decreased resistance to infectious diseases and viruses.

8. Physical Changes That Occur During Older Adulthood

- There are numerous normal physical changes associated with aging, involving the integumentary, neuromuscular, sensory-perceptual, pulmonary, cardiovascular, gastrointestinal, urinary, genital, immunological, and endocrine systems.
- Integumentary: Changes include increased skin dryness, pallor, and fragility; progressive wrinkling and sagging of the skin; brown age spots on exposed body parts; decreased perspiration; thinning and graying of scalp, pubic, and axillary hair; and slower nail growth and increased thickening with ridges.

- Neuromuscular: Older adults experience decreased speed and power of skeletal muscle contractions, slowed reaction time, loss of height (stature), loss of bone mass, joint stiffness, impaired balance, and greater difficulty in complex learning and abstraction.
- Sensory-perceptual: Aging leads to loss of visual acuity, increased sensitivity to glare, decreased ability to adjust to darkness, arcus senilis, progressive loss of hearing, decreased sense of taste (especially the sweet sensation at the tip of the tongue), decreased sense of smell, and an increased threshold for sensations of pain, touch, and temperature.
- Pulmonary: Changes associated with aging include decreased ability to expel foreign or accumulated matter, decreased lung expansion, less effective exhalation, reduced vital capacity, increased residual volume, and dyspnea following intense exercise.
- Cardiovascular: Older adults are more likely to experience reduced cardiac output and stroke volume (particularly during increased activity or unusual demands that may result in shortness of breath on exertion and pooling of blood in the extremities), reduced elasticity and increased rigidity of arteries, increases in diastolic and systolic blood pressure, and orthostatic hypotension.
- Gastrointestinal: Changes include delayed swallowing time, increased tendency for indigestion, and increased tendency for constipation.
- Urinary: Aging may be accompanied by reduced filtering ability of the kidney and impaired renal function, less effective concentration of urine, urinary urgency and urinary frequency, tendency for nocturnal frequency, and retention of residual urine.
- Genitals: Typical changes include prostate enlargement (benign) in men, multiple changes in women (shrinking and atrophy of the vulva, cervix, uterus, fallopian tubes, and ovaries; reduction in secretions; and changes in vaginal flora); changes in sexual function include increased time to sexual arousal, decreased firmness of erection, increased refractory period (men), and decreased vaginal lubrication and elasticity (women).
- Immunological: The older person is more likely to have decreased immune response, lowered resistance to infections, poor response to immunization, and decreased stress response.
- Endocrine: Insulin resistance is increased.
- The overall guiding principle for the world, nations, regions and communities alike is the need to encourage reciprocal maintenance - to take care of each other, our communities and our natural environment.
- The conservation of natural resources throughout the world should be emphasized as a global responsibility.

- Changing patterns of life, work and leisure have a significant impact on health. Work and leisure should be a source of health for people.
- The way society organizes work should help create a healthy society. Health promotion generates living and working conditions that are safe, stimulating, satisfying and enjoyable.

9. Common Psychosocial Theories

The disengagement theory was developed in the early 1960s by Cumming and Henry. It proposed that aging involves mutual withdrawal (disengagement) between the older person and others in the elderly persons environment.

The activity theory, developed by Havighurst, claims the best way to age is to stay active physically and mentally. The continuity theories, developed by Atchley, states that people maintain their values, habits, and behavior in old age. A person who is accustomed to having people around will continue to do so, and the person who prefers not to be involved with others is more likely to disengage.

10. Developmental Tasks of the Older Adult

According to Erikson the developmental task at this time is ego integrity versus despair. People who attain ego integrity view life with a sense of wholeness and derive satisfaction from past accomplishments. They view death as an acceptable completion of life. By contrast, people who despair often believe they have made poor choices during life and wish they could live life over.

Many people have difficulty with Eriksons singular developmental task because the young-old and old-old differ in both physical characteristics and psychosocial responses. Peck (1968) proposed three developmental tasks of the elder: ego differentiation versus work-role preoccupation, body transcendence versus body preoccupation, and ego transcendence versus ego preoccupation.

11. Additional developmental tasks:

- From 65 to 75 years, older adults adjust to decreasing physical strength and health; to retirement and to lower and fixed income; to death of parents, spouses, and friends; to new relationships with adult children; to leisure time; to slower physical and cognitive responses;

to keeping active and involved; and to making satisfying living arrangements as aging progresses.

- Adults 75 years and older adjust to living alone, to the possibility of moving into a nursing home, and to their own mortality. They focus on safeguarding physical and mental health, remaining in touch with other family members, and finding meaning in life.

12. Psychosocial Changes

- Psychosocial changes that the older adult adjusts to during the aging process include retirement, economic change, grand-parenting, relocation, maintaining independence and self-esteem, facing death, and grieving.
- Retirement: A majority of people in the United States over age 65 are unemployed. However, many who are healthy continue to work, offering these people a better income, a sense of self-worth, and the chance to continue long-established routines. Retirement usually causes income to decrease by 35% or more and requires a process of adaptation. Those who learned early in life to lead well-balanced and fulfilling lives are generally more successful in retirement.
- Economic change: The financial needs of elders vary considerably. Adequate financial resources enable the older person to remain independent. Problems with income are often related to low retirement benefits, lack of pension plans for many workers, and the increased length of the retirement years. Older members of minority groups often have greater financial problems than older whites, and older women of all ages usually have lower incomes than men.
- Grandparenting: Older adults traditionally provide gifts, money, and other forms of support for younger family members. They also provide a sense of continuity, family heritage, rituals, and folklore. However, the rate of grandparents being the primary caregiver for their grandchildren is increasing for the following reasons: substance abuse, incarceration, teen pregnancy, emotional problems, and parental death. They often experience stress, anxiety, financial hardships, and potential deteriorating health.
- Relocation: A variety of factors may lead to relocation. The house or apartment may be too large or too expensive, work involved in maintaining the house may be burdensome or impossible, or the person may need living arrangements all on one floor or more accessible bathroom facilities. Making the decision to move is stressful, but adjustment will be easier for

elders making a voluntary move. More living choices and options are available for the older adult today.

- **Maintaining independence and self-esteem:** Most American elders thrive on independence and want to look after themselves even if they have to struggle to do so. They need this sense of accomplishment. Elders appreciate the same thoughtfulness, consideration, and acceptance of their abilities as younger people do. Values and standards held by older people need to be accepted.
- **Facing death and grieving:** When a mate dies, the remaining partner inevitably experiences feelings of loss, emptiness, and loneliness. Some widows and widowers remarry, particularly widowers since they are less inclined to maintain a household. More women than men face bereavement because women usually live longer. Independence established prior to loss of a partner makes this adjustment period easier. A person who has some meaningful friendships, economic security, and ongoing interests in the community, private hobbies, and a peaceful philosophy of life copes more easily with bereavement. Successful relationships with children and grandchildren are of inestimable value.

13. Changes in Cognitive Abilities While Aging

Piaget's phases of cognitive development end with formal operations; however, research on cognitive ability and aging is currently being conducted.

Intellectual capacity includes perception, cognitive agility, memory, and learning.

Perception is the ability to interpret the environment, which depends on the acuteness of the senses. If senses are impaired the ability to perceive the environment and react appropriately is diminished. Changes in the cognitive structures occur as a person ages; however, the effect of these changes on the cognitive functioning of the adult is not yet known. Lifelong mental activity, particularly verbal activity, helps elders retain a high level of cognitive function and helps maintain long-term memory.

Changes in cognitive abilities are more often a difference in speed than ability. Overall, the older adult maintains intelligence, problem solving, judgment, creativity, and other well-practiced cognitive skills.

Intellectual loss generally reflects a disease process. Cognitive impairment that interferes with social or occupational functions should always be regarded as abnormal.

Memory includes sensory memory (momentary perception of stimuli from the environment), storage in short-term memory (also includes recent memory), and encoding in which the information leaves short-term memory and enters long-term memory. In elders, retrieval from long-term memory can be slower, especially if the information is not frequently used. Most age-related differences, however, occur in short-term memory. Older adults tend to forget the recent past.

Older people need additional time for learning, largely because of the problem of retrieving information. Motivation is important; elders have more difficulty in learning information they do not consider meaningful.

14. Kohlbergs and Gilligans Theories of Moral Reasoning in Elders

- According to Kohlberg, moral development is completed in the early adult years. He has hypothesized that an older person at the preconventional level obeys rules to avoid pain and displeasure of others. At stage 1 a person defines good and bad in relation to self, whereas older people at stage 2 may act to meet another's needs as well as their own. Elders at the conventional level follow society's rules of conduct in response to the expectations of others. Moral reasoning does not decline with age.
- Gilligan challenged Kohlberg's stages as not being applicable to women. She believed that women base moral judgment on connectedness to others and the value of relationships while Kohlberg based his stages on concepts of justice, objectivity, and preservation of rights.
- Older adults begin to make moral decisions that are consistent with both Kohlberg and Gilligan. Older men consider relationships as well as justice in moral decisions and older women add justice to factors considered in moral situations.
- Values and belief patterns that are important to older adults may be different than those held by younger people because they developed during a time that was very different from today. In addition, a large number of today's elders are either foreign-born or first-generation citizens. Cultural background, life experience, gender, religion, and socioeconomic status all influence one's values.
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15. Spirituality and Aging

- Elders can contemplate new religious and philosophical views and try to understand ideas missed previously or interpreted differently. They may derive a sense of worth by sharing experiences or views. In contrast, the older adult who has not matured spiritually may feel impoverished or despair as the drive for economic and professional success lessens.
- Many elders take their faith and religious practice very seriously and display a high level of spirituality. This may be because they grew up in a time when religion was much more important than it is for younger people today.
- Involvement in religion often helps older adults resolve issues related to the meaning of life, to adversity, or to good fortune. It may also be an important coping resource, leading to enhanced well-being.

16. Selected Health Problems

Health problems the older adult may experience include injuries, chronic disabling illnesses, drug use and misuse, alcoholism, dementia, and elder abuse. Leading causes of death in people age 65 and over are heart disease, cancer, cerebrovascular disease (stroke), lower respiratory disease, pneumonia/influenza, and diabetes mellitus.

Healthy People 2010 (2000) reported that falls account for 87% of all fractures among adults 65 years and older. Vision is limited, reflexes are slowed, and bones are brittle; therefore, caution is required. Driving, particularly at night, requires caution because accommodation is impaired and peripheral vision is diminished. Driving in fog or other hazardous conditions should be avoided.

- Fires are a hazard for the elder with a failing memory. They can forget to turn off an iron, the stove is left on, or a cigarette is not extinguished. Decreased sensitivity to pain and heat may lead to burns.
- Many elders die from hypothermia due to lowered metabolism and loss of normal insulation from thinning subcutaneous tissue.
- Persons with Alzheimers disease or other types of dementia experience increasing safety needs as their condition deteriorates.
- Many older adults are afflicted with one or more chronic disabling illnesses that may seriously impair their functioning. Examples include arthritis, osteoporosis, heart disease,

stroke, obstructive lung disease, hearing and vision alterations, and cognitive dysfunction.

Acute diseases may create chronic health problems. Examples include pneumonia, fractures, and trauma from falls or motor vehicle crashes.

- Chronic illnesses bring changes to the client and family. They may create the need for increasing help with ADLs, and health care expenses often escalate. Family roles may need to be altered and lifestyles changed.
- The average elder in the United States takes four to five prescription drugs and two over-the-counter (OTC) medications and may take herbal remedies, vitamins, and food supplements. The complexities involved in self-administration may lead to a variety of misuse situations including taking too much or too little, combining alcohol and medications, combining prescription drugs with OTC drugs and herbal remedies, taking medication at the wrong time, or taking someone else's medication. Another potential misuse occurs when multiple primary care providers prescribe medication and the client fails to tell each what has been previously prescribed.
- Additionally, the pharmacodynamics of drugs is altered in older adults. Variations in absorption, distribution, metabolism, and excretion of drugs are related to physiologic changes associated with aging.
- There are two types of older alcoholics: those who began drinking alcohol in their youth and those who began excessive alcohol use later in life to help them cope with the changes and problems of their older years. Chronic drinking has major effects on all body systems, frequently leading to accidents and death. Some medications have an increased effect and others a decreased effect when combined with alcohol.
- Dementia is a progressive loss of cognitive functions and must be differentiated from delirium, an acute and reversible syndrome. The most common causes of delirium are infection, medications, and dehydration. The most common type of dementia is Alzheimer's disease (AD). The symptoms of AD may vary somewhat but are progressive and exhibit a steady decline in cognitive and physical abilities, lasting between 7 and 15 years and ending in death. Many people with AD are cared for in the home. AD is devastating for the families and caregivers. Caregivers may experience physical and emotional exhaustion. The burden of care is frequently on women, wives and daughters.
- Elder mistreatment may affect either gender; however, the victims are most often women over 75 years of age, physically or mentally impaired, and dependent for care on the abuser. Abuse may involve physical, psychological, or emotional abuse; sexual abuse; financial abuse; violation of human or civil rights; and active or passive neglect. Elder abuse or neglect may

occur in private homes, senior citizens homes, nursing homes, hospitals, and long-term care facilities. Many abusers are either sons or daughters; others include spouses, other relatives, and health care providers.

- Elders at home may fail to report abuse or neglect because they are ashamed to admit that their children have mistreated them or may fear retaliation or fear being sent to an institution. They may lack financial resources or lack the mental capacity to be aware of abuse or neglect. Legally competent adults cannot be forced to leave the abusive situation and in many cases decide to stay.

17. Health Promotion Topics for Older Adulthood

Health promotion topics and guidelines for older adults include safety, nutrition and exercise, elimination, and social interaction.

Safety: Topics include home safety measures to prevent falls, fire, burns, scalds, and electrocution; working smoke and CO detectors; motor vehicle safety reinforcement, especially driving at night; and precautions to prevent pedestrian accidents, elder driver skills.

Nutrition and exercise: Review the importance of a well-balanced diet with fewer calories; the importance of sufficient amounts of vitamin D and calcium to prevent osteoporosis; nutritional and exercise factors that may lead to cardiovascular disease; the importance of 30 minutes of moderate physical activity and 20 minutes of vigorous physical activity three times a week. **Elimination:** Review the importance of adequate roughage in the diet, adequate exercise, and at least six 8-ounce glasses of fluid daily to prevent constipation. **Social interactions:** Encourage intellectual and recreational pursuits; encourage personal relationships that promote discussion of feelings, concerns, and fears; assess risk factors for elder abuse, and identify the availability of social community centers and programs for seniors.

Topic : Promoting Family Health

Topic Objective:

At the end of this topic student will able to understand:

- roles and functions of the family

- different types of families
- family health promotion
- family health assessment
- risk factors regarding family health
- nursing diagnoses, outcomes, and interventions pertaining to family functioning
- diagnoses related to family functioning

Definition/Overview:

The U.S. continues to have general practitioners, though they are uncommon. A physician needs to have a license to practice medicine in the U.S. The only requirement is that the physician be enrolled or have completed a post-graduate year of training, more commonly called a rotating internship. The few licensed physicians who do not go on to finish more years of post-graduate training, which would normally culminate in the completion of a residency, are legally allowed to practice medicine and surgery in the state where they are licensed.

The population of this type of physician is dwindling, however. Currently the United States Navy has several thousand of these general practitioners, formally known as General Medical Officers, in active practice. These physicians see active duty and dependent family members. Often they practice medicine in the most austere and remote environments. General practitioners are very rare in the civilian environment. They have basically been replaced by physicians that are residency trained in Family Medicine.

Key Points:**1. Roles and Functions of the Family**

Functions of the family include securing economic resources, which is usually done by the adult members; protecting physical health by providing adequate nutrition and health care services; providing an environment conducive to physical growth and health; and influencing the cognitive and psychosocial growth of its members. Each family has values and beliefs that are unique to culture of origin and shape the families.

2. Different Types of Families

The different types of families in today's society include the traditional family, the two-career family, the single-parent family, the adolescent family, the foster family, the blended family, the intragenerational family, the cohabiting family, the gay and lesbian family, and single adults living alone. The traditional family is viewed as an autonomous unit in which both parents reside in the home with their children. The mother often assumes the nurturing role and the father provides the necessary economic resources. In the two-career family, both spouses are employed. They may or may not have children. Finding good-quality, affordable child care is one of the greatest stresses faced by working parents. The single-parent family is a family headed by a single parent. There are many reasons for single parenthood, including death of a spouse, separation, divorce, birth of a child to an unmarried woman, or adoption of a child by a single man or woman. In the adolescent family, an adolescent is the parent. These young parents are often developmentally, physically, emotionally, and financially ill-prepared to undertake the responsibility of parenthood. Their children are often at greater risk for health and social problems and have few role models to assist in breaking out of the cycle of poverty.

A foster family agrees to temporarily care for children who can no longer live with their birth parents. The legal agreement between the foster family and court to care for the child includes the expectations of the foster parents and the financial compensation they will receive. It is hoped that the fostered child can return to the birth parent at some point or be legally and permanently adopted by other parents.

A blended family is formed when existing family units join together. Family integration requires time and effort. When blended families with children form following the divorce or death of a parent, adjustment can be particularly challenged by the normal processes of grief and loss. An intra-generational family is formed when more than two generations live together. A cohabiting family (communal) consists of unrelated individuals or families who live under one roof. Reasons for cohabiting may be a need for companionship, a desire to achieve a sense of family, testing a relationship or commitment, or sharing expenses and household management.

Gay and lesbian families are based on the same goals of caring and commitment seen in heterosexual relationships. The structure is as diverse as that of heterosexual families.

Children raised in these family units develop sex role orientation and behaviors similar to children in the general population. Legal issues for same-sex couples are significant and constantly changing.

Single adults living alone represent a significant portion of today's society. Singles include young, self-supporting adults who have recently left the nuclear family as well as older adults living alone. Young adults typically move in and out of living situations and may fall into different categories of family types at various times. Older adults may find themselves single through divorce, separation, or the death of a spouse, but they generally live alone for the remainder of their lives.

3. Theoretical Frameworks Used In Family Health Promotion

- Major theoretical frameworks used in family health promotion include systems theory and structural-functional theory.
- The family unit can also be viewed as a system. Its members are interdependent, working toward specific purposes and goals. Families are open systems, continually interacting with and influenced by other systems in the community. Boundaries regulate the input from other systems that interact with the family system and regulate output from the family to the community or society. Boundaries protect the family from the demands and influences of other systems.
- Families are likely to welcome input from without, encourage members to adapt beliefs and practices to meet changing demands of society, seek out information, and use community resources.
- The structural-functional theory focuses on family structure and function. The structural component of the theory addresses the membership of the family and the relationship among family members. The functional aspect of the theory examines the effects of intra-family relationships on the family system, as well as their effects on other systems.
- Nurses generally use a combination of theoretical frameworks in promoting the health of individuals and families.
- Family medicine differs somewhat from the European general practitioner. In the U.S. family practitioners usually complete an undergraduate degree and then complete either the M.D. degree Doctor of Medicine or a D.O. Doctor of Osteopathic Medicine degree. A physician who specializes in family medicine (also known as a family physician), however, must

complete a three-year family medicine residency in addition to their medical degree, and is eligible for the board certification now required by most hospitals and health plans.

- Most family physicians practice in solo or small-group private practices or as hospital employees in practices of similar sizes owned by hospitals. Still, many choose to teach medicine at medical schools or family medicine residency programs, though usually for much less pay. Others choose to practice as consultants to various medical institutions, including insurance companies.
- Starting in the 1970s and 1980s, many board-certified family physicians in the United States began to consider the terms "general practitioner" and "GP" as somewhat demeaning and derogatory, discounting their additional years of training. It was not until 1969 that family medicine (formerly known as family practice) was recognized as a distinct specialty in the U.S.

A family physician is board-certified in family medicine. Training is focused on treating an individual throughout all of his or her life stages. Family physicians will see anyone with any problem, but are experts in common problems. Many family physicians deliver babies in addition to taking care of patients of all ages. Family physicians complete undergraduate school, medical school, and three more years of specialized medical residency training in family medicine. Board-certified family physicians take a written examination every six, seven, nine or 10 years to remain board certified, depending on what track they choose regarding the maintenance of their certification. Three hundred hours of continuing medical education within the prior six years is also required to be eligible to sit for the exam.

4. Components of a Family Health Assessment

- Components of the family assessment include family structure, family roles and functions, physical health status, interaction patterns, family values, and coping resources.
- A family's structure is determined by size, type (nuclear, extended, or other type of family), and the age and gender of family members.
- A family's roles and functions include certain family members working outside the home, their type of work and satisfaction with it, household roles and responsibilities, how tasks are distributed, how child-rearing responsibilities are shared, who is the major decision maker

and what methods of decision-making are used, the family members satisfaction with roles, and the way decisions are made.

- The family's physical health status is affected by the current physical health status of each member, perceptions of own and other family members health, preventive health practices, routine health care, and when and why the primary care provider was last seen.
- Interaction patterns are ways of expressing affection, love, sorrow, anger, and so on. They are determined by the significance of the family members to each other and by the openness of communication among all family members.
- Family values may include cultural and religious orientations; the degree to which cultural practices are followed; use of leisure time and whether leisure time is shared with the total family unit; the family's view of education, teachers, and the school system; health values; and how much emphasis is put on exercise, diet, and preventive health care.
- Coping resources are determined by the degree of emotional support offered to one another, availability of support persons and affiliation outside the family, sources of stress, methods of handling stressful situations and conflicting goals of family members, and the financial ability to meet current and future needs.
- Between 2003 and 2009 the board certification process is being changed in family medicine and all other American Specialty Boards to a continuous series of yearly competency tests on differing areas within the given specialty. The American Board of Family Medicine, as well as other specialty boards, are requiring additional participation in continuous learning and self-assessment to enhance clinical knowledge, expertise and skills. The Board has created a program called the "Maintenance of Certification Program for Family Physicians" (MC-FP) which will require family physicians to continuously demonstrate proficiency in four areas of clinical practice: professionalism, self assessment/lifelong learning, cognitive expertise, and performance in practice.
- Certificates of Added Qualifications (CAQs) in adolescent medicine, geriatric medicine, sports medicine, sleep medicine, and hospice and palliative medicine are available for those board-certified family physicians who meet additional training and testing requirements. Additionally, fellowships are available for family physicians in adolescent medicine, geriatrics, sports medicine, rural medicine, faculty development, hospitalist, obstetrics, research, and preventative medicine.

- The family medicine (FM) paradigm is bolstered by primary care physicians trained in internal medicine (IM); although these physicians are trained in internal medicine only, adult patients provide the majority of the patient base of many family medicine practices. In the United States, there is a rising contingent of physicians dually trained in internal medicine and pediatrics ("peds", pronounced / pi dz/), which can be completed in four years, instead of the three years each for IM and pediatrics. A significant number of family medicine practices (especially in suburban and urban areas) do not provide obstetric services anymore (due to litigation issues and provider preference), and as such, this blurs the line between the FM and IM/Peds difference. One suggested difference is that the IM/Peds-trained physicians are more geared towards subspecialty training or hospital-based practice. Even so, there are many groups with FM-trained and IM/Peds-trained physicians working in seamless harmony.
- There is currently a shortage of family physicians (and also other primary care providers) due to several factors, notably the lesser prestige associated with the young specialty, the lesser pay, and the increasingly frustrating practice environment in the U.S. Physicians are increasingly forced to do more administrative work, shoulder higher malpractice premiums due to highly profitable insurance monopolies that charge excessive premiums, thus forcing doctors to spend less and less time with patient care due to the current payor model stressing patient volume vs. quality of care. Things are starting to change as more insurance carriers consolidate. They are not stressing performance but more and more volume, thus increasing insurance company profit margins. Physicians are starting to shun insurance carriers to lessen the paperwork in order to focus more on patient care as they are originally trained to do. The average starting salary in the United States for family physicians is \$120,000 to 150,000 a year.
- There is a current trend among family physicians to adopt a practice model called the micro practice, or "Ideal Medical Practice." These practices focus on reducing their overhead and increase their utilization of technology. Because the overhead is reduced, the need to see a high volume of patients to generate more revenue is diminished. This allows the doctor to spend more time with their patients, which results in higher satisfaction for the patient and the physician.

5. Common Risk Factors Regarding Family Health

Common risk factors regarding family health include maturity factors, heredity factors, gender or race, sociologic factors, and lifestyle factors. Families with members at both ends of the age continuum are at risk of developing health problems. Families entering childbearing and child-rearing phases experience changes in roles, responsibilities, and expectations. Adolescent mothers, due to their developmental level and lack of knowledge about parenting, and single-parent families, due to role overload, are more likely to develop health problems. Many elderly persons feel a lack of purpose and decreased self-esteem which in turn reduce their motivation to engage in health-promoting behaviors. Persons born into families with a history of certain diseases are at greater risk of developing these conditions. Gender or race may predispose individuals to specific health risks. For example, men are at greater risk of having cardiovascular disease at an earlier age than women. Women are at risk of developing osteoporosis, particularly after menopause. Sickle-cell anemia is a hereditary disease limited to people of African descent, for example.

Poverty is a major sociologic problem that affects not only the family but also the community and society. When ill, the poor are likely to put off seeking services until the illness reaches an advanced state and requires longer or more complex treatment. Many diseases are preventable, the effects can be minimized, or the onset of disease can be delayed through lifestyle modifications. Other important lifestyle considerations are exercise, stress management, and rest. Nursing diagnoses, outcomes, and interventions pertaining to family functioning

- Data gathered during a family assessment may lead to the following nursing diagnoses:
- Interrupted family processes : a change in family relationships
- Readiness for enhanced family coping: effective management of adaptive tasks by family members involved with the clients health challenge, who exhibit desire and readiness for enhanced health and growth in regard to self and in relation to the client
- Disabled family coping : behavior of significant person (family member or other primary person) that disables his or her capacities to effectively address tasks essential to either persons adaptation to the health challenge
- Impaired parenting : inability of the primary caretaker to create, maintain, or regain an environment that promotes the optimum growth and development of the child

- Impaired home maintenance: inability to independently maintain a safe growth-promoting immediate environment
- Caregiver role strain : difficulty in performing family care-giving role

Nursing needs to focus on assisting the family to plan realistic goals/outcomes and strategies that enhance family functioning, such as improving communication skills, identifying and utilizing support systems, and developing and rehearsing parenting skills.

Anticipatory guidance may assist well-functioning families in preparing for predictable developmental transitions that occur in the life of families. (See Identifying Nursing Diagnoses, Outcomes, and Interventions: Clients with Disruption in Family Health in textbook.)

6. Outcome Criteria for Specific Nursing Diagnoses Related To Family Functioning

Nursing needs to focus on assisting the family to plan realistic goals/outcomes and strategies that enhance family functioning, such as improving communication skills, identifying and utilizing support systems, and developing and rehearsing parenting skills. Specific outcome criteria will depend on the nursing diagnoses derived from the assessment data.

Topic : Caring

Topic Objective:

At the end of this topic student will able to understand:

- meaning of caring
- Theories focusing on caring
- Importance of different types of knowledge in nursing
- Nurses demonstrate caring in practice
- Importance of self-care for the professional nurse
- Value of reflective practice in nursing

Definition/Overview:

Health care, or healthcare, is the prevention, treatment, and management of illness and the preservation of mental and physical well being through the services offered by the medical,

nursing, and allied health professions. Health care embraces all the goods and services designed to promote health, including preventive, curative and palliative interventions, whether directed to individuals or to populations. The organized provision of such services may constitute a health care system. This can include specific governmental organizations such as, in the UK, the National Health Service or cooperation across the National Health Service and Social Services as in Shared Care. Before the term "health care" became popular, English-speakers referred to medicine or to the health sector and spoke of the treatment and prevention of illness and disease.

In most developed countries and many developing countries health care is provided to everyone regardless of their ability to pay. The National Health Service, established in 1948 by Clement Atlee's Labor government in the United Kingdom, were the world's first universal health care system provided by government and paid for from general taxation. Alternatively, compulsory government funded health insurance with nominal fees can be provided, as in Italy. Other examples are Medicare in Australia, established in the 1970s by the Labor government, and by the same name Medicare was established in Canada between 1966 and 1984. Universal health care contrasts to the systems like health care in the United States or South Africa, though South Africa is one of the many countries attempting health care reform. The United States is the only wealthy, industrialized nation that does not provide universal health care

Key Points:

The health care industry is considered an industry or profession which includes peoples' exercise of skill or judgment or the providing of a service related to the preservation or improvement of the health of individuals or the treatment or care of individuals who are injured, sick, disabled, or infirm. The delivery of modern health care depends on an expanding group of trained professionals coming together as an interdisciplinary team.

1. Meaning Of Caring

- There are a number of definitions of caring in the text. Caring means that people, relationships, and things matter.

- Mayeroff (1990) has proposed that to care for another person is to help him grow and actualize himself. Caring is a process that develops over time, resulting in a deepening and transformation of the relationship.
- According to Mayeroff, the caring process has benefits for the one giving care. By caring and being cared for, each person finds his place in the world.
- Major ingredients of caring provide further description of this process: knowing (understanding the others needs and how to respond to these needs); alternating rhythms (moving back and forth between the immediate and long-term meaning of behavior, considering the past); patience (enabling the other to grow in his or her own way and time); honesty (having an awareness and openness to ones own feelings and a genuineness in caring for others); trust (letting go, allowing the other to grow in his or her own way and own time); humility (acknowledging that there is always more to learn, and that learning may come from any source); hope (believing in the possibilities of the others growth); and courage (going into the unknown, informed by insight from past experience).
- Caring is a multidimensional concept. In a comprehensive review of this concept, Morse et al. (1990) identified definitions of caring that were summarized as the following five viewpoints: caring as a moral imperative, caring as an affect, caring as a human trait, caring as an interpersonal relationship, and caring as a therapeutic intervention.

2. Nursing Theories Focusing On Caring

- Several nursing theorists focus on caring: Leininger, Ray, Roach, Boykin and Schoenhofer, Watson, Swanson, and Benner and Wrubel.
- Leiningers theory of culture care diversity and universality is based on the assumption that nurses must understand different cultures in order to function effectively. This theory focuses on both differences and similarities among persons in diverse cultures. Nurses must understand these in order to give care that is reasonably congruent with clients beliefs, lifeways, and values.
- Rays theory of bureaucratic caring focuses on caring in organizations as cultures. The theory suggests that caring in nursing is contextual and is influenced by the organizational structure.
- Roach focuses on caring as a philosophical concept and proposes that caring is the human mode of being. All persons are caring and develop their caring abilities by being true to self, being real, and being who they truly are. Although it is not unique to nursing, caring is the center of all attributes used to describe nursing.

- Roach defines these attributes as the six Cs of caring: compassion, competence, confidence, conscience, commitment, and comportment.
- Boykin and Schoenhofer propose the theory of nursing as caring. They suggest that the purpose of the discipline and profession of nursing is to know persons and nurture them as persons living in caring and growing in caring. Caring in nursing is an altruistic, active expression of love, and is intentional and embodied recognition of value and connectedness.
- Watson's theory of human care views caring as the essence and the moral ideal of nursing. Human care is the basis for nursing's role in society; indeed nursing's contribution to society lies in its moral commitment to human care.
- Swanson defines caring as a nurturing way of relating to a valued other toward whom one feels a personal sense of commitment and responsibility. The theory focuses on caring processes as nursing interventions. The five caring processes include knowing, being with, doing for, enabling, and maintaining belief.
- Benner and Wrubel (1989) described nursing as a relationship in which caring is primary because it sets up the possibility of giving and receiving help. Caring practice requires attending to the particular client over time, determining what matters to the person, and using this knowledge in clinical judgments.
- Consuming over 10 percent of gross domestic product of most developed nations, health care can form an enormous part of a country's economy. In 2003, health care costs paid to hospitals, physicians, nursing homes, diagnostic laboratories, pharmacies, medical device manufacturers and other components of the health care system, consumed 16.3 percent of the GDP of the United States, the largest of any country in the world. For the United States, the health share of gross domestic product (GDP) is expected to hold steady in 2006 before resuming its historical upward trend, reaching 19.5 percent of GDP by 2016. In 2001, for the OECD countries the average was 8.4 percent with the United States (13.9%), Switzerland (10.9%), and Germany (10.7%) being the top three.]
- Purely private enterprise health care systems are comparatively rare. Where they exist, it is usually for a comparatively well-off subpopulation in a poorer country with a poorer standard of health care for instance, private clinics for a small, wealthy expatriate population in an otherwise poor country. But there are countries with a majority-private health care system with residual public service. The other major models are public insurance systems. A Social security health care model is where workers and their families are insured by the State. A

publicly funded health care model is where the residents of the country are insured by the State. Within this branch is Single-payer health care, which describes a type of financing system in which a single entity, typically a government run organisation, acts as the administrator (or "payer") to collect all health care fees, and pay out all health care costs. Some advocates of universal health care assert that single-payer systems save money that could be used directly towards health care by reducing administrative waste. In practice this means that the government collects taxes from the public, businesses, etc., creates an entity to administer the supply of health care and then pays health care professionals. A single-payer universal health care system will actually save money through reduced bureaucratic administration costs. Social health insurance is where the whole population or most of the population is a member of a sickness insurance company. Most health services are provided by private enterprises which act as contractors, billing the government for patient care. In almost every country with a government health care system a parallel private system is allowed to operate. This is sometimes referred to as two-tier health care. The scale, extent, and funding of these private systems is very variable.

- A traditional view is that improvements in health result from advancements in medical science. The medical model of health focuses on the eradication of illness through diagnosis and effective treatment. In contrast, the social model of health places emphasis on changes that can be made in society and in people's own lifestyles to make the population healthier. It defines illness from the point of view of the individual's functioning within their society rather than by monitoring for changes in biological or physiological signs.

3. Types of Knowledge in Nursing

- Nursing involves different types of knowledge that are integrated to guide nursing practice. Nurses require scientific knowledge (empirical knowledge), therapeutic use of self (personal knowledge), moral/ethical knowledge (ethical knowing), and creative action (aesthetic knowing). An understanding of each type of knowledge is important for the student of nursing because only by integrating all ways of knowing can the nurse develop a professional practice.
- Knowledge about the empirical world is systematically organized into laws and theories for the purpose of describing, explaining, and predicting phenomena of special concern to the discipline of nursing. Empirical knowledge ranges from factual, observable phenomenon to theoretical analysis.

- Aesthetic knowing is the art of nursing and is expressed by the individual nurse through his or her creativity and style in meeting the needs of the client. Empathy, compassion, holism, and sensitivity are important modes in aesthetic pattern of knowing.
- Personal knowledge is concerned with the knowing, encountering, and actualizing of the concrete, individual self. Personal knowing promotes wellness and integrity in personal encounters, achieves engagement rather than detachment, and denies the manipulative or impersonal approach.
- Ethical knowing focuses on matters of obligation or what ought to be done, and goes beyond simply following the ethical codes of the discipline. Nursing care involves a series of deliberate actions or choices that are subject to the judgment of right or wrong.

4. Nurses Demonstrate Caring In Practice

Nurse theorists and researchers have studied the question of how does a nurse demonstrate caring? and have identified caring attributes and behaviors. Because caring is contextual, a nursing approach used with a client in one situation may be ineffective in another. Caring encounters are influenced by the diversity of human responses, the nurses workload, and the preferences of the nurse and client. When clients perceive the encounter to be caring, their sense of dignity and self-worth are increased, and feelings of connectedness are expressed. Caring in practice is demonstrated by knowing the client, nursing presence, empowering the client, compassion, and competence.

- **Knowing the client:** Caring attends to the totality of the clients experience. The nurse aims to know who the client is, in his or her uniqueness. The nurse knows the client ultimately increases the possibilities for therapeutic interventions to be perceived as relevant.
- **Nursing presence:** By being emotionally present to the client and family, the nurse conveys that they and their experiences matter. Physical presence is combined with the promise of availability, especially in a time of need. Covington (2003) has defined caring presence as an interpersonal, inter-subjective human experience of connection within a nurse-client relationship that makes it safe for sharing oneself with another.
- **Empowering the client:** Swanson (1993) has identified the caring behavior of enabling, defined as facilitating the others passage through life transitions and unfamiliar events. Enabling also includes coaching, informing, explaining, supporting, assisting, guiding, focusing, and validating.

- **Compassion:** The nurse must be able to identify with the client, appreciate the pain and discomfort of illness, or imagine walking in the clients shoes in regard to some part of the clients life experience. Attending to spiritual needs and comfort are also part of compassionate care. Comfort is often associated with compassionate care. For example, bathing, positioning, talking, touching, and listening are often performed to increase the clients comfort.
- **Competence:** The nurse employs the necessary knowledge, judgment, skills, and motivation to respond adequately to the clients needs. Compassion without competence is meaningless and dangerous.

5. Self-Care for the Professional Nurse

- As nurses take on multiple commitments to family, work, school, and community, they risk exhaustion, burnout, and stress.
- Mayeroff (1990) describes caring for self as helping oneself grow and actualize ones possibilities.
- Caring for self means taking the time to nurture oneself. This involves initiating and maintaining behaviors that promote healthy living and well-being.
- Self-awareness and self-esteem are intimately connected to self-care. Individuals with high self-esteem can critically problem solve and tackle obstacles more effectively. Self-care activities build self-esteem leading to feelings of comfort and accomplishment.
- Types of self-care activities include creating a healthy lifestyle, proper nutrition, activity and exercise, recreation, avoiding unhealthy patterns, and using mindbody therapies such as guided imagery, meditation, storytelling, music therapy, and yoga.

6. Reflective Practice in Nursing

Critical thinking, self-analysis, and reflection are required in order to learn from ones experience. The student matures as a practitioner by thinking about how values and standards guide practical experience. Reflection is thinking from a critical point of view, analyzing why one acted in a certain way, and assessing the results of ones actions. In order to develop oneself as a caring practitioner, reflection on practice must be personal and meaningful. Reflective practice is a method of self-examination that involves thinking back over what happened in a nursing situation. It includes becoming aware of how one feels about oneself and recognizing how one thinks and acts. This exploration

leads to new understandings and appreciations. Reflection provides a method to explore alternative forms of nursing knowledge, including empirical, aesthetics, personal, and ethical types.

Reflective practice requires discipline, actions, openness, and trust. It is a form of self-evaluation. Reflective journaling provides a space for the student to look at and acknowledge the deeper self. Guidance from a mentor or teacher can help the student view a nursing situation from many perspectives. Guidance helps the student find meaning in an event, understand and learn through it, and emerge at a higher level of understanding.

Topic : Communicating

Topic Objective:

At the end of this topic student will able to understand:

- influencing the communication process
- Nurseclient communication as a dynamic process
- Four phases of the helping relationship
- Effective groups
- Promoting health and comfort
- Communication skills in each phase of the nursing process
- Effective communication is imperative among health professionals
- major characteristics between assertive and nonassertive communication

Definition/Overview:

Communication is the process of transferring information from a sender to a receiver with the use of a medium in which the communicated information is understood by both sender and receiver. It is a process that allows organisms to exchange information by several methods. Communication requires that all parties understand a common language that is exchanged. There are auditory means, such as speaking, singing and sometimes tone of voice, and nonverbal, physical means, such as body language, sign language, paralanguage, touch, eye contact, or the use of writing. Communication is defined as a process by which we assign and convey meaning in an attempt to create shared understanding. This process requires a vast

repertoire of skills in intrapersonal and interpersonal processing, listening, observing, speaking, questioning, analyzing, and evaluating. Use of these processes is developmental and transfers to all areas of life: home, school, community, work, and beyond. It is through communication that collaboration and cooperation occur. Communication is the articulation of sending a message, through different media whether it be verbal or nonverbal, so long as a being transmits a thought provoking idea, gesture, action, etc.

Communication happens at many levels (even for one single action), in many different ways, and for most beings, as well as certain machines. Several, if not all, fields of study dedicate a portion of attention to communication, so when speaking about communication it is very important to be sure about what aspects of communication one is speaking about. Definitions of communication range widely, some recognizing that animals can communicate with each other as well as human beings, and some are narrower, only including human beings within the parameters of human symbolic interaction.

Nonetheless, communication is usually described along a few major dimensions: Content (what type of things are communicated), source, emitter, sender or encoder (by whom), form (in which form), channel (through which medium), destination, receiver, target or decoder (to whom), and the purpose or pragmatic aspect. Between parties, communication includes acts that confer knowledge and experiences, give advice and commands, and ask questions. These acts may take many forms, in one of the various manners of communication. The form depends on the abilities of the group communicating. Together, communication content and form make messages that are sent towards a destination. The target can be oneself, another person or being, another entity (such as a corporation or group of beings).

Key Points:

A language is a syntactically organized system of signals, such as voice sounds, intonations or pitch, gestures or written symbols which communicate thoughts or feelings. If a language is about communicating with signals, voice, sounds, gestures, or written symbols, can animal communications be considered as a language? Animals do not have a written form of a language, but use a language to communicate with each another. In that sense, an animal communication can be considered as a separated language. Human spoken and written languages can be described as a system of symbols (sometimes known as lexemes) and the grammars (rules) by which the symbols are manipulated. The word "language" is also used to

refer to common properties of languages. Language learning is normal in human childhood. Most human languages use patterns of sound or gesture for symbols which enable communication with others around them. There are thousands of human languages, and these seem to share certain properties, even though many shared properties have exceptions.

There is no defined line between a language and a dialect, but the linguist Max Weinreich is credited as saying that "a language is a dialect with an army and a navy". Constructed languages such as Esperanto, programming languages, and various mathematical formalisms are not necessarily restricted to the properties shared by human languages. Nonverbal communication is the process of communicating through sending and receiving wordless messages. Such messages can be communicated through gesture, body language or posture; facial expression and eye contact, object communication such as clothing, hairstyles or even architecture, or symbols and info graphics. Speech may also contain nonverbal elements known as paralinguistics, including voice quality, emotion and speaking style, as well as prosodic features such as rhythm, intonation and stress. Likewise, written texts have nonverbal elements such as handwriting style, spatial arrangement of words, or the use of emoticons. A portmanteau of the English words emotion (or emote) and icon, an emoticon is a symbol or combination of symbols used to convey emotional content in written or message form

1. Factors Influencing the Communication Process

Many factors influence the communication process. Some of these are development, gender, values and perceptions, personal space, territoriality, roles and relationships, environment, congruence, and attitudes.

- Language, psychosocial, and intellectual development moves through stages across the life span. Knowledge of a client's developmental stage will allow the nurse to modify the message accordingly.
- From an early age, females and males communicate differently. Girls tend to use language to seek confirmation, minimize differences, and establish intimacy. Boys use language to establish independence and negotiate status within a group. These differences can continue into adulthood, so the same communication may be interpreted differently by a man and a woman.

- Values are standards that influence behavior, and perceptions are the personal view of an event. Because each person has unique personality traits, values, and life experiences, each will perceive and interpret messages and experiences differently. It is important for the nurse to be aware of a client's values and to validate or correct perceptions to avoid creating barriers in the nurse-client relationship.
- Personal space is the distance people prefer in interactions with others. Middle-class North Americans use definite distances in various interpersonal relationships. Communication is altered in accordance with four distances: intimate (touching to 1 1/2 feet), personal (1 1/2 to 4 feet), social (4 to 12 feet), and public (12 to 15 feet).
- Intimate distance is characterized by body contact, heightened sensations of body heat and smell, and vocalizations that are low. Vision is intense, restricted to a small body part, and may be distorted. It is a natural protective instinct for people to maintain a certain amount of space immediately around them, and the amount varies with cultures.
- Personal distance is less overwhelming. Voice tones are moderate, and body heat and smell are noticed less. More of the person is perceived so that nonverbal behaviors are seen with less distortion. Much communication occurs at this distance. Communication at a close personal distance can convey involvement by facilitating the sharing of thoughts and feelings.
- Social distance is characterized by a clear visual perception of the whole person. Body heat and odor are imperceptible, eye contact is increased, and vocalizations are loud enough to be overheard by others. Communication is therefore more formal and is limited to seeing and hearing. The person is protected and out of reach for touch or personal sharing of thoughts or feelings. It is expedient for communicating with several people at the same time or within a short time.
- Public distance requires loud, clear vocalizations with careful enunciation. Although the faces and forms of people are seen at public distance, individuality is lost. The perception is of the group or people or the community.
- Territoriality is the concept of the space and things that an individual considers as belonging to the self. Territories marked off by people may be visible to others. This human tendency to claim territory must be recognized by health care providers. Clients often feel the need to defend their territory when it is invaded by others.
- Choice of words, sentence structure, and tone of voice vary considerably from role to role. In addition, the specific relationship between communicators is significant.
- The nurse communicates differently when meeting the client for the first time than the nurse who has previously developed a relationship with the client.

- People usually communicate most effectively in a comfortable environment. Temperature extremes, excessive noise, and a poorly ventilated environment can all interfere with communication, as may lack of privacy and environmental distractions.
- Congruence means that the verbal and nonverbal aspects of the message match. This is usually readily seen by nurses; however, clients are often just as adept at reading a nurses expression or body language. If there is an incongruence, the body language or nonverbal communication is usually the one with the true meaning.
- Attitudes convey beliefs, thoughts, and feelings about people and events. Attitudes such as caring, warmth, respect, and acceptance facilitate communication; whereas condescension, lack of interest, and coldness inhibit communication.
- Caring and warmth convey feelings of emotional closeness; respect is an attitude that emphasizes the other persons worth and individuality; acceptance emphasizes neither approval nor disapproval but a willingness to receive the clients honest feelings.
- Communication can be seen as processes of information transmission governed by three levels of semiotic rules:

2. NurseClient Communication As A Dynamic Process

Nurseclient relationships are referred to by some as interpersonal relationships, by others as therapeutic relationships, and by still others as helping relationships.

Helping is a growth-facilitating process that strives to achieve two basic goals: (a) to help clients manage their problems in living more effectively and develop unused or underused opportunities more fully, and (b) to help clients become better at helping themselves in their everyday lives.

A helping relationship may develop over weeks of working with a client or within minutes. The keys to the helping relationship are the development of trust and acceptance between the nurse and the client and an underlying belief that the nurse cares about and wants to help the client. The helping relationship is influenced by the personal and professional characteristics of the nurse and the client.

Consideration of age, gender, appearance, diagnosis, education, values, ethnicity, cultural background, personality, expectations, and setting combined with good communication skills

and sincere interest in the clients welfare will enable the nurse to create a helping relationship.

3. Phases of the Helping Relationship

- The helping relationship process can be described in terms of four sequential phases, each characterized by identifiable tasks and skills: preinteraction phase, introductory phase, working (maintaining) phase, and termination phase.

In the preinteraction phase, the nurse reviews pertinent assessment data, considers potential areas of concern, and develops plans for interaction. The introductory phase consists of three stages: opening the relationship, clarifying the problem, and structuring and formulating the contract obligations to be met by both the nurse and the client.

- Opening the relationship: The nurse and client identify each other by name. If the nurse initiates, it is important to give the client an idea of what to expect. When the client initiates, the nurse needs to help the client express concerns and reasons for seeking help, often with open-ended questions.
- Clarifying the problem: The client may not initially see the problem clearly; the nurse helps to clarify the problem.
- Structuring and formulating the contract: The nurse and client develop a sense of trust and verbally agree about location, frequency and length of the meetings, overall purpose of the relationship, how confidential material will be handled, tasks to be accomplished and duration, and indications for termination of the relationship.

The working phase has two stages: exploring and understanding thoughts and feelings, and facilitating and taking actions.

- Exploring and understanding thoughts and feelings: The nurse assists the client to explore and understand thoughts and feelings and acquires an understanding of the client. The client explores thoughts and feelings associated with problems, develops the skill of listening, and gains insight into personal behavior.
- Facilitating and taking action: The nurse plans programs within the clients capabilities and considers long- and short-term goals. The client needs to learn to take risks, and the nurse needs to reinforce successes and help the client recognize failures realistically.

- In the termination phase, the nurse and client accept feelings of loss. The client accepts the end of the relationship without feelings of anxiety or dependence.

4. Features of Effective Groups

Three main functions are required for any group to be effective: it must maintain a degree of group unity or cohesion, it needs to develop and modify its structure to improve effectiveness, and it must accomplish its goals. Features of effective groups include the following:

- The atmosphere is comfortable and relaxed, and people are able to demonstrate their interest and involvement.
- The groups purpose its goals, tasks, and outcomes is clarified, understood, and modified so that members can commit to the purpose through cooperation.
- Leadership and member participation are democratic. There may be a shift in leadership from time to time depending on knowledge and experience.
- Communication is open. Ideas and feelings are encouraged.
- Decisions are made by the group, although various decision-making procedures appropriate to the situation may be instituted.
- Cohesion is facilitated through valuing group members, with open expression of feelings, trust, and support.
- Conflict is tolerated. The reasons for disagreement or conflicts are carefully examined and the group seeks to resolve them.
- Power is determined by the members abilities and the information they possess; power is shared.
- Problem solving is a high priority. Constructive criticism is frequent, frank, relatively comfortable, and oriented toward problem solving.
- Creativity is encouraged.

5. Promoting Health and Comfort

Common types of health care groups include task groups, teaching groups, self-help groups, self-awareness groups, therapy groups, and work-related social support groups. Task groups are work-related with a focus on completion of a specific task. Teaching groups impart information to the participants. Self-help groups are small, voluntary organizations composed

of individuals who share a similar health, social, or daily living problem. Self-awareness groups develop or use interpersonal strengths. Therapy groups work toward self-understanding, more satisfactory way of relating or handling stress, and changing patterns of behavior toward health. Work-related social support groups assist member to buffer stress related to vocational stress.

6. Communication Skills in Each Phase of the Nursing Process

- Communication is an integral part of the nursing process. Nurses use communication skills in each phase of the nursing process. Communication is also important when caring for clients who have communication problems.
- Assessing: The nurse must determine communication impairments or barriers and communication style, cultural influence, age, and development.
- Impairments in communication include language deficits, sensory deficits, cognitive impairments, structural deficits, and paralysis.
- Style of communication includes both verbal and nonverbal communication. Psychological illness may influence the ability to communicate.
- Verbal communication includes the content of the message, the themes, and verbalized emotions. In addition, the nurse must consider pattern (e.g., slow, rapid, quiet, spontaneous, hesitant, evasive); vocabulary; presence of hostility, aggression, assertiveness, reticence, hesitance, anxiety, or loquaciousness; difficulties with verbal communication; and refusal or inability to speak.
- Nonverbal communication must be considered in relationship to the clients culture. It is important to pay attention to facial expression, gestures, body movements, affect, tone of voice, posture, and eye contact.
- Diagnosing: Impaired Verbal Communication may be used as a nursing diagnosis when an individual experiences a decreased, delayed, or absent ability to receive, process, transmit, and use a system of symbols anything that has meaning (i.e., transmits meaning). Communication problems may be receptive or expressive.
- If the client has a psychiatric illness or a coping problem causing communication problems, another diagnosis may be more useful such as Fear or Anxiety.
- Other nursing diagnoses used for clients experiencing communication problems that involve impaired communication as the etiology could include the following: Anxiety,

Powerlessness, Situational Low Self-esteem, Social Isolation, and Impaired Social Interaction. All of these are related to impaired verbal communication.

- **Planning:** The client and nurse determine outcomes and begin planning ways to promote effective communication. The overall outcome is to reduce or resolve the factors impairing the communication. Specific nursing interventions will be planned for the stated etiology.
- Examples of outcome criteria include the following: communicates that needs are being met; begins to establish a means of communication; perceives the message accurately as evidenced by appropriate verbal and/or nonverbal responses; communicates effectively; regains maximum communication abilities; expresses minimum fear, anxiety, frustration, and depression; and uses resources appropriately.
- **Implementing:** Interventions to facilitate communication with clients who have problems with speech or language include manipulating the environment, providing support, employing measures to enhance communication, and educating the client and support person.
- **Evaluating:** To establish whether outcomes have been met, the nurse must listen actively, observe nonverbal cues, and use therapeutic communication skills to determine that communication was effective.

7. Effective Communication Is Imperative Among Health Professionals

Effective communication among health professionals is imperative to prevent medical errors as a result of communication problems, to promote better client outcomes, to preserve a nurses professional integrity while ensuring a clients safety, and to maintain a better working environment.

8. Characteristics between Assertive and Nonassertive Communication

- Assertive communication promotes client safety by minimizing miscommunication with colleagues. People who are assertive are honest, direct, and appropriate while being open to ideas and respecting the rights of others.
- An important characteristic of assertive communication includes the use of I statements versus you statements. I statements encourage discussion, and you statements place blame and put the listener in a defensive position.
- Nonassertive communication includes two types of interpersonal behaviors: submissive and aggressive.

- When people use a submissive communication style, they allow their rights to be violated by others. They meet the demands and requests of others without regard to their own feelings and needs because they believe their own feelings are not important. Some experts believe that these individuals are insecure and try to maintain their self-esteem by avoiding conflict.
- There is a fine line between assertive and aggressive communication. Assertive communication is an open expression of ideas and opinions while respecting the rights and opinions of others. Aggressive communication strongly asserts the persons legitimate rights and opinions with little regard or respect for the rights and opinions of others. Aggressive communication is often perceived as a personal attack because it humiliates, dominates, controls, or embarrasses the other person. By lowering the other persons self-esteem, the person using aggressive communication may feel superior. Aggressive communication can take several forms, including screaming, sarcasm, rudeness, belittling jokes, and even direct personal insults.

Topic : Teaching**Topic Objective:**

At the end of this topic student will able to understand:

- importance of the teaching role of the nurse
- attributes of learning
- andragogy, pedagogy, and geragogy
- learning theories of behaviorism
- three domains of learning
- factors that affect learning
- source of health information
- Assess learning needs of learners
- nursing diagnoses, outcomes
- essential aspects of a teaching plan
- guidelines for effective teaching
- strategies to use when teaching clients of different cultures
- methods to evaluate learning
- effective documentation of teachinglearning activities

Definition/Overview:

Nursing is a self-governing scientific healthcare discipline practiced by professionals who have received between two to ten years of formal university education taught by nurse educators prepared at the Masters or Doctoral level, successfully passed state board of nursing examinations, and in many cases have additional education and certification in specialty areas of nursing practice."

During recent decades, in many parts of the developed world, the emphasis on education has replaced the more practically focused, but often ritualistic, training structure of conventional practitioner preparation. Educational pathways stress a broader awareness of other disciplines allied to medicine, and the utilization of research when making clinical and managerial decisions. Orthodox training can be argued to have offered a more intense practical skills base, but emphasized the handmaiden relationship with the physician. This is now outmoded, and the impact of nurse education is to develop a confident, inquiring graduate practitioner who contributes to the care team as an equal. However, not all qualification courses yet have graduate status. It is possible to link recent developments in nurse education with feminism and the rising status of women in professional roles elsewhere.

Less than 7% of all nurses in the United States are male, however the percentage of male representation in advanced degreed nursing specialties is much higher. For instance, 42% of nurses becoming a CRNA, nurse anesthetist, in the US are male.

Key Points:

Traditionally, from the times prior to Florence Nightingale, nursing was seen as an apprenticeship, often undertaken in religious orders such as convents by young females, although there have always been a proportion of male nurses, especially in mental health services. In 1860 Nightingale set up the first nurse training school at St Thomas' Hospital, London. Nightingale's curriculum was largely based around nursing practice, with instruction focused upon the need for hygiene and task competence. Her methods are reflected in her "Notes on Nursing", (1898). Some other nurses at this time, notably Ethel Bedford-Fenwick, were in favor of formalized nursing registration and curricula that were formally based in higher education and not within the confines of hospitals.

- Formal nurse education in the United States and Canada directly followed the Nightingale model of hospital-based training and upon graduating; students earned a Diploma in Nursing. During the 1920's a shift to education in academic facilities began and now nurse education is primarily conducted within colleges or university| universities with clinical classes held in hospitals. However, some hospital-based schools persist.
- In Europe the University of Edinburgh was the first European institution to offer a nursing degree in 1972. Within the profession of nurse teaching, arguments continue about the ideal balance of practical preparation to do the job in a hands-on way with the need to educate the future practitioner to manage healthcare and to see "the bigger picture". To meet these requirements, nurse education aims to develop and nurture a lifelong learner who can adapt effectively to changes in both the theory and practice of nursing

1. Importance of the Teaching Role of the Nurse

Teaching the client is a major aspect of nursing practice and an important independent nursing function. The American Hospital Associations Patients Bill of Rights mandates client education as a right of all clients. State nurse practice acts include client teaching as a function of nursing, making this a legal and professional responsibility. The Joint Commission on Accreditation of Healthcare Organization (JCAHO) expanded its standards of client education by nurses to include evidence that patients and their significant others understand what they have been taught. This requirement means that providers must consider the literacy level, educational background, language skills, and culture of every client during the education process.

2. Attributes Of Learning

The attributes of learning include:

- An experience that occurs inside the learner.
- The discovery of the personal meaning and relevance of ideas.
- A consequence of experience.
- A collaborative and cooperative process.
- An evolutionary process.
- A process that is both intellectual and emotional.

3. Andragogy, Pedagogy, and Geragogy

Andragogy is the art and science of teaching adults. The following concepts relate to teaching adults: As people mature, they move from dependence to independence. An adult's previous experiences can be used as a resource for learning. An adult's readiness to learn is often related to a developmental task or social role (e.g., perceiving a need in his or her life situation). An adult is more oriented to learning when the material is useful immediately, not sometime in the future.

Pedagogy is the discipline concerned with helping children learn. Parents can be taught the teaching loop: (a) alerting/get the child's attention by calling his or her name, touching the child, and making a noise; (b) instructing/give the child a short, specific instruction about what is to be done, or model or demonstrate the behavior; (c) performing/give the child opportunity to practice the task, play with the toy, and explore the materials being used (give enough time, but with some structure or direction); and (d) reinforcing/give the child feedback; a positive or negative comment that is specific to the task lets children know how they have done and encourages them to continue to learn.

Geragogy is the term used to describe the process involved in stimulating and helping elders to learn. The following concepts relate to teaching elders: The material must be practical and have meaning for them individually, especially if the information is new to them. Health promotion is a priority. Set achievable goals with the client and family. If developing new written materials, use large print and buff-colored paper. Written materials should be developed at the fifth- to sixth-grade reading level. Increase time for teaching and allow for rest periods. Verbal presentations should be well organized. Ensure minimal distraction, repeat information if necessary, and use return demonstration with psychomotor skills. Determine where clients obtain most of their health information. Use examples that they can relate to in their daily lives. Be aware of sensory deficits, and use the setting in which the individual is most comfortable (group or individual). If noncompliance is a problem, determine its cause. Respect the lifetime or knowledge and experience accumulated. Use positive reinforcement and ongoing evaluation of material learned.

4. Learning Theories of Behaviorism

- Thorndike, Pavlov, Skinner, and Bandura are major behaviorism theorists. Thorndike's contribution is that learning should be based on the learner's behavior. An act is called a response when it can be traced to the effects of a stimulus. Behaviorists closely observe responses and then manipulate the environment to bring about the intended change. To modify a person's attitude and response, a behaviorist would either alter the stimulus condition in the environment or change what happens after a response occurs.
- Skinner's and Pavlov's work focused on conditioning behavioral responses to a stimulus that causes the response or behavior. Skinner also introduced the importance of positive reinforcement. According to Bandura, most learning comes from observational learning and instruction; his research focuses on imitation and modeling.
- Nurses applying behavioristic theory will provide sufficient practice time, immediate and repeat testing and redemonstration, provide opportunity for trial and error problem-solving, select teaching strategies that avoid distracting information and evoke desired response, praise correct behavior and positive feedback, and provide role models of desired behavior.
- Cognitivism depicts learning as a complex cognitive activity in which learning is largely a mental or intellectual or thinking process. The learner structures and processes information. Perceptions are selectively chosen by the individual, and personal characteristics have an impact on how a cue is perceived.
- Cognitivists also emphasize the importance of social, emotional, and physical contexts in which learning occurs. Major cognitive theorists include Piaget, Lewin, and Bloom.
- Nurses applying cognitive theory will provide social, emotional, physical environment conducive to learning, encourage positive teaching-learning relationships, select multisensory teaching strategies, recognize personal characteristics have impact on how cues are perceived, develop appropriate approaches to target different learning styles, assess developmental and individual readiness to learn and adapt to developmental stage, and select behavioral objectives and teaching strategies that encompass cognitive, affective, and psychomotor learning.
- Humanistic learning theory focuses on both cognitive and affective qualities of the learner. Learning is believed to be self-motivated, self-initiated, and self-evaluated. Each individual is viewed as a unique composite of biologic, psychologic, social, cultural, and spiritual factors. Learning is best when it is relevant to the learner. Autonomy and self-determination are

important. The learner is an active participant who identifies learning needs and takes the initiative to meet these needs. Maslow and Rogers are prominent humanistic theorists.

- Nurses applying humanistic theory will convey empathy, encourage learner to establish goals, promote self learning, serve as facilitator, mentor or resource for learners, use active learning strategies, expose the learner to new, relevant information, ask appropriate questions, and encourage the learner to seek new answers.

5. Three Domains of Learning

- Domains of learning: cognitive, affective, and psychomotor.
- The cognitive domain, the thinking domain, includes six intellectual abilities and thinking processes: knowledge, comprehension, application, analysis, synthesis, and evaluation.
- The affective domain, known as the feeling domain, is divided into categories that specify the degree of a persons depth of emotional response to tasks. It includes feelings, emotions, interests, attitudes, and appreciations.
- The psychomotor domain, the skill domain, includes motor skills such as giving an injection.

6. Factors That Affect Learning

Factors that can facilitate or hinder learning include motivation, readiness, active involvement, relevance, feedback, nonjudgmental support, organizing material from simple to complex, repetition, timing, environment, emotions, physiologic events, culture, and psychomotor ability.

7. Implications of Using the Internet as a Source of Health Information

- Using the Internet to locate health information is common. Online usage for health care is growing twice as fast as any other type of online usage.
- Certain groups of users are more likely to search the Internet for health information: women, adults younger than 65, college graduates, people with online experience, and those with broadband (high speed) access.
- Twenty-two percent of American adults have never used the Internet. These groups are those with a high school education or less and those who are older than 65 years of age.

- Nurses need to know and be able to integrate this technology into the teaching plans for those clients who use the Internet. On the other hand, nurses also need to apply effective teaching strategies for those clients who do not use the Internet.

8. Learners and Learning Environment

- A comprehensive assessment of learning needs incorporates data from the nursing history and physical assessment and addresses the clients support system. It also considers client characteristics that may influence the learning process, such as readiness to learn, motivation to learn, and reading and comprehension level. Learning needs change as the clients health status changes, so nurses must constantly reassess them.
- Several elements in the nursing history provide clues to learning needs, including age, the clients understanding and perceptions of the health problem, health beliefs and practices, cultural factors, economic factors, learning style, and the clients support system. In the textbook, Assessment Interview: Learning Needs and Characteristics presents questions that may facilitate the assessment process.
- The general survey part of the physical examination provides useful clues to the clients learning needs, such as mental status, energy level, and nutritional status. Other parts reveal data about the clients physical capacity to learn and to perform self-care activities. Additional areas to assess include readiness to learn, motivation, and health literacy.

9. Nursing Diagnoses, Outcomes, and Interventions That Reflect the Learning Needs Of Clients

- Nursing diagnoses for clients with learning needs can be designated in two ways: as the clients primary concern or problem, or as the etiology of a nursing diagnosis.
- One diagnostic label that is appropriate when the clients learning needs are the primary concern is Deficient Knowledge : the absence or deficiency of cognitive information related to a specific topic. The area of deficiency should always be included in the diagnosis.
- If this diagnosis is used, one client goal must be client will acquire knowledge about. . . . The nurse needs to provide information that has the potential to change the clients behavior.
- Another nursing diagnostic label where a learning need may be the primary concern is Health-Seeking Behavior: active seeking by a person in stable health of ways to alter personal health habits and/or the environment in order to move toward a higher level of health. The

client may or may not have an altered response of dysfunction but may be seeking information to improve health or prevent illness.

- A third nursing diagnostic label where a learning need may be the primary concern is Noncompliance: behavior of person and/or caregiver that fails to coincide with a health-promoting or therapeutic plan agreed upon by the person (and/or family and/or community) and health care professional. In the presence of an agreed-on, health-promoting or therapeutic plan, the persons or caregivers behavior is fully or partially non-adherent and may lead to clinically ineffective or partially effective outcomes.
- Noncompliance should be used with caution. In general, the diagnosis is associated with the intent to comply but situational factors make it difficult. It should not be used for a client who is unable to follow instructions or for a client who makes an informed decision to refuse or not follow the medical treatment.
- One example of deficient knowledge as the etiology is Risk for Infection related to deficient knowledge (sexually transmitted diseases and their prevention). Other diagnostic labels may be Risk for Impaired Parenting, Anxiety, Risk for Injury, Ineffective Breastfeeding, Impaired Adjustment, Ineffective Coping, and Ineffective Health Maintenance.
- Learning outcomes can be considered the same as desired outcomes for other nursing diagnoses. State the clients behavior or performance, not the nurses behavior. Reflect an observable, measurable activity. The nurse may add conditions or modifiers as required to clarify what, where, when, or how the behavior will be performed. Include criteria specifying the time by which learning should have occurred. Learning outcomes can reflect the learners command of simple to complex concepts. The nurse must be specific about what behaviors and knowledge (cognitive, affective, and psychomotor) clients must have to be able to positively influence their health status.
- Interventions include choosing the content, which is determined by the learning outcome; selecting teaching strategies, which should be suited to the individual and to the material to be learned; and organizing the learning experience.

10. Essential Aspects of a Teaching Plan

- Essential aspects of a teaching plan include the nursing diagnosis, long- and short-term goals, learning outcomes (see Outcome # 9), and content outline, and teaching and evaluation methods.

- Content is determined by learning outcomes. Nurses can select among many sources of information. However, the content must be accurate; current; based on learning outcomes; adjusted for the learners age, culture, and ability; consistent with the information the nurse is teaching; and selected with consideration of how much time and what resources are available.
- Teaching strategies should be suited to the individual and to the material to be learned. Teaching strategies and methods include explanation or description (lecture), one-to-one discussion, answering questions, demonstration, discovery, group discussion, practice, printed and audiovisual materials, role-playing, and modeling. Special teaching strategies include contracting, group teaching, computer-assisted learning programs, discovery/problem solving, and behavior modification.
- The written teaching plan that the nurse uses as a resource to guide future teaching sessions might also include actual information and skills taught, teaching strategies used, time framework and content for each class, teaching outcomes, and methods of evaluation.

11. Guidelines for Effective Teaching

When a client is ready to change a health behavior and when implementing a teaching plan, the nurse may find the following guidelines helpful:

- Rapport between teacher and learner is essential.
- The teacher who uses the clients previous learning in the present situation encourages the client and facilitates learning new skills.
- The optimal time for each session depends largely on the learner.
- The nurse teacher must be able to communicate clearly and concise.
- Using a laypersons vocabulary enhances communication.
- The pace of each teaching session also affects learning.
- An environment can detract from or assist learning.
- Teaching aids can foster learning and help focus a learners attention.
- Teaching that involves a number of the learners senses often enhances learning.
- Learning is more effective when learners discover the content for themselves.
- Repetition reinforces learning.
- It is helpful to employ organizers to introduce material to be learned.
- The anticipated behavioral changes that indicate learning has taken place must always be within the context of the clients lifestyle and resources.

12. Strategies to Use When Teaching Clients of Different Cultures

Nurses should consider the following guidelines when teaching clients from various ethnic backgrounds:

- Obtain teaching materials, pamphlets, and instructions in languages used by the client.
- Use visual aids such as pictures, charts, or diagrams to communicate meaning.
- Use concrete rather than abstract words.
- Allow time for questions.
- Avoid the use of medical terminology or health care language.
- If understanding another's pronunciation is a problem, validate brief information in writing.
- Use humor very cautiously, and do not use slang words or colloquialisms.
- Do not assume that a client who nods, uses eye contact, or smiles is indicating an understanding of what is being taught.
- Invite and encourage questions during teaching.
- When explaining procedures or functioning related to personal areas of the body, it may be appropriate to have a nurse of the same gender do the teaching.
- Include the family in planning and teaching; consider the client's time orientation.
- Identify cultural health practices and beliefs.

13. Methods to Evaluate Learning

The evaluation method is determined by measuring against the predetermined learning outcomes. The best method for evaluating depends on the type of learning. In cognitive learning, the client demonstrates acquisition of the knowledge by direct observation, written measurements, oral questioning, self-reports, or self-monitoring. The acquisition of psychomotor skill is best evaluated by observing how well the client carries out the skill. Affective learning is more difficult to evaluate. Whether attitudes or values have been learned may be inferred by listening to the client's responses to questions, noting how the client speaks about relevant subjects, and observing the client's behavior that expresses feelings and values.

14. Effective Documentation of Teaching Learning Activities

- Documentation of the teaching process is essential because it provides a legal record that the teaching took place and communicates the teaching to other health professionals. If teaching is not documented, legally it did not occur.
- It is also important to document the responses of the client and support people to teaching activities.
- The parts of the teaching process that should be documented in the clients chart include diagnosed learning needs, learning outcomes, topics taught, client outcomes, need for additional teaching, and resources provided.

Topic : Delegating, Managing, And Leading

Topic Objective:

At the end of this topic student will able to understand:

- leadership and management
- formal from informal leaders
- leadership styles
- characteristics of an effective leader
- levels of management
- functions of management
- and functions of nurse managers
- the skills and competencies needed by a nurse manager
- characteristics of tasks appropriate to delegate to unlicensed and licensed assistive personnel
- rights of delegation
- role of the leader/manager in planning for and implementing change

Definition/Overview:

Delegation (also called deputation) is the assignment of authority and responsibility to another person (normally from a manager to a subordinate) to carry out specific activities. However the person who delegated the work remains accountable for the outcome of the delegate work. It allows a subordinate to make decisions, i.e. it is a shift of decision-making authority from one organizational level to a lower one. Delegation, if properly done, is not

abdication. The opposite of effective delegation is micromanagement, where a manager provides too much input, direction, and review of 'delegated' work.

Key Points:

Management in simple terms means the act of getting people together to accomplish desired goals. Management comprises planning, organizing, Resourcing, leading or directing, and controlling an organization (a group of one or more people or entities) or effort for the purpose of accomplishing a goal. Resourcing encompasses the deployment and manipulation of human resources, financial resources, technological resources, and natural resources. Management can also refer to the person or people who perform the act(s) of management. Leading (pronounced /, rhymes with heading) refers to the amount of added vertical spacing between lines of type. In consumer-oriented word processing software, this concept is usually referred to as "line spacing". Leading may sometimes be confused with tracking, which refers to the horizontal spacing between letters or characters.

1. Leadership and Management

Leaders may or may not be officially appointed to the position. They have power and authority to enforce decisions only as long as followers are willing to be led. Leaders influence others toward goal setting, either formally or informally. They are interested in risk taking and exploring new ideas. Leaders relate to people personally in an intuitive and empathetic manner, feel rewarded by personal achievements, and may or may not be successful managers. Leaders manage relationships and focus on people.

Managers are appointed officially to the position. They have power and authority to enforce decisions and to carry out predetermined policies, rules, and regulations. Managers maintain an orderly, controlled, rational, and equitable work environment. They relate to people according to their roles. Managers feel rewarded when fulfilling organizational missions or goals. They are managers as long as the appointment holds. They manage resources and focus on systems.

2. Formal from Informal Leaders

- The formal leader, or appointed leader, is selected by an organization and given official authority to make decisions and act.

- An informal leader is not officially appointed to direct the activities of others, but because of seniority, age, or special abilities, is recognized by the group as its leader and plays an important role in influencing colleagues, co-workers, or other group members to achieve the groups goals.

3. Different Leadership Styles

The classic leadership theories describe the following leadership styles: autocratic (authoritarian), democratic (participative, consultative), laissez-faire (nondirective, permissive), bureaucratic, and situational. Contemporary leadership theories describe the following leadership styles: charismatic, transactional, transformational, and shared.

An autocratic leader makes decisions for the group, believes individuals are externally motivated and are incapable of independent decision making, determines policies, and gives orders and directions to the group. At times, the autocratic style is the most effective. When urgent decisions are necessary, one person must assume responsibility for making decisions without being challenged. When group members are unable to make or do not wish to participate in making a decision, the autocratic style solves the problem and enables the group to move on. It can also be effective when a project must be completed quickly and efficiently.

A democratic (participative, consultative) leader encourages group discussion and decision making; acts as a catalyst or facilitator, actively guiding the group toward achieving the group goals; and assumes individuals are internally motivated, are capable of making decisions, and value independence. The participative leader provides constructive feedback, offers information, makes suggestions, asks questions, and has faith in the group members to accomplish goals. This leadership style has been shown to be less efficient and more cumbersome than autocratic. It allows for more self-motivation and creativity among group members; it also calls for a great deal of cooperation and coordination among group members.

The laissez-faire (nondirective, permissive) leader recognizes the groups need for autonomy and self-regulation, assumes a hands off approach, and presupposes the group is internally motivated. However, group members may act independently and at cross purposes because of a lack of cooperation and coordination. Laissez-faire leadership is most effective for groups

whose members have both personal and professional maturity so that once a decision is made the members become committed to it and have the required expertise to implement it. Individual members then perform tasks in their area of expertise while the leader acts as a resource person.

The bureaucratic leader does not trust self or others to make decisions and instead relies on the organizations rules, policies, and procedures to direct the groups work efforts. Group members are usually dissatisfied with the leaders inflexibility and impersonal relations with them.

The situational leader flexes the task and relationship behaviors, considers the staff members abilities, knows the nature of the task to be done, and is sensitive to the context or environment in which the task takes place. The task-orientation focuses the leader on activities that encourage the group to get a task done.

A charismatic leader is rare and is characterized by an emotional relationship between the leader and the group members. The followers of a charismatic leader often overcome extreme hardship to achieve the groups goal because of faith in the leader.

The transactional leader has a relationship with followers based on an exchange for some resource valued by the followers. These incentives are used to promote loyalty and performance. The transactional leader represents the traditional manager, focused on the daily tasks or achieving organizational goals, while understanding and meeting the needs of the group.

The transformational leader fosters creativity, risk taking, commitment, and collaboration by empowering the group to share in the organizations vision. This type of leader inspires others with a clear, attractive, and attainable goal and enlists them to participate in attaining the goals. Independence, individual growth, and change are facilitated.

Shared leadership recognizes that a professional workforce is made up of many leaders. No one person is considered to have knowledge or ability beyond that of other members. Appropriate leadership is thought to emerge in relation to the challenges that confront the work group. Shared governance is a method that aims to distribute decision making among a group of people. The word comes from lead strips that were put between set lines. When type

was set by hand in printing presses, slugs or strips of lead (reglets) of appropriate thicknesses were inserted between lines of type to add vertical space, to fill available space on the page. Text set "solid" (no leading) appears cramped, with ascenders almost touching descenders from the previous line. The lack of white space between lines makes it difficult for the eye to track from one line to the next, and hampers readability.

4. Characteristics of An Effective Leader

Effective Leaders

- use a leadership style that is natural to them.
- use a leadership style appropriate to the task and the members.
- assess the effects of their behavior on others and the effects of others behavior on themselves.
- are sensitive to forces acting for and against change, express an optimistic view about human nature, and are energetic.
- are open and encourage openness, so that real issues are confronted.
- facilitate personal relationships.
- plan and organize activities of the group.
- are consistent in behavior toward group members.
- delegate tasks and responsibilities to develop members abilities (not merely to get tasks performed).
- involve members in all decisions.
- value and use group members contributions.
- encourage creativity.
- encourage feedback about their leadership style.
- assess for and promote use of current technology.

5. Levels of Management

- Traditional management is divided into three levels of responsibility: first-level, middle-level, and upper-level management.
- First-level managers are responsible for managing the work of nonmanagerial personnel and the day-to-day activities of specific work groups. Their primary responsibility is to motivate staff to achieve the organizations goals. They communicate staff issues to upper administration and report administrative messages back to staff.

- Middle-level managers supervise a number of first-level managers and are responsible for the activities in the departments they supervise. They serve as liaisons between first-level and upper-level managers.
- Upper-level (top-level) managers are organizational executives who are primarily responsible for establishing goals and developing strategic plans. Nurse executives are registered nurses who are responsible for the management of nursing within the organization and the practice of nursing.

6. Functions Of Management

- The four management functions are planning, organizing, directing, and coordinating. These functions help to achieve the broad goal of quality client care.
- Planning is an ongoing process that involves assessing a situation; establishing goals and objectives based on assessment of a situation or future trends; and developing a plan of action that identifies priorities, delineates who is responsible, determines deadlines, and describes how the intended outcome is to be achieved and evaluated.
- Organizing is also an ongoing process. After identifying the work and evaluating human and material resources, the manager arranges the work into smaller units. This involves determining responsibilities, communicating expectations, and establishing the chain of command for authority and communication.
- Directing is the process of getting the organizations work accomplished. It involves assigning and communicating expectations about the task to be completed, providing instruction and guidance, and making ongoing decisions.
- Coordinating is the process of ensuring that plans are carried out, evaluating outcomes, measuring results or actions against standards or desired outcomes, and then reinforcing effective actions or changing ineffective ones.

7. Roles and functions of nurse managers

The nurse manager reasons with logic, exploring assumptions, alternatives, and the consequences of actions. Managers use both verbal and written communication. Effective managers communicate assertively, expressing their ideas clearly, accurately, and honestly. One of the greatest responsibilities of managers is their accountability for human, fiscal, and material resources. Budgeting and determining variances between the actual and budgeted expenses are crucial skills for any manager. Managers are responsible for ensuring that

employees develop through appropriate learning opportunities. In addition to personnel development, the manager is responsible for building and managing the work team. Nurse Managers are often in a position to manage conflict among people, groups, or teams. The effective nurse manager uses time effectively and assists others to do the same.

8. Skills and Competencies Needed By a Nurse Manager

To be effective managers, nurses need to be able to think critically, communicate well, manage resources effectively and efficiently, enhance employee performance, build and manage teams, manage conflict, manage time, and initiate and manage change.

9. Characteristics Of Tasks Appropriate To Delegate To Unlicensed And Licensed Assistive Personnel

Principles used by the nurse to determine delegation to unlicensed assistive personnel (UAP) include:

- The nurse must assess the client prior to delegating tasks.
- The client must be medically stable or in a chronic condition and not fragile.
- The task must be considered routine for this client and must not require a substantial amount of scientific knowledge or technical skills.
- The task must be considered safe for this client and must have a predictable outcome.
- The nurse must learn the agency's procedure and policies for delegation.
- The nurse must know the scope of practice and the customary knowledge, skills, and job description for each health care discipline represented on the team.
- The nurse must be aware of individual variations in work abilities and experiences.
- When unsure about an assistant's abilities to perform a task, observe while the person performs it or demonstrate before allowing the person to perform the task independently.
- The nurse must clarify reporting expectations.
- The nurse must create an atmosphere that fosters communication, teaching, and learning.

Examples of tasks that may be delegated include: taking vital signs, measuring and recording intake and output, assisting with client transfer and ambulation, bathing, feeding, gastrostomy feeding (if established), attending to safety, weighing, performing simple dressing changes, suctioning chronic tracheostomies, and performing CPR.

Examples of tasks that may not be delegated include: assessment, interpretation of data, making nursing diagnoses, creation of the nursing care plan, evaluation of care, care of invasive lines, administration of parenteral medications, insertion of nasogastric tubes, client education, performing triage, and giving telephone advice.

10. Five rights of delegation

The National Council of State Boards of Nursing (NCSBN) published the five rights of delegation: right task, under the right circumstances, to the right person, with the right directions and communication, and the right supervision and evaluation.

11. Role OfThe Leader/Manager In Planning For And Implementing Change

The leader/manager is often the change agent. The change agent is the person who initiates, motivates, and implements change. An important aspect of planning change is establishing the likelihood of the acceptance for the change and then determining the criteria by which that acceptance can be identified. The leader/manager can make change easier by involving people in the process. To facilitate acceptance of the change, the leader/manager needs to identify common driving and restraining forces.

Topic : Vital Signs

Topic Objective:

At the end of this topic student will able to understand:

- vital signs and accurate measurement
- The variations in normal body temperature
- Methods of measuring body temperature
- Appropriate nursing care for alterations in body temperature
- Nine sites used to assess the pulse and state the reasons for their use
- characteristics that should be included when assessing pulses
- Measure the apical pulse and the apical-radial pulse
- Mechanics of breathing and the mechanisms that control respirations
- Respiratory assessment
- Systolic from diastolic blood pressure

- Korotkoffs sounds
- Methods and sites used to measure blood pressure
- Measurement of blood oxygenation using pulse oximetry
- appropriate to delegate measurement of vital signs to unlicensed assistive personnel

Definition/Overview:

Vital signs are measures of various physiological statistics often taken by health professionals in order to assess the most basic body functions. Vital signs are an essential part of a case presentation.

Key Points:**1. Factors That Affect The Vital Signs And Accurate Measurement Of Them**

- The vital signs are body temperature, pulse, respirations, and blood pressure.
- Vital signs monitor functions of the body and reflect changes that might not be observed. Assessing vital signs should not be an automatic or routine procedure; this should be a thoughtful, scientific assessment.

Factors affecting body temperature include:

- Age affects body temperature, pulse, respirations, and blood pressure and is discussed in outcome # 2.
- Diurnal variations: (circadian rhythms) refer to body temperature changes throughout the day, which can vary as much as 1.0C (1.8F) between early morning and late afternoon. The point of highest temperature is usually reached between 4PM and 6 PM, and the lowest is reached during sleep between 4 PM and 6 PM.
- Exercise: Hard work or strenuous exercise can increase body temperature.
- Hormones: Women usually experience more hormone fluctuations than men. Progesterone secretion at the time of ovulation raises body temperature by about 0.3C to 0.6C (0.5F to 1.0F) above basal temperature.
- Environment: Extremes in environmental temperature can affect a persons temperature regulatory system. If the temperature is very warm and the body temperature cannot be modified by convection, conduction, or radiation, the persons body temperature will increase. Similarly, if the client has been outside in cold weather without suitable clothing or if there is

a medical condition preventing the client from controlling the temperature in the environment, the person's body temperature will be low.

- **Pyrexia:** is a body temperature above the usual range. Hyperthermia is a fever, and a very high fever (41°C or 105.8°F) is called hyperpyrexia. During a fever and the resolution of a fever, the person goes through several phases as the core body temperature reaches the new set point (chill, plateau, and flush or crisis phases).
- **Hypothermia:** is a core body temperature below the lower limit of normal due to excessive heat loss, inadequate heat production to counteract heat loss, and impaired hypothalamic thermoregulation.

Factors affecting the pulse include:

- **Gender:** After puberty, the average male's pulse rate is slightly lower than the female's.
- **Exercise:** The pulse rate normally increases with exercise. The rate of increase in the professional athlete is often less than the average person because of greater cardiac size, strength, and efficiency.
- **Fever:** affects the pulse because the pulse rate increases in response to the lower blood pressure that results from peripheral vasodilation associated with elevated body temperature and because of the increased metabolic rate.
- **Medications:** Some medications decrease the pulse; others increase the pulse.
- **Hypovolemia:** Loss of blood from the vascular system normally increases the pulse rate.
- **Stress:** affects pulse because the sympathetic nervous stimulation increases the overall activity of the heart. In addition, the rate and force of the heartbeat increases. Fear, anxiety, and the perception of severe pain stimulate the sympathetic nervous system.
- **Position change:** When a person is sitting or standing, the blood usually pools in dependent vessels. Pooling results in a transient decrease in the venous blood return to the heart and a subsequent reduction in blood pressure and an increase in heart rate.
- **Pathology:** Certain diseases such as some heart conditions or those that impair oxygenation can alter the resting pulse rate.

Several factors influence respiratory rate:

- Factors that increase the rate include exercise (increases metabolism), stress (readies the body for flight or fight), increased environmental temperature, and lowered oxygen concentration at increased altitudes.

- Factors that decrease the rate include decreased environmental temperature, certain medications (e.g., narcotics), and increased intracranial pressure.

Two of the factors that affect depth of respirations include:

- Body position: The depth is suppressed due to an increase in the volume of blood inside the thoracic cavity and the compression of the chest.
- Medications: Certain medications can depress the respiratory center in the brain, thereby depressing the respiratory rate and depth.

2. Factors affecting blood pressure include:

- Exercise: increases the cardiac output and hence the blood pressure.
- Stress: affects blood pressure because stimulation of the sympathetic nervous system increases cardiac output and vasoconstriction of the arterioles, thus increasing the blood pressure reading. However, severe pain can decrease blood pressure greatly inhibiting the vasomotor center and producing vasodilatation.
- Race: African American males over 35 years have higher blood pressures than European males of the same age.
- Gender: After puberty, females usually have lower blood pressures than males of the same age. After menopause, women generally have higher blood pressures than before.
- Medications: Various medications may either increase or decrease blood pressure.
- Obesity: predisposes to hypertension in both children and adults.
- Diurnal variations: have an effect on blood pressure, which is usually lowest early in the morning when the metabolic rate is lowest. It rises throughout the day and peaks in the late afternoon or early evening.
- Disease process: Any disease process affecting the cardiac output, blood volume, blood viscosity, and/or compliance of the arteries has a direct effect on the blood pressure.

3. Variations In Normal Body Temperature, Pulse, Respirations, And Blood Pressure That Occur From Infancy To Old Age

- The body temperature of an infant is greatly influenced by the temperature of the environment. Children's temperatures continue to be more variable than those of adults until puberty. Many older people, particularly those over 75 years, are at risk of hypothermia for a

variety of reasons such as inadequate diet, loss of subcutaneous fat, lack of activity, and decreased thermoregulatory efficiency.

- As age increases, the pulse gradually decreases overall. Table 292 lists variations in pulse and respiration by age.
- The respiratory rhythm of an infant may be less regular than an adults. Some newborns display periodic breathing pausing for a few seconds between respirations.
- Newborns have a mean systolic pressure of about 75 mm Hg. The pressure rises with age, reaching a peak at the onset of puberty, and then tends to decline somewhat. In elders, elasticity of the arteries is decreased, which produces an elevated systolic pressure, and the diastolic pressure may also be high.

4. Methods of Measuring Body Temperature

- Body temperature may be measured using the oral, rectal, axillary, tympanic membrane, and skin/temporal artery sites.
- The oral site is accessible and convenient; however, the thermometer can break if bitten, can be inaccurate if the client has just ingested hot or cold food and fluid or smoked, and could injure the mouth following oral surgery.
- The rectal site is reliable; however, it is inconvenient and more unpleasant for clients, difficult for clients who cannot turn to the side, and could injure the rectum following rectal surgery. The presence of stool may interfere with thermometer placement. If the stool is soft, the thermometer may be embedded in stool rather than against the wall of the rectum. The site is contraindicated for clients who have diarrhea, diseases or surgery of the rectum, hemorrhoids, and clotting disorders. Some authorities recommend avoiding this route for the client who has had a myocardial infarction believing that inserting the rectal thermometer may cause vagal stimulation leading to arrhythmias.
- The axillary site is safe and noninvasive; however, the thermometer must be left in place a long time to obtain an accurate reading. This is the preferred site for assessing temperature in newborns; however, it may be inaccurate when assessing fevers.
- The tympanic membrane measurement is readily accessible, reflects the core temperature, and is very fast. However, it can be uncomfortable and involves risk of injuring the membrane if the probe is inserted too far. Repeated measurements may vary, right and left measurements can differ, and presence of cerumen can affect the reading.

- Temporal artery measurement is safe, noninvasive, and very fast; however, it requires electronic equipment that may be expensive or unavailable. Variation in technique is needed if the client has perspiration on the forehead. Body temperature may also be measured on the forehead with chemical thermometers.
- Body temperature may be measured using electronic, chemical disposable, infrared (tympanic), scanning infrared (temporal artery) thermometers or temperature-sensitive tape. The traditional glass mercury thermometer is rarely encountered in health care facilities since mercury is toxic to humans.

5. Appropriate Nursing Care For Alterations In Body Temperature

- Nursing interventions for clients with fever include the following: monitor vital signs; assess skin color and temperature; monitor white blood cell count, hematocrit values, and other pertinent laboratory reports for indication of infection or dehydration; remove excess blankets when the client feels warm, but provide extra warmth when the client feels chilled; provide adequate nutrition and fluids; measure intake and output; reduce physical activity to limit heat production; administer antipyretic as ordered; provide oral hygiene to keep mucous membranes moist; provide a tepid sponge bath to increase heat loss through conduction; and provide dry clothing and bed linens.
- Nursing care for clients with hypothermia includes providing a warm environment, providing dry clothing, applying warm blankets, keeping limbs close to the body, covering the clients scalp with a cap or turban, supplying warm oral or intravenous fluids, and applying warming pads.

6. Nine Sites Used To Assess The Pulse And State The Reasons For Their Use

- The nine sites used to assess the pulse are radial, temporal, carotid, apical, brachial, femoral, popliteal, posterior tibial, and pedal (dorsalis pedis). The radial site is readily accessible. The temporal site is used when the radial pulse is not accessible. The carotid site is used during cardiac arrest/shock in adults and is used to determine circulation to the brain. The apical site is routinely used for infants and children up to 3 years of age. It is used to determine discrepancies with radial pulse, and it is used in conjunction with some medications. The brachial site is used to measure blood pressure and is used during cardiac arrest in infants. The femoral site is used in cases of cardiac arrest/shock and is used to determine circulation to a leg. The popliteal site is used to determine circulation to the lower leg. The posterior

tibial is used to determine circulation to the foot. The dorsalis pedis (pedal, dorsal pedal) is used to determine circulation to the foot.

7. Characteristics That Should Be Included When Assessing Pulses

- When assessing the pulse, the nurse collects the following data: the rate, rhythm, volume, arterial wall elasticity, and presence or absence of bilateral equality.
- Rate is the number of beats per minute (BPM). An excessively fast heart rate (>100BPM in an adult) is referred to as tachycardia and an excessively slow heart rate (< 60 BPM in an adult) is called bradycardia.
- Rhythm is the pattern of beats and intervals between beats. Equal time elapses between beats of a normal pulse. A pulse with an irregular rhythm is referred to as a dysrhythmia or arrhythmia.
- Volume (also called pulse strength or amplitude) refers to the force of blood with each beat. Normally this is equal with each beat. This can range from absent to bounding.
- Elasticity of the arterial wall refers to its expansibility or its deformity. A healthy, normal artery feels straight, smooth, soft, and pliable.
- The nurse should assess the corresponding pulse on the other side of the body as a comparison when assessing the adequacy of the blood flow to areas of the body.

8. Mechanics Of Breathing And The Mechanisms That Control Respirations

During inhalation the following processes normally occur:

- diaphragm contracts (flattens).
- ribs move upward and outward.
- sternum moves outward, thus enlarging the thorax and permitting the lungs to expand.

During exhalation the following processes normally occur:

- diaphragm relaxes.
- ribs move downward and inward .
- sternum moves inward, thus decreasing the size of the thorax as the lungs are compressed.

Normally, breathing is carried out automatically and effortlessly. Respiration is controlled by respiratory centers in the medulla oblongata and the pons of the brain and by chemoreceptors

located centrally in the medulla and peripherally in the carotid and aortic bodies. These centers and receptors respond to changes in the concentration of oxygen (O₂), carbon dioxide (CO₂), and hydrogen (H⁺) in the arterial blood.

9. Components of A Respiratory Assessment

- The rate, depth, rhythm, quality, and effectiveness of respirations should be assessed.
- Rate is described as breaths per minute. Breathing that is normal in rate is called eupnea; abnormally slow respirations are called bradypnea; and abnormally rapid respirations are called tachypnea or polypnea. Apnea is absence of breathing.
- Depth can be established by watching the movement of the chest. Depth is generally described as normal, deep, or shallow.
- Rhythm refers to regularity of inhalation and expiration. Normally respirations are equally spaced. Rhythm can be described as regular or irregular.
- Quality (character) refers to aspects of breathing that are different from normal, effortless breathing. Two such aspects are the amount of effort the client must exert to breathe and sound of breathing. A client who can breathe only with substantial effort has labored respirations. Normal breaths are silent, but a number of abnormal sounds such as wheezes can be produced that are audible.
- Effectiveness is measured in part by the uptake of oxygen from air into the blood and release of carbon dioxide from blood into expired air. The amount of hemoglobin in arterial blood that is saturated with oxygen can be measured indirectly through pulse oximetry.

10. Systolic From Diastolic Blood Pressure

- Arterial blood pressure is a measure of the pressure exerted by the blood as it flows through the arteries.
- The systolic blood pressure is the pressure of the blood as a result of the contraction of the ventriclesthat is, the pressure of the height of the blood wave.
- The diastolic blood pressure is the pressure when the ventricles are at rest. The diastolic pressure is the lower pressure present at all times within the arteries.
- Blood pressure is measured in millimeters of mercury and recorded as a fraction, example is 120/80. The systolic blood pressure in this example is 120 and the diastolic blood pressure is 80. The mathematical difference between the systolic and diastole pressures is called the pulse pressure. A normal pulse pressure is about 40 mm Hg but can be as high as 100 mm Hg

during exercise. A consistently high pulse pressure is associated with arteriosclerosis and a consistently low pulse pressure with severe heart failure, for example. The pulse pressure in the example above is 40 mm Hg.

11. Five Phases Of Korotkoffs Sounds

- Phase 1 is the pressure level at which the first faint, clear tapping or thumping sounds are heard. These sounds gradually become more intense. The first tapping sound heard during deflation of the cuff is the systolic blood pressure.
- Phase 2 is the period during deflation when the sounds have a muffled, whooshing, or swishing sound.
- Phase 3 is the period during which the blood flows freely through an increasingly open artery and the sounds become crisper and more intense and again assume a thumping quality but softer than in phase 1.
- Phase 4 is the time when the sounds become muffled and have a soft, blowing quality.
- Phase 5 is the pressure level when the last sound is heard. This is followed by a period of silence. The pressure at which the last sound is heard is the diastolic blood pressure in adults.

12. Methods and Sites Used To Measure Blood Pressure

- The blood pressure is assessed directly or indirectly. Direct (invasive monitoring) measurement involves the insertion of a catheter into the brachial, radial, or femoral artery. Arterial pressure is represented as wavelike forms displayed on a monitor. Two noninvasive, indirect methods of measuring blood pressure are the auscultatory and palpatory methods.
- The auscultatory method is most commonly used. The equipment required is a sphygmomanometer, a cuff, and a stethoscope. When taking a blood pressure using a stethoscope, the nurse identifies phases of sounds called Korotkoffs sounds. First the nurse pumps the cuff up to about 30 mm Hg above the point where the pulse is no longer felt; then the pressure is slowly released (2 to 3 mm Hg/second) while the nurse observes the readings on the manometer and relates them to the sounds heard through the stethoscope.
- The palpatory method is sometimes used when Korotkoffs sounds cannot be heard and electronic equipment to amplify the sounds is not available, or to prevent misdirection from the presence of an auscultatory gap. In the palpatory method, instead of listening for the blood flow sounds, the nurse uses light to moderate pressure to palpate the pulsations of the

artery as the pressure in the cuff is released. The pressure is read from the sphygmomanometer when the first pulsation is felt.

- Blood pressure is usually assessed in the clients upper arm using the brachial artery. Assessing the blood pressure on a clients thigh is indicated if the blood pressure cannot be measured on either arm and when the blood pressure in one thigh is to be compared with the blood pressure in the other thigh.

13. Measurement Of Blood Oxygenation Using Pulse Oximetry

- A pulse oximeter is a noninvasive device that estimates a clients arterial blood oxygen saturation (SaO₂) by means of a sensor attached to the clients finger (see Figure 29.24), toe, nose, earlobe, or forehead (or around the hand or foot of a neonate).
- The pulse oximeter can detect hypoxemia before clinical signs and symptoms, such as the development of dusky skin color and dusky nail bed color.
- Normal SpO₂ is 95% to 100%, and an SpO₂ below 70% is life threatening.
- The pulse oximeter sensor has two parts: two light-emitting diodes (LEDs) that transmit red and infrared lights through nails, tissue, and venous and arterial blood, and a photodetector placed directly opposite the LEDs. The photodetector measures the amount of red and infrared light absorbed by oxygenated and deoxygenated hemoglobin in peripheral arterial blood and reports it as SpO₂.
- The oximeter unit consists of an inlet connection for the sensor cable, a faceplate that indicates the oxygen saturation measurement (expressed as a percentage), and the pulse rate. Cordless units are available. Preset alarms signal high and low readings.
- Factors affecting SpO₂ include hemoglobin, circulation, activity, and carbon monoxide poisoning. In the hemoglobin is fully saturated, the SpO₂ will appear normal even if the total hemoglobin level is reduced; the reading will not be accurate in the area under the sensor has impaired circulation; shivering and excessive movement of the sensor site may interfere with accurate readings; and the pulse oximeter cannot discriminate between hemoglobin saturated with oxygen and carbon monoxide.
- Skill 29.7 presents the procedure for measurement of oxygen saturation:

14. Appropriate To Delegate Measurement Of Vital Signs To Unlicensed Assistive Personnel

- Prior to delegating measurement of vital signs to unlicensed assistive personnel (UAP), the nurse must have assessed the individual client and determined that the client is medically stable or in a chronic condition and not fragile and that the vital sign measurement is considered routine for this client. Under those circumstances the UAP may measure, record, and report vital signs, but the interpretation rests with the nurse.
- Routine measurement of the clients temperature can be delegated to the UAP or to family members/ caregivers in nonhospital settings. The nurse must explain the appropriate type of thermometer and site to be used and ensure that the person knows when to report an abnormal temperature and how to record the findings. The nurse is responsible for interpreting an abnormal temperature and determining the appropriate response.
- Measurement of the clients radial or brachial pulse can be delegated to the UAP or family members/caregivers in nonhospital settings. Reports of abnormal pulse rates or rhythms require reassessment by the nurse, who also determines appropriate action if the abnormality is confirmed. Unlicensed personnel are generally not delegated obtaining other peripheral pulses due to the skill required in locating and interpreting, and they are generally not delegated the task of obtaining pulses by Doppler ultrasound devices.
- Due to the degree of skill and knowledge required, unlicensed personnel are generally not responsible for assessing the apical pulse. Unlicensed assistive personnel are generally not responsible for assessing apical-radial pulses using the one-nurse technique. The UAP may perform the radial pulse count for the two-nurse technique.
- Counting and observing respirations may be delegated to the UAP. The follow-up assessment, interpretation of abnormal respirations, and determination of appropriate responses are done by the nurse.
- Blood pressure measurement may be delegated to the UAP. The interpretation of abnormal blood pressure readings and determination of appropriate responses are done by the nurse.
- Application of the pulse oximeter sensor and recording of the SpO₂ value may be delegated to the UAP. Interpretation of the SpO₂ value and determination of appropriate responses are done by the nurse.

Topic : Health Assessment

Topic Objective:

At the end of this topic student will able to understand:

- physical examination
- Physical examination
- Selected physical findings
- examination procedures
- Physical health examination in an orderly fashion
- Techniques appropriate for clients of different ages

Definition/Overview:

A health assessment is a plan of care that identifies the specific needs of the client and how those needs will be addressed by the facility.

Key Points:

1. Physical examination

The purposes of the physical examination include the following:

- obtain baseline data about the clients functional abilities
- supplement, confirm, or refute data obtained in the nursing history
- obtain data that will help establish nursing diagnoses and plans of care
- evaluate the physiologic outcomes of health care and thus the progress of a clients health problem
- make clinical judgments about a clients health status
- identify areas for health promotion and disease prevention

Assessment is the first stage of the nursing process in which the nurse should carry out a complete and holistic nursing assessment of every patient's needs, regardless of the reason for the encounter. Usually, an assessment framework, based on a nursing model is used. The purpose of this stage is to identify the patient's nursing problems. These problems are expressed as either actual or potential. For example, a patient who has been rendered immobile by a road traffic accident may be assessed as having the "potential for impaired skin integrity related to immobility". Taking a nursing history prior to the physical

examination allows a nurse to establish a rapport with the patient and family. Elements of the history include:

- Health status
- Course of present illness including symptoms
- Current management of illness
- Past medical history including family's medical history
- Social history
- Perception of illness

The psychological examination may include;

- Clients perception (why they think they have been referred/are being assessed; what they hope to gain from the meeting)
- Emotional health (mental health state, coping styles etc)
- Social health (accommodation, finances, relationships, genogram, employment status, ethnic back ground, support networks etc)
- Physical health (general health, illnesses, previous history, appetite, weight, sleep pattern, diurnal variations, alcohol, tobacco, street drugs; list any prescribed medication with comments on effectiveness)
- Spiritual health (is religion important? If so, in what way? What/who provides a sense of purpose?)
- Intellectual health (cognitive functioning, hallucinations, delusions, concentration, interests, hobbies etc)

2. Four Methods Used In Physical Examination

- The four primary techniques used in the physical examination are inspection, palpation, percussion, and auscultation.
- Inspection is visual examination using the sense of sight. It should be deliberate, purposeful, and systematic. The nurse inspects with the naked eye and with lighted instruments. Inspection is frequently used to assess moisture, color, and texture of body surfaces, as well as shape, position, size, color, and symmetry of the body. In addition to visual observations, olfactory (smell) and auditory (hearing) cues are also noted.

- Palpation is examination of the body using the sense of touch. The pads of the fingers are used to determine texture, temperature, vibration, position, size, consistency and mobility of organs or masses, distention, pulsations, and the presence of pain upon pressure. Palpation can be light or deep. For light palpation the nurse presses gently over area while moving the hand in a circle. Deep palpation requires nurse practitioner skill and should be used with caution.
- Percussion is the act of striking the body surface to elicit sounds that can be heard or vibration that can be felt. There are two types of percussion: direct and indirect. Direct percussion refers to striking the area directly and indirect percussion involves striking an object (finger) held against the area to be assessed. Percussion is used to determine the size and shape of internal organs by establishing borders. Percussion elicits five types of sounds: flatness, dullness, resonance, hyperresonance, and tympany indicating whether the tissues are fluid filled, air filled or solid.
- Auscultation is the process of listening to sounds produced within the body. Auscultation can be direct, using the unaided ear, or indirect, using the stethoscope. A stethoscope is used primarily to listen to sounds from within the body. Sounds are described according to pitch (high or low), intensity (loud or soft), duration (long or short), and quality (subjective description).

3. Significance Of Selected Physical Findings

Physical findings may either be normal or represent deviations from normal. The initial assessment of physical findings provides baseline data about the clients functional abilities against which subsequent assessment findings are compared. Knowledge of the normal structure and function of body parts and systems is an essential requisite to conducting a physical assessment. Significant deviations from normal should be reported to the clients primary care provider. Normal findings and deviations from normal are indicated in each skill in this chapter.

- Appearance and mental status (Skill 30.1)
- Skin (Skill 30.2):
- Hair (Skill 30.3)
- Skull and Face (Skill 30.5)
- Eye Structures and Visual Acuity (Skill 30.6)
- Ears and Hearing (Skill 30.7)

- Nose and Sinuses (Skill 30.8)
- Mouth and Oropharynx (Skill 30.9)
- Neck (Skill 30.10)
- Thorax and Lungs (Skill 30.11)
- Heart, Central Vessels, and Peripheral Vascular System (Skill 30.12, 30.13)
- Breast and Axilla (Skill 30.14)
- Abdomen (Skill 30.15)
- Musculoskeletal System (Skill 30.16)
- Neurologic System (Skill 30.17)
- Female Genitals and Inguinal Area (Skill 30.18)
- Male Genitals and Inguinal Area (Skill 30.19)
- Rectum and Anus (Skill 30.20)

4. Outcomes of Health Assessment

Data obtained in the physical health assessment help the nurse establish nursing diagnoses, plan the clients care, and evaluate the outcomes of nursing care.

5. Selected Examination Procedures

Each procedure includes planning, obtaining appropriate equipment, preparing the client, implementing the procedures, and evaluating the findings. Steps in assessment of each body system are listed in the skills in the text.

6. A Physical Health Examination In An Orderly Fashion

- The health assessment is conducted in a systematic and efficient manner that results in the fewest position changes for the client.
- The head-to-toe framework proceeds from the general survey and vital signs to the head (hair, scalp, cranium, face, eyes and vision, ears and hearing, nose and sinuses, mouth and oropharynx, and cranial nerves).
- The neck (muscles, lymph nodes, trachea, thyroid gland, carotid artery, and neck veins) is examined next.
- The examination of the upper extremities (skin and nails, muscle strength and tone, range of motion, brachial and radial pulses, biceps and triceps reflexes, and sensation) follows.

- The examination of the chest and back proceeds by inspecting the skin, chest shape and_size, lungs, heart, spinal column, breasts and axillae.
- The assessment continues to the abdomen where the skin, abdominal sounds, specific organs, and femoral pulses are checked.
- The genitals, the testicles, the vagina and the urethra are observed.
- The anus and rectum are observed.
- Lastly, the lower extremities are inspected. These consist of the skin and toenails, gait and balance, range of motion, popliteal, posterior tibial, and pedal pulses, and tendon and plantar reflexes.

7. Techniques Appropriate For Clients Of Different Ages

When assessing adults it is important to recognize that people of the same age differ markedly. Be aware of normal physiologic changes that occur with age. Also be aware of stiffness of muscles and joints from aging changes or history of orthopedic surgery. Expose only areas of the body to be examined, and permit ample time for the client to answer questions and assume the desired positions. Be aware of cultural differences, arrange for an interpreter if the clients language differs from that of the nurse, and ask clients how they wish to be addressed. Adapt assessment techniques to any sensory impairment. If clients are elderly or frail it is wise to plan several assessment times in order not to overtire them. The sequence of the assessment differs with children. When assessing children, proceed from the least invasive or uncomfortable to the more invasive. Examination of the head and neck, heart and lungs, and range of motion can be done early in the process, while the ears, mouth, abdomen, and genitals should be left for the end of the exam. Variations in examination techniques for clients of different ages are given at the end of each skill in this chapter:

Topic : Asepsis

Topic Objective:

At the end of this topic student will able to understand:

- Concepts of medical and surgical asepsis
- Localized and systemic infections
- nosocomial infections
- microorganisms capability to produce

- anatomic and physiologic
- Passive immunity
- relevant nursing diagnoses and contributing factors
- Interventions to reduce risks for infections
- Chain of infection

Definition/Overview:

Asepsis is the practice to reduce or eliminate contaminants (such as bacteria, viruses, fungi, and parasites) from entering the operative field in surgery or medicine to prevent infection. Ideally, a field is "sterile" free of contaminants (freedom from infection) a situation that is difficult to attain. However, sterility is only a means to the goal of elimination of infection.

Key Points:**1. Medical and Surgical Asepsis**

Asepsis is the freedom from disease-causing microorganisms. To decrease the possibility of transferring microorganisms from one place to another, aseptic technique is used.

Medical asepsis includes all practices intended to confine a specific microorganism to a specific area, limiting the number, growth, and transmission of microorganisms. In medical asepsis, objects are referred to as clean, which means the absence of almost all microorganisms, or dirty (soiled, contaminated), which means likely to have microorganisms, some of which may be capable of causing infection. Surgical asepsis, or sterile technique, refers to those practices that keep an area or object free of all microorganisms. It includes practices that destroy all microorganisms and spores (microscopic dormant structures formed by some pathogens that are very hardy and often survive common cleaning techniques). Surgical asepsis is used for all procedures involving sterile areas of the body.

2. Localized And Systemic Infections

- Signs of localized infections include localized swelling, localized redness, pain or tenderness with palpation or movement, palpable heat in the infected area, and loss of function of the body part affected, depending on the site and extent of involvement. In addition, open wounds may exude drainage of various colors.

- Signs of systemic infection include fever, increased pulse and respiratory rate if the fever is high, malaise and loss of energy, anorexia and, in some situations, nausea and vomiting, and enlargement and tenderness of lymph nodes that drain the area of infection.
- Laboratory data that indicates the presence of an infection include the following: elevated leukocyte (white blood cell or WBC) count; increases in specific types of WBCs revealed in the differential count; elevated erythrocyte sedimentation rate; and urine, blood, sputum, or other drainage culture.

3. Nosocomial Infections

Nosocomial infections are associated with the delivery of health care services in a health care facility. A number of factors contribute to nosocomial infections. Diagnostic or therapeutic procedures may cause iatrogenic infections. Another factor contributing to the development of nosocomial infections is the compromised host, that is, a client whose normal defenses have been lowered by surgery or illness. Hands of personnel are a common vehicle for the spread of microorganisms. Insufficient hand cleansing is thus an important factor contributing to the spread of nosocomial infections.

4. Microorganisms Capability to Produce an Infectious Process

The extent to which any microorganism is capable of producing an infectious process depends on the number of microorganisms present, the virulence and potency of the microorganisms (pathogenicity), the ability of the microorganisms to enter the body, the susceptibility of the host, and the ability of the microorganisms to live in the hosts body.

- Antiseptis is a term used sometimes as a synonym, but also applies to the uses of antiseptics. Antiseptics are agents that reduce or kill germs chemically and are applied to skin and wound surfaces. In contrast, disinfectants are chemicals applied to inert surfaces and are usually too harsh to be used on biological surfaces. Antibiotics kill specifically bacteria and work biochemically; they can be used externally or internally.
- The first step in asepsis is cleanliness, a concept already espoused by Hippocrates. The modern concept of asepsis evolved in the 19th century. Semmelweis showed that washing the hands prior to delivery reduced puerperal fever. After the suggestion by Louis Pasteur, Lister introduced the use of carbolic acid as antiseptic and reduced surgical infections rates. Lawson Tait went from antiseptis to asepsis, introducing principles and practices that have remained

valid to this day. Ernst von Bergmann introduced the autoclave, a device used for the sterilization of surgical instruments.

- Today's techniques include a series of steps that complement each other. Foremost remains good hygienic practice. The procedure room is laid out according to specific guidelines, subject to regulations concerning filtering and airflow, and kept clean between surgical cases. A patient who is brought for the procedure is washed and wears a clean gown.
- The surgical site is washed, possibly shaved, and skin is exposed to a germicide (i.e., an iodine solution such as betadine). In turn, members of the surgical team wash hands and arms with germicidal solution. Operating surgeons and nurses wear sterile gowns and gloves. Hair is covered and a surgical mask is worn. Instruments are sterilized through autoclaving, or, if disposable, are used once. Irrigation is used in the surgical site. Suture material or xenografts have been sterilized beforehand. Dressing material is sterile. Antibiotics are often not necessary in a "clean" case, that is, a surgical procedure where no infection is apparent; however, when a case is considered "contaminated," they are usually indicated.
- Dirty and biologically contaminated material is subject to regulated disposal.

5. Anatomic and Physiologic Barriers

Intact skin and mucous membranes are the body's first line of defense against microorganisms. The dryness of the skin, resident bacteria of the skin, and the normal secretions of the skin also inhibit bacterial growth. The moist mucous membranes and cilia of the nasal passages and the alveolar macrophages are also barriers against microorganisms. Each body orifice also has protective mechanisms. The oral cavity sheds mucosal epithelium to rid the mouth of colonizers; saliva flow, and buffering action help prevent infection. Saliva also contains microbial inhibitors. The eyes are protected by tears. The high acidity of the stomach inhibits microbial growth, the resident flora of the large intestine helps prevent the establishment of disease-producing organisms, and peristalsis also tends to move microbes out of the body. The low pH of the vagina inhibits the growth of many disease-producing microorganisms. It is believed that the urine flow through the urethra has a flushing and bacteriostatic action.

6. Active From Passive Immunity

- In active immunity, the host produces antibodies in response to natural antigens or artificial antigens. The duration of active immunity tends to be long. In natural active immunity,

antibodies are formed in the presence of active infection in the body and the duration of this type of immunity is lifelong. In artificial active immunity, antigens are administered to stimulate antibody formation. This type of active immunity lasts for many years, but artificial immunity must be reinforced by booster.

- In passive (or acquired) immunity, the host receives natural or artificial antibodies produced from another source. The duration of passive immunity tends to be short. In natural passive immunity, the antibodies are transferred naturally from an immune mother to her baby through the placenta or in colostrum. This type of immunity lasts 6 months to 1 year. Artificial passive immunity occurs when immune serum (antibody) from an animal or another human is injected. This immunity lasts 2 to 3 weeks.

7. Diagnoses and Contributing Factors

- The NANDA nursing diagnostic label for problems associated with the transmission of microorganisms is Risk for Infection, the state in which an individual is at increased risk for being invaded by pathogenic microorganisms.
- When using this diagnosis, the nurse should identify risk factors, including inadequate primary defenses such as inadequate anatomic and physiologic barriers, or inadequate secondary defenses such as leukopenia, immunosuppression, decreased hemoglobin, or suppressed inflammatory response.
- Clients who have or are at risk for an infection are prime candidates for other physical and psychologic problems. Examples of nursing diagnoses or collaborative problems that may arise from the actual presence of an infection include Potential Complication of Infection: Fever; Imbalanced Nutrition: Less Than Body Requirements; Acute Pain; Impaired Social Interaction or Social Isolation; and Anxiety .

8. Interventions to Reduce Risks For Infections

Many nosocomial infections can be prevented using proper hand hygiene techniques, environmental controls, sterile technique when warranted, and identification and management of clients at risk for infections. Nurses use critical thinking and agency policy in implementing infection control procedure.

9. Chain of Infection

- The chain of infection includes the etiologic agent, reservoir, portal of exit from the reservoir, method of transmission, portal of entry to the susceptible host, and a susceptible host link.
- Interventions that affect the etiologic agent (microorganism) include correctly cleaning, disinfecting, or sterilizing articles before use and educating clients and support persons about appropriate methods to clean, disinfect, and sterilize articles.
- Interventions to reduce the reservoir (source) include changing dressings and bandages when soiled or wet, assisting clients to carry out appropriate skin and oral hygiene, disposing of damp and soiled linens appropriately, disposing of feces and urine in appropriate receptacles, ensuring that all fluid containers are covered or capped, and emptying suction and drainage bottles at the end of each shift or before they become full or according to agency policy.
- The portal of exit from the reservoir can be controlled by avoiding talking, coughing, or sneezing over open wounds or sterile fields, and covering the mouth and nose when coughing or sneezing.
- The method of transmission can be controlled by cleansing hands properly; instructing clients and support persons to cleanse hands before handling food or eating, after eliminating, and after touching infectious material; wearing gloves when handling secretions and excretions; wearing gowns if there is danger of
- soiling clothing with body substances; placing discarded soiled materials in moisture-proof refuse bags; holding used bedpans steadily to prevent spillage; disposing of urine and feces in appropriate receptacles; initiating and implementing aseptic precautions for all clients; wearing masks and eye protection when in close contact with clients who have infections transmitted by droplets from the respiratory tract; and wearing masks and eye protection when sprays of body fluid are possible.
- The portal of entry to the susceptible host can be broken by using sterile technique for invasive procedures, using sterile techniques when exposing open wounds or handling dressings, placing used disposable needles and syringes in puncture-resistant containers for disposal, and providing all clients with their own personal care items.
- The susceptible host link can be broken by maintaining the integrity of the clients skin and mucous membranes, ensuring that the client receives a balanced diet, and educating the public about the importance of immunizations.

Topic : Safety**Topic Objective:**

At the end of this topic student will able to understand:

- affect peoples ability to protect themselves from injury
- Assess clients at risk for injury
- The National Patient Safety Goals (NPSGs).
- Potential hazards throughout the life span
- Nursing diagnoses, outcomes, and interventions for clients at risk for accidental injury

Definition/Overview:

Safety and health is a cross-disciplinary area concerned with protecting the safety, health and welfare of people engaged in work or employment. As a secondary effect, it may also protect co-workers, family members, employers, customers, suppliers, nearby communities, and other members of the public who are impacted by the workplace environment.

Since 1950, the International Labour Organization (ILO) and the World Health Organization (WHO) have shared a common definition of occupational health. It was adopted by the Joint ILO/WHO Committee on Occupational Health at its first session in 1950 and revised at its twelfth session in 1995. The definition reads: "Occupational health should aim at: the promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations; the prevention amongst workers of departures from health caused by their working conditions; the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological capabilities; and, to summarize, the adaptation of work to man and of each man to his job." The reasons for establishing good occupational safety and health standards are frequently identified as:

- Moral - An employee should not have to risk injury at work, nor should others associated with the work environment.
- Economic - many governments realize that poor occupational safety and health performance results in cost to the State (e.g. through social security payments to the incapacitated, costs for medical treatment, and the loss of the "employability" of the worker). Employing

organizations also sustain costs in the event of an incident at work (such as legal fees, fines, compensatory damages, investigation time, lost production, lost goodwill from the workforce, from customers and from the wider community).

- Legal - Occupational safety and health requirements may be reinforced in civil law and/or criminal law; it is accepted that without the extra "encouragement" of potential regulatory action or litigation, many organizations would not act upon their implied moral obligations.

Key Points:

1. Peoples Ability to Protect Themselves from Injury

The ability of people to protect themselves from injury is affected by such factors as age and development, lifestyle, mobility and health status, sensory-perceptual alterations, cognitive awareness, emotional state, ability to communicate, safety awareness, and environmental factors. Through knowledge and accurate assessment of the environment, people learn to protect themselves from many injuries. Only through knowledge and experience do children learn what is potentially harmful. Elders can have difficulty with movement and diminished sensory acuity that may result in injury. Lifestyle factors that place people at risk include unsafe work environments, residence in neighborhoods with high crime rates, access to guns and ammunition, insufficient income to buy safety equipment or make necessary repairs, access to illicit drugs, and risk-taking behaviors. Impaired mobility due to paralysis, muscle weakness, poor balance, or poor coordination increases risk for injury as may illness and surgery. Accurate perception of environmental stimuli is vital to safety. Impaired touch, hearing, taste, smell, and vision increase susceptibility to injury. Cognitive awareness is the ability to perceive environmental stimuli and body reactions and to respond appropriately through thought and action. Clients with impaired awareness are at increased risk for injury. Extreme emotional states can alter the ability to perceive environmental hazards. Stressful situations can reduce a persons level of concentration, cause errors in judgment, and decrease awareness of external stimuli. The ability to communicate is very important. Individuals with a diminished ability to receive and convey information are at risk for injury. Safety awareness and accurate information are crucial to safety. Lack of knowledge places people at risk for injury. The nurse may need to assess the environment of the home, workplace, and/or community. Client safety is affected by the health care setting, and bioterrorism has recently become a national safety concern.

2. Methods To Assess Clients At Risk For Injury

Assessing clients at risk for injuries involves noting pertinent indicators in the nursing history and physical examination, using specifically developed risk assessment tools, and evaluating the clients home environment. The nursing history and physical examination include the following data: age and developmental level, general health status, mobility status, presence or absence of physiologic or perceptual deficits, altered thought processes or other impaired cognitive or emotional capabilities, substance abuse, any indications of abuse or neglect, accident and injury history, awareness of hazards, knowledge of safety precautions both at home and at work, and any perceived threats to safety. Risk assessment tools are available to determine clients at risk for specific kinds of injury, such as falls, and to determine the general safety of the home and health care setting. In general, these tools direct the nurse to appraise the factors affecting safety as well as summarizing specific data contained in the clients nursing history and physical examination. Hazards in the home are major causes of falls, fire, poisoning, suffocation, and other injuries, such as those caused by improper use of household equipment, tools, and cooking utensils.

3. National Patient Safety Goals (NPSGs)

As a result of the Institute of Medicine report *To Err Is Human*, the health care industry and national organizations increased their awareness of the need to improve patient safety. The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) requires its accredited agencies to meet specific National Patient Safety Goals (NPSGs). It is important to remember that the focus of the NPSGs is on system-wide solutions rather than finding out who made the error. This changes the environment from one of fear and scapegoating to analyzing the system to find out why the error was made.

The JCAHO 2006 National Patient Safety Goals are the following: improve the accuracy of patient identification; improve the effectiveness of communication among caregivers; improve the safety of using medications; reduce the risk of health care-associated infections; accurately and completely reconcile medications across the continuum of care; reduce the risk of patient harm resulting from falls; reduce the risk of influenza and pneumococcal disease in institutionalized older adults; reduce the risk of surgical fires; implement applicable National Patient Safety Goals and associated requirements by components and

practitioner sites; encourage the active involvement of patients and their families in the patients care as a patient safety strategy; and prevent health care-associated pressure ulcers.

4. Potential Hazards Throughout The Life Span

- Hazards to the developing fetus include exposure to maternal smoking, alcohol consumption, addictive drugs, x-rays (first trimester), and certain pesticides.
- Newborns and infants are at risk for falling, suffocation in cribs, choking from aspirated milk or ingested objects, burns from hot water or other spilled hot liquids, motor vehicle crashes, crib or playpen injuries, electric shock, and poisoning.
- Hazards to toddlers include physical trauma from falling, banging into objects, or getting cut by sharp objects; motor vehicle crashes; burns; poisoning; drowning; and electric shock.
- Potential hazards to preschoolers include injury from traffic, playground equipment, and other objects; choking, suffocation, and obstruction of airway or ear canal by foreign objects; poisoning; drowning; fire and burns; and harm from other people or animals.
- Potential hazards to adolescents include vehicular (automobile, bicycle) crashes, recreational injuries, firearms, and substance abuse.
- Older adults are at risk for falling, burns, and pedestrian and motor vehicle crashes.

5. Nursing Diagnoses, Outcomes, And Interventions For Clients At Risk For Accidental Injury

NANDA offers a broad diagnostic label related to safety issues: Risk for Injury, a state in which the individual is at risk for injury as a result of environmental conditions interacting with the individual's adaptive and defense resources. This broad label consists of subcategories that may be preferred when the nurse wants to describe injury more specifically to direct interventions: Risk for Poisoning, Risk for Suffocation, Risk for Trauma, Latex Allergy Response, Risk for Latex Allergy Response, Contamination, Risk for Contamination, Risk for Aspiration, and Risk for Disuse Syndrome. Deficient Knowledge (Accident Prevention) may be another nursing diagnosis. The major goal for clients with safety risks is to prevent injury. To meet this goal, clients often need to change their health behavior and may need to modify their environment. Desired outcomes associated with preventing injury depend upon the individual client. Nursing interventions to meet desired outcomes are largely directed toward helping the client and family to accomplish the following: identify environmental hazards in the home and community; demonstrate safety practices appropriate

to the home health care agency, community, and workplace; experience a decrease in the frequency or severity of injury; and demonstrate safe child-rearing practices or lifestyle practices.

6. Plan Strategies To Maintain Safety

- When planning care to prevent injury, the nurse considers all factors affecting the clients safety, specifies desired outcomes, and selects nursing activities to meet these outcomes.
- Clients should be taught to prevent scalds and burns by making certain that pot handles do not protrude over the edge of a stove; electrical appliances especially those with dangling cords are out of the reach of crawling infants and young children; and that bath water is not excessively hot. In the health care institution, nurses should pay particular attention to assessing clients whose skin sensitivity is impaired, should monitor bath water temperature and take care when using therapeutic applications of heat.
- To prevent agency fires, nurses must be aware of fire safety regulations and fire prevention practices of the agency in which they work. When a fire occurs, the nurse follows four sequential priorities: protect and evacuate clients who are in immediate danger; report the fire; contain the fire; and extinguish the fire.
- Preventive strategies for home fires focus on teaching fire safety. Preventive measures include the following: keep emergency numbers near the telephone or stored for speed dialing; be sure smoke alarms are operable and appropriately located; teach clients to change batteries in smoke alarms annually on a special day; have a family fire drill plan; keep fire extinguishers available and in working order; and close windows and doors, if possible, cover the mouth and nose with a damp cloth when exiting through a smoke-filled area; and avoid heavy smoke by assuming a bent position with the head as close to the floor as possible.
- Preventive measures for falls are discussed in Outcome #7.
- Outcome #8 list seizures precautions (measures to protect the clients from injury should they have a seizure).
- Measures to prevent poisoning include the following: lock potentially toxic agents in a cupboard or attach special plastic hooks to keep them securely closed; avoid storing toxic liquids or solids in food containers; do not remove container labels or reuse empty containers to store different substances; do not rely on cooking to destroy toxic chemicals in plants; never use anything prepared from nature as a medicine or tea; teach children never to eat any part of an unknown plant or mushroom and not to put leaves, stems, barks, seeds, nuts, or

berries from any plant into their mouths; place poison warning stickers designed for children on containers of bleach, lye, kerosene, solvent, and other toxic substances; do not refer to medicine as candy or pretend false enjoyment when taking medications; read and follow label directions on all products before using them; keep syrup of ipecac on hand at all times and use only on the advice from the local poison control center or the family primary health care provider; do not keep poisonous plants in the home and avoid planting poisonous plants in the yard; and display the phone number of the poison control center near or on all telephones in the home.

- Prevention of carbon monoxide (CO) poisoning includes learning the steps to prevent CO exposure because all gasoline-powered vehicles, lawn mowers, kerosene stoves, barbecues, and burning wood emit CO. Incomplete or faulty combustion of any fuel, including natural gas used in furnaces, also produces CO.
- HomeCO detectors should be used.
- Clients should be taught the universal sign of distress, grasping the anterior neck and being unable to speak or cough as well as the Heimlich maneuver, or abdominal thrust, which can dislodge the foreign object and reestablish an airway.
- It is important for nurses to minimize noise in the hospital setting and to encourage clients to protect their hearing as much as possible. Noise can be minimized in several ways. Acoustic tile on ceilings, walls, and floors as well as drapes and carpeting absorb sound. Background music can mask noise and have a calming effect on some people.
- To reduce electrical hazards the following actions should be taken: check cords for fraying or other signs of damage before using and do not use if damage is apparent; avoid overloading outlets and fuse boxes with too many appliances; use only grounded plugs and outlets; always pull a plug from the wall outlet by firmly grasping the plug and pulling it straight out; never use electrical appliances near sinks, bathtubs, showers, or other wet areas; keep electric cords and appliances out of the reach of young children; place protective covers over wall outlets to protect young children; have all noninsulated wiring in the home altered to meet safety standards; carefully read instructions before operating electric equipment; always disconnect appliance that had given a tingling sensation or shock and have an electrician evaluate it for stray current; and keep electric cords coiled or taped to the ground away from areas of traffic to prevent others from damaging the cords or tripping over them.
- To promote firearm safety, nurses can teach their clients to follow these guidelines: Store all guns in sturdy locked cabinets without glass and make sure the keys are inaccessible to children. Store the bullets in a different location. Tell children never to touch a gun or stay in

a friend's house where a gun is accessible. Teach children never to point the barrel of a gun at anyone. Ensure the firearm is unloaded and the action is open when handing it to someone else. Don't handle firearms while affected by alcohol or drugs of any kind, including pharmaceuticals. When cleaning or dry firing a firearm, remove all ammunition to another room and double-check the firearm when you enter the room you will be using to clean the firearm. Have firearms that are regularly used inspected by a qualified gunsmith at least every 2 years.

- Nurses need to protect themselves from radiation when some clients are receiving radiation therapy. Exposure to radiation can be minimized by limiting time near the source; providing as much distance as possible from the sources; and using shielding devices such as lead aprons when near the source. Nurses need to become familiar with agency protocols related to radiation therapy.
- No one knows when a bioterrorism attack will occur; thus, it is important that health care personnel and facilities plan and prepare for the unknown. Health care organizations are now expected to address four specific phases of disaster planning: mitigation, preparedness, response, and recovery as well as to participate annually in at least one community-wide practice drill
 - In Section 4 of this course you will cover these topics:
 - Hygiene
 - Diagnostic Testing
 - Medications
 - Skin Integrity And Wound Care
 - Perioperative Nursing
 - Sensory Perception
 - Self-Concept
 - Sexuality
 - Spirituality
 - Stress And Coping

Topic : Hygiene

Topic Objective:

At the end of this topic student will be able to understand:

- nurses provide to clients
- Factors influencing personal hygiene

- normal and abnormal assessment findings
- Nursing process to common problems related to hygienic care of the skin
- Purposes of bathing
- Various types of baths

Definition/Overview:

Hygiene refers to practices associated with ensuring good health and cleanliness. Such practices vary widely and what is considered acceptable in one culture may be unacceptable in another. In medical contexts, the term "hygiene" refers to the maintenance of health and healthy living. The term appears in phrases such as personal hygiene, domestic hygiene, dental hygiene, and occupational hygiene and is frequently used in connection with public health. The term "hygiene" is derived from Hygieia, the Greek goddess of health, cleanliness and sanitation. Hygiene is also a science that deals with the promotion and preservation of health.

Key Points:**1. Hygienic Care That Nurses Provide To Clients**

- Hygiene involves care of the skin, hair, nails, teeth, oral and nasal cavities, eyes, ears, and perineal-genital areas.
- It is important to know exactly how much assistance a client needs for hygienic care. Clients may require help after urinating or defecating, after vomiting, and whenever they become soiled.

2. Factors Influencing Personal Hygiene

- Factors influencing personal hygiene care include culture, religion, environment, developmental level, health and energy, and personal preference.
- The North American culture places a high value on cleanliness. Many North Americans bathe or shower once or twice a day; whereas people from other cultures bathe only once per week. Some cultures consider privacy essential, and others practice communal bathing. Body odor is offensive in some cultures and accepted as normal in others.
- Some religions practice ceremonial washings.

- For some people, the environment and finances may affect the availability of facilities for bathing and supplies for hygienic care.
- Children learn hygiene in the home. Practices vary according to the individual's age.
- Ill people may not have the motivation or energy to attend to hygiene. Some clients may not have the neuromuscular ability to perform hygienic care.
- Personal preferences also affect hygiene. For example, some people prefer a shower to a tub bath. Some people have preferences regarding the time of bathing.

3. Normal And Abnormal Assessment Findings

- The nurse can use the opportunity of providing hygiene care to physically assess clients as well as assessing psychosocial and learning needs.
- Normal and abnormal skin assessment findings are found in Chapter 30. Common skin problems include abrasion, excessive dryness, ammonia dermatitis, acne, erythema, and hirsutism.
- Deviations from normal include excessive dryness, areas of inflammation or swelling, fissures, scaling and cracking of skin, plantar warts, swelling and pitting edema, weak or absent pulses, and cool skin temperature in one or both feet.
- Abnormal findings include: spoon nails, excessive thickness or clubbing, presence of grooves or furrows, Beau's lines, discolored or detached nails, bluish or purplish tint or pallor of nailbeds, hangnails, paronychia, and delayed capillary refill.
- Common problems of the mouth are listed in Table 336 and include halitosis, glossitis, gingivitis, periodontal disease, reddened or excoriated mucosa, excessive dryness of the buccal mucosa, cheilosis, dental caries, sordes, stomatitis, and parotitis.
- Normal and abnormal assessment findings of the hair are included in Chapter 30. Common problems of the hair include dandruff, hair loss, ticks, pediculosis, scabies, and hirsutism.
- Abnormal findings visible during hygiene care include: loss of hair, scaling, and flakiness of the eyebrows; redness, swelling, flaking, crusting, discharge, asymmetrical closing, or ptosis of the eyelids; jaundiced sclera; pale or red conjunctiva; opaque cornea; unequal pupils or pupils that fail to dilate or constrict, and inability to see; asymmetrical, excessively red or tender auricles; lesions, flaky, scaly skin over the auricles; normal voice tones not heard; asymmetrical nose; discharge, localized redness, tenderness or lesions of the nose.

4. Nursing Process to Common Problems Related To Hygienic Care of the Skin

- Assessment of the clients skin, feet, nails, mouth, hair, eyes, ears, and nose includes a nursing history to determine self-care practices, self-care abilities, and past or current problems. The assessment should also identify clients at risk for developing impairment of these areas.
- Physical assessment of the skin, feet, nails, mouth, hair, eyes, ears, and nose is performed to gather objective data.
- Nursing diagnoses are derived from the assessment data. Self-Care Deficit (Bathing/Hygiene, Dressing/Grooming, or Toileting) diagnoses are used for the client who has problems performing hygiene care. Other common nursing diagnoses include Deficient Knowledge, Situational Low Self-Esteem, Risk for Impaired Skin Integrity, Impaired Skin Integrity, Risk for Infection, Impaired Oral Mucous Membrane, Disturbed Body Image, and Risk for Injury . The etiology or risk factors are individualized according to client data.
- In planning care, the nurse and, if appropriate, the client and/or family set goals/desired outcomes for each nursing diagnosis.
- The nurse then identifies interventions to assist the client to achieve the designated outcomes.
- General nursing interventions include assisting dependent clients with hygiene activities, educating clients and/or family about appropriate hygienic practices, demonstrating use of assistive equipment and adaptive activities, and assessing and monitoring physical and psychological responses.
- The nurse implements the plan as appropriate, evaluates the clients responses as designated in the goals/desired outcomes, and modifies the plan as necessary.

5. Purposes Of Bathing

The purposes of bathing are to remove transient microorganisms, body secretions and excretions, and dead skin cells; to stimulate circulation to the skin; to promote a sense of well-being; to produce relaxation and comfort; and to prevent or eliminate unpleasant body odors.

6. Various Types of Baths

- There are two categories of baths. Cleansing baths are given chiefly for hygiene purposes. Therapeutic baths are given for physical effects, such as to soothe irritated skin or to treat an area (e.g., perineum).

- Types of cleansing baths include the complete bed bath, self-help bath, partial bath (abbreviated), bag bath, tub bath, sponge bath, and shower.
- When giving a complete bed bath, the nurse washes the entire body of a dependent client in bed.
- For a self-help bath, a client confined to bed is able to bathe self with help from the nurse for washing the back and perhaps the feet.
- In a partial bath (abbreviated), only the parts of the clients body that might cause discomfort or odor, if neglected, are washed: face, hands, axillae, perineal area, and the back.
- A bag bath is a commercially prepared product that contains 10 to 12 presoaked disposable washcloths that contain no-rinse cleanser solution.
- A tub bath is often preferred to a bed bath because it is easier to wash and rinse in a tub. Tubs are also used for therapeutic baths. There are tubs specially designed for dependent clients.
- A sponge bath is suggested for newborns because daily tub baths are not considered necessary.
- A shower may be appropriate for many ambulatory clients who are able to use shower facilities and require only minimal assistance from the nurse.

7. Nurses Help Hospitalized Clients with Hygiene

- Early morning care is provided to clients as they awaken. This care consists of providing a urinal or bedpan to the client confined to bed, washing the face and hands, and giving oral care.
- Morning care is often provided after clients have breakfast, although it may be provided before breakfast. It usually includes elimination needs, a bath or shower, perineal care, back massage, and oral, nail, and hair care. Making the bed is part of morning care.
- Hour of sleep (HS) or PM care is provided to clients before they retire for the night. It usually involves providing for elimination needs, washing face and hands, giving oral care, and giving a back massage.
- As-needed (prn) care is provided as required by the client

Topic : Diagnostic Testing**Topic Objective:**

At the end of this topic student will able to understand:

- The phases involved in diagnostic testing
- Common blood tests
- capillary blood specimen
- Specimen collection
- Collection of each type of specimen

Definition/Overview:

A diagnostic test is any kind of medical test performed to aid in the diagnosis or detection of disease. For example:

- to diagnose diseases
- to measure the progress or recovery from disease
- to confirm that a person is free from disease

A drug test can be a specific medical test to ascertain the presence of a certain drug in the body (for example, in drug addicts).

Key Points:

Some medical tests are parts of a simple physical examination which require only simple tools in the hands of a skilled practitioner, and can be performed in an office environment. Some other tests require elaborate equipment used by medical technologists or the use of a sterile operating theatre environment. Some tests require samples of tissue or body fluids to be sent off to a pathology lab for further analysis. Some simple chemical tests, such as urine pH, can be measured directly in the doctor's office.

Most medical tests are conducted on the living; however, some of these tests can also be carried out on a dead person as part of an autopsy.

The validity of diagnostic test results produced in each laboratory is entirely dependent on the measures employed before, during, and after each assay. Consistency in the production of good results requires an overall program that includes quality assurance, quality control, and quality assessment. Medical tests can be classified into three categories:

- Invasive
- Minimally invasive
- Non-invasive

Accuracy of a laboratory tests is its correspondence with the true value. Accuracy is maximized by calibrating laboratory equipment with reference material and by participation in external quality control programs. The precision is a measure of tests reproducibility when repeated on the same sample. An imprecise test is one that yield widely varying results on repeated measurement. The precision is monitored in laboratory by using control material. The result of a test may be positive or negative: this has nothing to do with a bad prognosis, but rather means that the test worked or not, and a certain parameter that was evaluated was present or not. For example, a negative screening test for breast cancer means that no sign of breast cancer could be found (which is in fact very positive for the patient).

1. Diagnostic Testing Involves Three Phases: Pretest, Intratest, And Post-Test

- The major focus of the pretest phase is client preparation. The nurse educates the client about the test based on client assessment as well as knowledge about the test ordered. In addition, the nurse needs to know what equipment and supplies are needed (see Client Teaching: Preparing for Diagnostic Testing).
- The intratest phase focuses on specimen collection and performing or assisting with certain diagnostic testing. The nurse provides emotional and physical support while monitoring the client as needed. Correct labeling, storage, and transportation of the specimen is also important.
- During the post-test period, the focus is on the nursing care of the client, follow-up activities, and observations. The nurse compares the previous and current test results and modifies nursing interventions as needed. Reporting the results to appropriate health team members is also important
-

2. Common Blood Tests

- Common blood tests include the complete blood count, serum electrolytes serum osmolality, drug monitoring (peak and trough levels), blood urea nitrogen and creatinine, arterial blood gases, blood chemistry, metabolic screening, and capillary blood glucose levels.
- The complete blood count includes hemoglobin, hematocrit, erythrocyte (RBC) count, leukocyte (WBC) count, RBC indices, and WBC differential.
- Hemoglobin, the main intracellular protein of the RBCs, carries oxygen to and carbon dioxide from the tissues; hematocrit measures the percentage of RBC to total blood volume; the RBC count is the number of RBCs per cubic milliliter of whole blood; RBC indices evaluate the size, weight, and hemoglobin concentration; the WBC count is the number of WBCs per cubic milliliter of whole blood; the WBC differential identifies the type and percentage of each type of WBC.
- The most commonly ordered serum electrolytes are for sodium, potassium, chloride, and bicarbonate ions. These are ordered to screen for electrolyte and acid-base imbalances.
- Serum osmolality is the measure of the solute concentration in the blood.
- Therapeutic drug monitoring is conducted when the client is taking a medication with a narrow therapeutic range. The peak level is the highest concentration of the drug and the trough level is the lowest concentration of the drug.
- Blood levels of urea and creatinine are used to evaluate renal function. Urea, the end product of protein metabolism, is measured as blood urea nitrogen (BUN); creatinine is produced by muscles.
- Arterial blood gases are explained in Chapter 50.
- Blood chemistry includes liver function tests, cardiac markers, lipoprotein profile, serum glucose, hormones, and other substances. These tests provide valuable diagnostic cues.
- Metabolic screening evaluates newborns for congenital metabolic conditions such as phenylketonuria (PKU) and congenital hypothyroidism.
- Capillary blood glucose specimen is taken to measure blood glucose.

3. Blood Glucose from a Capillary Blood Specimen

Skill 34.1 describes how to obtain a capillary blood specimen and measure blood glucose using a portable meter. (Refer to the textbook and the Skill Checklists included on the Student DVD-ROM.)

4. Nursing Responsibilities for Specimen Collection

Nursing responsibilities associated with specimen collection include the following: Explain the purpose of the specimen collection and the procedure for obtaining the specimen; provide client comfort, privacy, and safety; use the correct procedure for obtaining a specimen or ensure that the client or staff follows the correct procedure; note relevant information on the laboratory requisition slip; transport the specimen to the laboratory promptly; report abnormal laboratory findings to the health care provider in a timely manner consistent with the severity of the abnormal results.

5. Rationale ForThe Collection Of Each Type Of Specimen

- The stool specimen is used to determine the presence of occult (hidden) blood, to analyze for dietary products and digestive secretions, to detect the presence of ova and parasites, and to detect the presence of bacteria or viruses.
- Urine specimens are collected by the nurse for a number of tests: clean voided specimens for routine urinalysis, clean-catch or midstream urine specimens for urine culture, and timed urine specimens for a variety of tests that depend on the clients specific health problem.
- Sputum specimens are usually collected for one or more of the following reasons:
 - For culture and sensitivity to identify a specific microorganism and its drug sensitivities
 - For cytology to identify the origin, structure, function, and pathology of cells
 - For acid-fast bacillus (AFB), which also requires serial collection, often for 3 consecutive days, to identify the presence of tuberculosis (TB)
- To assess the effectiveness of therapy
- Throat culture samples are collected from the mucosa of the oropharynx and tonsillar regions using a culture swab. The sample is then cultured and examined for the presence of disease-producing microorganisms.

6. Test Stool Specimens

- The nurse needs to determine the reason for collecting the stool specimen and the correct method of obtaining and handling.
- When obtaining a stool specimen, the nurse gives the following instructions to the client: Defecate in a clean bedpan or bedside commode; if possible, do not contaminate the specimen with urine or menstrual discharge; void before the specimen collection; do not

place toilet tissue in the bedpan after defecation; and notify the nurse as soon as possible after defecation.

- When obtaining the stool specimen from the bedpan or bedside commode, the nurse should follow medical aseptic technique meticulously, wear gloves, and take care not to contaminate the outside of the specimen container.
- The amount of stool to be sent depends on the purpose for which the specimen is collected. Usually about 2.5 cm (1 in.) of formed stool or 15 to 30 mL of liquid stool is adequate. For some timed specimens, the entire stool passed must be sent. Visible pus, mucus, or blood should be included in sample specimens.
- The specimen label and the laboratory requisition must have the correct information and be securely attached to the specimen container. The specimen should be sent to the laboratory immediately or refrigerated because fresh specimens provide the most accurate results.
- All relevant information must be documented including date and time of the collections and all nursing assessments (e.g., color, odor, consistency, and amount of feces), presence of abnormal constituents, results of the test for occult blood if obtained, discomfort during or after defecation, status of perianal skin, and any bleeding from the anus after defecation.
- For a stool culture, the nurse dips a sterile swab into the specimen, preferably where purulent fecal matter is present, and, using sterile technique, places the swab in a sterile test tube.
- A commonly used test product to measure occult blood is the Hemoccult test. To perform this test, the nurse or client uses a tongue blade to place a small amount of stool on a slide or card and then closes the card. The card is turned over and a few drops of a reagent are placed onto the smear or on the back of the card. The nurse then observes for a color change. A blue color indicates a guaiac positive result (presence of blood). No color change or any other color than blue is a negative finding, indicating the absence of blood in the stool.
- Certain foods, medications, and vitamin C can produce inaccurate test results. False-positive results can occur if the client has recently ingested red meat, raw vegetables or fruits (particularly radishes, turnips, horseradish, and melons), or certain medications that irritate the gastric mucosa and cause bleeding such as aspirin or other nonsteroidal anti-inflammatory drugs, steroids, iron preparations, and anticoagulants. False-negative results can occur if the client has taken more than 250 mg per day of vitamin C from all sources (dietary and supplemental) up to 3 days before the test, even if bleeding is present. (Guidelines for instructing clients to assess their stool for occult blood are listed in Client Teaching.)
-

Topic : Medications**Topic Objective:**

At the end of this topic student will able to understand:

- administration of medications
- legal aspects of administering medications
- physiologic factors and individual variables affecting medication action
- medication administration

Definition/Overview:

Medication, also referred to as medicine, is usually a drug or any other substance used to prevent or cure disease or to relieve pain, anxiety or any form of perceived discomfort, such as hunger. Medication is often used to mean the act of administering medicines or drugs. Other synonyms include pharmacotherapy, pharmacotherapeutics, and drug treatment. Drug treatment, that is: The administration of drugs with therapeutic intention, usually characterizes and distinguishes the practice of Medicine (and the Medical Specialties) from the art of Surgery (and its derived Surgical Specialties). This practical (more than theoretical) distinction is deeply rooted in the History of Medicine. The science of administering drugs to humans in the clinical setting is termed clinical pharmacology. The emphasis on drug treatment plays an essential role in distinguishing medical from surgical practice and patient practice.

Key Points:**1. Administration Of Medications**

There are many important definitions related to the administration of medications. These are defined throughout the chapter (see Key Terms in the textbook and the audio glossary on the student DVD-ROM and the Companion Website).

A medication is a substance administered for the diagnosis, treatment, or relief of a symptom or for the prevention of diseases. This term is used interchangeably with the word drug; however, the word drug also has the connotation of an illegally obtained substance such as heroin. A prescription is the written directions for the preparation and administration of a

drug. The generic name of a drug is given before a drug becomes officially approved as a medication. The official name of a drug is the name under which it is listed in one of the official publications such as the United States Pharmacopeia. The chemical name of a drug is the name by which a chemist knows the drug. The trade or brand name is the name given by the drug manufacturer and is usually short and easy to remember. Pharmacology is the study of the effect of drugs on living organisms. Pharmacy is the art of preparing, compounding, and dispensing drugs, and also refers to the place where drugs are prepared.

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3. Legal Aspects of Administering Medications

- The administration of drugs in both the United States and Canada is controlled by law.
- Nurses need to know how nursing practice acts in their areas define and limit their functions and be able to recognize the limits of their own knowledge and skills. Under the law, nurses are responsible for their own actions regardless of whether there is a written order. Therefore, nurses should question any order that appears unreasonable and refuse to give the medication until the order is clarified.

- Another aspect of nursing practice governed by law is the use of controlled substances. Controlled substances are kept under lock. Special inventory forms are used for recording the use of these substances. The information usually required on these forms include the name of the client, date and time of administration, name of the drug, dosage, and signature of the person who prepares and gives the drug. The name of the primary care provider who ordered the drug may also be listed. A verifying signature of another RN may be required by the agency when a drug is administered. Careful inventory control is maintained. When a portion or all of a controlled substance is discarded, the nurse must ask another nurse to witness the discarding. In most agencies, counts of controlled substances are taken at the end of each shift and the count total should tally with the total at the end of the last shift minus the number used.

4. Physiologic Factors and Individual Variables Affecting Medication Action

Medication action may be affected by developmental factors, gender, culture, ethnicity, genetics, diet, environment, psychologic factors, illness and disease, and time of administration. The nurse needs to be aware of developmental factors. Pregnant women must be careful about taking medications, especially in the first trimester, because of the possible adverse effects on the fetus. Infants usually require smaller doses because of their body size and the immaturity of their organs. Older adults have different responses to medications due to physiologic changes that accompany aging and because they may be prescribed multiple drugs and incompatibilities may occur. Gender differences in medication action are chiefly related to the distribution of body fat and fluid and hormonal differences. In addition, most research studies on medications have been done on men. In addition to gender, a clients response to drugs is also influenced by genetic variations such as size and body composition (pharmacogenetics). Ethnopharmacology is the study of the effects of ethnicity on response to prescribed medications. Cultural factors and practices (values and beliefs) can also affect a drugs action; for example, an herbal remedy may speed up or slow down the metabolism of certain drugs (see Culturally Competent Care). The diet may contain nutrients that can interact with medications and increase or decrease action. It is important to consider the effects of a drug in the context of the clients personality, milieu, and environmental conditions (e.g., temperature, noise). Psychologic factors, such as a clients expectations about what a drug can do, can affect the response to the medication. and disease can affect how a client responds to a medication. For example, aspirin can reduce body temperature of a

feverish client but has no effect on body temperature of a client without a fever. Time of administration is important because medications are absorbed more quickly if the stomach is empty; however, some medications irritate the gastrointestinal tract and are given after a meal.

5. Various Routes Of Medication Administration

- Routes of medication administration include oral, sublingual, buccal, parenteral, and topical. In oral administration the drug is swallowed. It is the most common, least expensive, and most convenient route for most clients. In sublingual administration a drug is placed under the tongue, where it dissolves. Buccal means pertaining to the cheek. In buccal administration a medication is held in the mouth against the mucous membranes of the cheek until the drug dissolves. The parenteral route is defined as other than the alimentary or respiratory tract. Some common routes for parenteral administration include subcutaneous (hypodermic), into the subcutaneous tissue just below the skin; intramuscular, into the muscle; intradermal, under the epidermis (into the dermis); intravenous, into a vein; intra-arterial, into an artery; intracardiac, into the heart muscle; intraosseous, into the bone; intrathecal or intraspinal, into the spinal canal; epidural, into the epidural space; and intra-articular, into a joint.
- Topical applications are those applied to a circumscribed surface area of the body. Routes for topical applications include dermatologic, applied to the skin; instillations and irrigations, applied into body cavities or orifices such as the urinary bladder, eyes, ears, nose, rectum, or vagina; ophthalmic, otic, nasal, rectal, and vaginal topical preparations; and inhalations, administered into the respiratory system by a nebulizer or positive pressure breathing apparatus.

Topic : Skin Integrity And Wound Care

Topic Objective:

At the end of this topic student will able to understand:

- factors affecting skin integrity
- risk for pressure ulcers
- pressure ulcer development
- primary and secondary wound healing
- phases of wound healing

Definition/Overview:

Reduced skin integrity implies a skin tear, pressure area sore, ulcers or openings in the skin. This provides a portal of entry for the infection to enter the body and take hold. Read up on basic microbiology.

Key Points:**1. Factors Affecting Skin Integrity**

Genetics and heredity determine many aspects of a person's skin, including color, sensitivity to light, and allergies. Age influences skin integrity. The skin of both the very young and the very old is more fragile and susceptible to injury than that of most adults. However, wounds tend to heal more rapidly in infants and children. Many chronic illnesses and their treatments affect skin integrity. People with impaired peripheral arterial circulation may have skin on the legs that appears shiny, has lost its hair distribution, and damages easily. Some medications, corticosteroids for example, cause thinning of the skin and allow it to be much more readily harmed. Many medications increase sensitivity to sunlight and can predispose one to severe sunburn. Some of the most common medications that can cause this damage are certain antibiotics, chemotherapy drugs for cancer, and some psychotherapeutic drugs. Poor nutrition alone can interfere with the appearance and function of normal skin.

2. Risk For Pressure Ulcers

Risk factors for pressure ulcers include friction and shearing, immobility, inactivity, inadequate nutrition, fecal and urinary incontinence, decreased mental status, diminished sensation, excessive body heat, advanced age, and chronic conditions.

Other factors contributing to formation of pressure ulcers are poor lifting and transferring techniques, incorrect positioning, hard support surfaces, and incorrect application of pressure-relieving devices.

Several risk assessment tools are available that provide the nurse with systematic means of identifying clients at high risk for pressure ulcer development. The U.S. Public Health Services Panel for the Prediction and Prevention of Pressure Ulcers in Adults (PPPPUA) (1992a) recommends that the tool include data collection in the areas of immobility,

incontinence, nutrition, and level of consciousness. The Braden Scale for Predicting Pressure Sore Risk consists of six subscales: sensory perception, moisture, activity, mobility, nutrition, and friction and shear. A total score of 23 points is possible. An adult who scores below 18 points is considered at risk.

Nortons Pressure Area Risk Assessment Form Scale includes the categories of general physical condition, mental state, activity, mobility, incontinence, and medications. The total possible score is 24. Scores of 15 or 16 should be viewed as indicators, not predictors, of risk.

3. Stages of Pressure Ulcer Development

- Stage I: Nonblanchable erythema signals potential ulceration.
- Stage II: Partial-thickness skin loss (abrasion, blister, or shallow crater) involves the epidermis and possibly the dermis.
- Stage III: Full-thickness skin loss involves damage or necrosis of subcutaneous tissue that may extend down to, but not through, underlying fascia. The ulcer presents clinically as a deep crater with or without undermining of adjacent tissue.
- Stage IV: There is full-thickness skin loss with tissue necrosis or damage to muscle, bone, or supporting structures such as tendons or joint capsules. Undermining and sinus tracts may also be present.

4. Primary and Secondary Wound Healing

- Primary intention healing occurs when the tissue surfaces have been approximated (closed) and there is minimal to no tissue loss; it is characterized by minimal granulation tissue and scarring. It is also called primary union or first intention healing. An example is a closed surgical incision.
- A wound that is extensive and involves considerable tissue loss, and in which the edges cannot or should not be approximated, heals by secondary intention healing. The repair time is longer, the scarring is greater, and the susceptibility to infection is greater. An example is a pressure ulcer.
- Wounds that are left open for 3 to 5 days to allow edema or infection to resolve or exudate to drain and are then closed with sutures, staples, or adhesive skin closures heal by tertiary intention. This is also called delayed primary intention.

5. Phases of Wound Healing

- The inflammatory phase of wound healing is initiated immediately after injury and lasts 3 to 5 days. Two major processes occur during this phase: hemostasis (the cessation of bleeding) and phagocytosis (engulfing of microorganisms and cellular debris by macrophages).
- The proliferative phase of wound healing extends from day 3 or 4 to about day 21 postinjury. Fibroblasts (connective tissue cells) begin to synthesize collagen, a protein that adds tensile strength to the wound. Capillaries grow across the wound, increasing the blood supply. Fibroblasts deposit fibrin, and granulation tissue is formed. Granulation tissue is a translucent red color. It is fragile and bleeds easily. When the edges of a wound are not sutured, the area must be filled in with granulation tissue. When granulation tissue matures, marginal epithelial cells migrate to it, proliferating over this connective tissue base to fill the wound.
- The maturation phase (or remodeling) of wound healing begins about day 21 and can extend 1 or 2 years after the injury. Fibroblasts continue to synthesize collagen, and the collagen fibers reorganize into a more orderly structure. The wound is remodeled and contracted. The scar becomes stronger but is never as strong as the original tissue.

Topic : Perioperative Nursing

Topic Objective:

At the end of this topic student will be able to understand:

- Surgery according to degree of urgency, degree of risk, and purpose
- Phases of the perioperative period
- Essential aspects of preoperative assessment
- Pertinent nursing diagnoses for surgical clients

Definition/Overview:

Perioperative Nursing Competencies The perioperative nurse has to be able to implement nursing actions to ensure and maintain a safe environment for the patient. He or she demonstrates the proper use of all O R equipment such as...electrosurgical equipment, placement of the ESU (electrosurgical equipment) pad and proper placement of SCD's (sequential compression device). The nurse has to have knowledge of the working of and be able to trouble shoot problems with any and all equipment used in the OR's: Microscope,

phacoemulsification machine, dermatomes, IV pumps, light sources, video equipment (camera, printer, insufflators). If there is a problem with any of the equipment the nurse has to be able to initiate corrective action for the malfunctioning equipment.

Key Points:

1. Types of Surgery According To Degree of Urgency, Degree of Risk, And Purpose

Surgery is classified by its urgency and necessity to preserve the clients life, body part, or body function. Emergency surgery is performed immediately to preserve function or the life of the client (for example, to control internal hemorrhage). Elective surgery is performed when surgical intervention is the preferred treatment for a condition that is not immediately life threatening, but may ultimately threaten life or well-being, or to improve the clients life (for example, hip replacement surgery). Surgery is also classified as major or minor according to the degree of risk to the client. Major surgery involves a high degree of risk. It may be complicated or prolonged, large losses of blood may occur, vital organs may be involved, or postoperative complications may be likely (for example, open heart surgery). Minor surgery normally involves little risk, produces few complications, and is often performed on an outpatient basis (for example, breast biopsy). Surgical procedures have various purposes. A diagnostic procedure confirms or establishes a diagnosis (for example, breast biopsy). A palliative procedure relieves or reduces pain or symptoms of a disease; it does not cure (for example, resection of nerve roots). An ablative procedure removes a diseased body part (for example, removal of gallbladder). A constructive procedure restores function or appearance that has been lost or reduced (for example, breast implant). A transplant replaces malfunctioning structures

2. Phases of the Perioperative Period

Surgery is a unique experience of a planned physical alteration encompassing three phases: preoperative, intraoperative, and postoperative. The preoperative phase begins when the decision to have surgery is made and ends when the client is transferred to the operating table. The nursing activities associated with this phase include assessing the client, identifying potential or actual health problems, planning specific care based on the individuals needs, and providing preoperative teaching for the client, the family, and significant others. The intraoperative phase begins when the client is transferred to the

operating table and ends when the client is admitted to the postanesthesia care unit (PAC). The nursing activities related to this phase include a variety of specialized procedures designed to create and maintain a safe therapeutic environment for the client and the health care personnel. The activities include providing for the clients safety, maintaining an aseptic environment, ensuring proper functioning of equipment, and providing the surgical team with the instruments and supplies needed during the operation. The postoperative phase begins with the admission of the client to the postanesthesia area and ends when healing is complete. During the postoperative phase, nursing activities include assessing the clients response (physiologic and psychologic) to surgery, performing interventions to facilitate healing and prevent complications, teaching, providing support to the client and support people, and planning for home care.

3. Aspects Of Preoperative Assessment

Preoperative assessment includes collecting and reviewing physical, psychological, and social client data to determine the clients needs throughout the three preoperative phases. Preoperative assessment data include current health status, allergies, medications, previous surgeries, mental status, understanding of the surgical procedure and anesthesia, smoking, alcohol and other mind-altering substances, coping, social resources, and cultural and spiritual considerations. A brief but complete physical assessment pays particular attention to systems that could affect the clients response to anesthesia and surgery. It also includes a brief mini mental status. Respiratory, cardiovascular, and other systems (gastrointestinal, genitourinary, and musculoskeletal) are examined to provide baseline data. The surgeon and/or anesthesiologist orders preoperative diagnostic tests. The nurses responsibility is to check the orders carefully to see that they are carried out and to ensure that the results are obtained and in the clients record prior to surgery.. In addition to these tests, diagnostic tests directly relating to the clients disease are performed.

4. Pertinent Nursing Diagnoses For Surgical Clients

- Nursing diagnoses that may be appropriate for the preoperative client include Deficient Knowledge, Anxiety, Disturbed Sleep Pattern, Anticipatory Grieving, and Ineffective Coping.

- Nursing diagnoses that may be appropriate for the intraoperative client include Risk for Aspiration, Ineffective Protection, Impaired Skin Integrity, and Risk for Perioperative-Positioning Injury, Risk for Impaired Body Temperature, Ineffective Tissue Perfusion, and Risk for Deficient Fluid Volume.
- Nursing diagnoses that may be appropriate for the postoperative client include Acute Pain; Risk for Infection; Risk for Injury; Risk for Deficient Fluid Volume; Ineffective Airway Clearance; Ineffective Breathing Pattern; Self-Care Deficit: Bathing/Hygiene, Dressing/Grooming, Toileting; Ineffective Health Maintenance; and Disturbed Body Image .

5. Nursing Responsibilities In Planning Perioperative Nursing Care

- The overall goal in the preoperative period is to ensure that the client is mentally and physically prepared for surgery. Planning should involve the client, the clients family, and significant others. Examples of nursing activities to achieve these goals include preoperative teaching (covered in outcome 6), physical preparation (covered in outcome 7), and psychological preparation.
- For the perioperative client, discharge planning begins before admission. Early planning to meet the discharge needs of the client is particularly important for outpatient procedures as the client is generally discharged within hours after the procedure is performed.
- Discharge planning incorporates an assessment of the clients, familys, and significant others abilities and resources for care, their financial resources, and the need for referrals and home health services. (See Home Care Considerations: Postoperative Instructions.)
- The overall goals of care in the intraoperative period are to maintain the clients safety and to maintain homeostasis. Examples of nursing activities to achieve these goals include positioning the client appropriately; performing preoperative skin preparation; assisting in preparing and maintaining the sterile field; opening and dispensing sterile supplies during surgery; providing medications and solutions for the sterile field; monitoring and maintaining a safe, aseptic environment; managing catheters, tubes, drains, and specimens; performing sponge, sharp, and instrument counts; and documenting nursing care provided and the clients response to interventions.
- Overall goals in postoperative period include promotion of comfort and healing; restoration of the highest possible level of wellness; and prevention of associated risks. Postoperative care planning and discharge planning begin in the preoperative phase when preoperative teaching is implemented. To plan for continuity of care for the surgical client after discharge,

the nurse considers the clients needs for assistance with care in the home setting and incorporates an assessment of the clients and familys abilities for self-care, financial resources, and the need for referrals and home health services.

Topic : Sensory Perception

Topic Objective:

At the end of this topic student will able to understand:

- anatomic and physiologic components of the sensory-perception process
- factors influencing sensory function
- clinical signs and symptoms of sensory overload and deprivation
- essential components in assessing a clients sensory-perception function

Definition/Overview:

Extrasensory perception (ESP) is the purported ability to acquire information by paranormal means independent of any known physical senses or deduction from previous experience. The term was coined by Duke University researcher J. B. Rhine to denote psychic abilities such as telepathy, the sensing of thoughts or feelings without help from the 5 known senses, precognition, the knowledge of future events, and clairvoyance, the awareness of people, objects or events without the help of the 5 known senses. ESP is also sometimes casually referred to as a sixth sense, gut instinct, a hunch, a weird vibe or an intuition. The term implies sources of information currently unexplained by science. Popular belief in ESP is widespread, but skeptics are still not persuaded that there truly is a sixth sense because of the lack of reliable theories and information.

The existence of ESP abilities is highly controversial, and no scientifically conclusive demonstrations of the existence of ESP have been given. Parapsychology explores this possibility, and some experiments such as the ganzfeld have been suggested as good evidence of ESP, The existence of ESP is not generally accepted within the scientific community.

Key Points:**1. Anatomic and Physiologic Components Of The Sensory-Perception Process**

- The sensory process involves two components: sensory reception, the process of receiving stimuli or data, and sensory perception, the conscious organization and translation of the data or stimuli into meaningful information.
- Four aspects of the sensory process must be present: a stimulus, a receptor, impulse conduction, and perception.
- The stimulus is an agent or act that stimulates a nerve receptor. A receptor is a nerve cell that acts as a receptor by converting the stimulus to a nerve impulse. Impulse conduction is the transmission of the stimulus along the nerve pathways to the spinal cord or directly to the brain. Perception, or awareness of stimuli, takes place in the brain, where specialized brain cells interpret the nature and the quality of the sensory stimuli. The level of consciousness affects the perception of the stimuli.
- For the person to receive and interpret stimuli, the brain must be alert. The reticular activating system (RAS) in the brain stem is thought to mediate the arousal mechanism. There are two components of the RAS: the reticular excitatory area (REA) and the reticular inhibitory area (RIA). The REA is responsible for stimulus arousal and wakefulness.

2. Factors Influencing Sensory Function

A number of factors affect the amount and quality of sensory stimulation, including a person's developmental stage, culture, level of stress, medications and illness, and lifestyle. Perception of sensation is crucial to the intellectual, social, and physical development of infants and children. Adults have many learned responses to sensory cues. The sudden loss or impairment of any sense has a profound effect on both the child and adult. Normal physiologic changes in older adults put them at higher risk for altered sensory function.

An individual's culture often determines the amount of stimulation that a person considers usual or normal. The normal amount of stimulation associated with ethnic origin, religious affiliation, and income level also affects the amount of stimulation an individual desires and believes to be meaningful. A sudden change in cultural surroundings may also result in sensory overload or cultural shock.

During times of increased stress, people may find their senses already overloaded and thus seek to decrease sensory stimulation. On the other hand, clients may seek sensory stimulation during times of low stress.

Certain medications can alter an individual's awareness of environmental stimuli; some depress awareness of stimuli. Anyone taking several medications concurrently may show alterations in sensory function. Elders are especially at risk and need to be monitored carefully. Some medications, if taken over a long period, become ototoxic. Certain diseases restrict blood flow to the receptor organs and the brain, decreasing awareness and slowing responses. Uncontrolled diabetes mellitus can impair vision and is a leading cause of blindness. Some central nervous system diseases cause varying degrees of paralysis and sensory loss. Lifestyle and personality influence the quality and quantity of stimulation to which an individual is accustomed. People's personalities differ in terms of the stimuli with which they are comfortable.

3. Clinical Signs and Symptoms of Sensory Overload and Deprivation

Clinical manifestations of sensory overload include complaints of fatigue and sleeplessness; irritability, anxiety, and restlessness; periodic or general disorientation; reduced problem-solving ability and task performance; increased muscle tension; and scattered attention and racing thoughts.

Clinical manifestations of sensory deprivation include excessive yawning, drowsiness, and sleeping; decreased attention span, difficulty concentrating, and decreased problem solving; impaired memory; periodic disorientation, general confusion, or nocturnal confusion; preoccupation with somatic complaints, such as palpitations; hallucinations or delusions; crying, annoyance over small matters, and depression; and apathy and emotional lability.

4. Components in Assessing a Client's Sensory-Perception Function

Nursing assessment of sensory-perceptual functioning includes six components: nursing history, mental status examination, and physical examination, identification of clients at risk, the client's environment, and the social support network. When conducting the nursing history, the nurse assesses present sensory perceptions, usual functioning, sensory deficits, and potential problems. In some instances, significant others can provide data the client

cannot. Assessment Interview: Sensory-Perceptual Functioning lists questions to ask to assess visual, auditory, gustatory, olfactory, tactile, and kinesthetic function.

To evaluate mental status, the nurse assesses level of consciousness, orientation, memory, and attention span. It is important to note that sensory alterations can cause changes in cognitive function. During the physical examination, the nurse assesses vision and hearing, and the olfactory, gustatory, tactile, and kinesthetic senses. Specific sensory tests include visual acuity (Snellen chart or other reading materials) and visual fields; hearing acuity (response to conversation, whisper, Weber and Rinne); olfactory sense (identification of aromas); gustatory sense (identification of three tastes); and tactile tests (light touch, sharp and dull sensations, two-point discrimination, hot and cold sensation, vibration sense, position sense, and stereognosis). The nurse identifies clients at risk for sensory disturbances.

The nurse assesses the clients environment for quantity, quality, and type of stimuli. For example, the nurse would look for the presence of a radio or other auditory device, television, clock or calendar, reading material, number and compatibility of roommates, and number of visitors. In the clients home, the nurse notes the presence of a video/DVD recorder, pets, bright colors, and adequate lighting. To assess a health care environment for excessive stimuli, the nurse would consider factors such as bright lights, noise, therapeutic measures, and frequency of assessments and procedures. In evaluating the clients social support network, the nurse assesses whether the client lives alone, who visits and when, and any signs indicating social deprivation, such as withdrawal from contact with others to avoid embarrassment or dependence on others, negative self-image, reports of lack of meaningful communication with others, and absence of opportunities to discuss fears or concerns that facilitate coping mechanisms.

Topic : Self-Concept

Topic Objective:

At the end of this topic student will able to understand:

- dimensions of self-concept
- Eriksons explanation of the effects of psychosocial
- components of self-concept

- common stressors affecting self-concept and coping strategies

Definition/Overview:

Self-concept or self identity refers to the understanding a sentient being has of itself, as can be expressed in terms of self-assessments that involve persistent attributes. It presupposes but can be distinguished from mere self-consciousness, which is an awareness of one's self.

Key Points:

The self-assessment "I am tired" would normally not be considered part of someone's self-concept, since the attribute of being tired is normally transient. "I am lazy", however, might well be a self-assessment that contributes to someone's self-concept. The requirement of persistence is relative and refers to the being's subjective judgment: it does not imply immutability, and a person's self-concept will generally evolve with time, possibly going through turbulent periods. Components of the self-concept include physical, psychological, and social attributes, which can be influenced by the individual's attitudes, habits, beliefs and ideas. These components and attributes cannot be condensed to the general concepts of self-image and self-esteem.

1. Dimensions Of Self-Concept

Four dimensions of self-concept are self-knowledge, self-expectation, social self, and social evaluation. Self-knowledge is the knowledge that one has about oneself, including insights into one's abilities, nature, and limitations. Self-expectation is what one expects of oneself. It may be a realistic or unrealistic expectation. Social self is how a person is perceived by others and society. Social evaluation is the appraisal of oneself in relationship to others, events, or situations.

2. Eriksons Explanation Of The Effects Of Psychosocial Tasks On Self-Concept And Self-Esteem

A person is not born with a self-concept; rather it develops as a result of social interaction with others. According to Erikson, throughout life people face developmental tasks associated with eight psychosocial stages. The success with which a person copes with these

developmental tasks largely determines the development of self-concept. Difficulty in coping results in self-concept problems at the time and, often, later in life.

3. Components of Self-Concept

- Components of self-concept include personal identity, body image, role performance, and self-esteem.
- Personal identity is the conscious sense of individuality and uniqueness that is constantly evolving throughout life. It includes the individual's identity in terms of name, gender, age, race, ethnic origin or culture, occupation or roles, talents, and other situational characteristics. It also includes beliefs and values, personality, and character. Identity is what distinguishes self from others.
- Body image is the image of the physical self and is how a person perceives the size, appearance, and functioning of the body and its parts. Body image has cognitive aspects (knowledge of the material body) and affective aspects (sensations of the body, such as pain, pleasure, fatigue, and physical movement). Body image also includes clothing, makeup, hairstyle, jewelry, and other things intimately connected to the person as well as prostheses and devices required for functioning. Body image develops partly from others' attitudes and responses and partly from the individual's exploration of the body.
- Role performance relates what a person in a particular role does to the behaviors expected of a role. To act appropriately, people need to know who they are in relation to others and what society expects for the positions they hold. Role mastery means that the person's behaviors meet social expectations. Role development involves socialization into a particular role. Role ambiguity occurs when expectations are unclear and people do not know what to do or how to do it and are unable to predict the reactions of others to their behavior. Failure to master a role creates frustration and feelings of inadequacy, often with the consequent lowered self-esteem. Self-concept is also affected by role strain and role conflicts.
- Self-esteem is one's judgment of one's own worth, that is, how that person's standards and performances compare to others and to one's ideal self. There are two types of self-esteem: global and specific. Global self-esteem is how much one likes oneself as a whole, and specific self-esteem is how much one approves of a certain part of oneself. Self-esteem is derived from self and others. The foundation for self-esteem is established during early life experiences, usually within the family structure. However, an adult's level of overall self-esteem may change markedly from day to day and moment to moment.

4. Common Stressors Affecting Self-Concept And Coping Strategies

- Identity stressors include change in physical appearance; declining physical, mental, or sensory abilities; inability to achieve goals; relationship concerns; sexuality concerns; and unrealistic ideal self.
- Body image stressors include loss of body parts; loss of body functions; disfigurement; and unrealistic body ideal.
- Self esteem stressors include lacking positive feedback from significant others; repeated failures; unrealistic expectations; abusive relationships; loss of financial security.
- Role stressors include loss of parent, spouse, child, or close friend; change or loss of job or other significant role; divorce, illness, ambiguous or conflicting role expectations; inability to meet role expectations.

Topic : Sexuality

Topic Objective:

At the end of this topic student will able to understand:

- sexual development and concerns across the life span
- sexual health
- varieties of sexuality
- family, culture, religion, and personal ethics influence ones sexuality
- changes in males and females during the sexual response cycle

Definition/Overview:

In biology, sex is a process of combining and mixing genetic traits, often resulting in the specialization of organisms into male and female types (or sexes). Sexual reproduction involves combining specialized cells (gametes) to form offspring that inherit traits from both parents. Gametes can be identical in form and function (known as isogametes), but in many cases an asymmetry has evolved such that two sex-specific types of gametes (heterogametes) exist: male gametes are small, motile, and optimized to transport their genetic information over a distance, while female gametes are large, non-motile and contain the nutrients necessary for the early development of the young organism.

An organism's sex is defined by the gametes it produces: males produce male gametes (spermatozoa, or sperm) while females produce female gametes (ova, or egg cells); individual organisms which produce both male and female gametes are termed hermaphroditic. Frequently, physical differences are associated with the different sexes of an organism; these sexual dimorphisms can reflect the different reproductive pressures the sexes experience. In some cases male or (more commonly) female organisms also have the role of caring for offspring through the first part of development.

Key Points:

1. Sexual Development and Concerns across the Life Span

- Birth to 18 months: From birth, infants are assigned the gender of male or female. The infant differentiates self from others gradually. External genitals are sensitive to touch. Male infants have penile erections; females have vaginal lubrication.
- Toddler (13 years): Continues to develop gender identity; able to identify own gender.
- Preschooler (45 years): Becomes increasingly aware of self. Explores own and classmates body parts; learns correct names for body parts; learns to control feelings and behaviors; focuses love on parent of the opposite sex.
- School age (612 years): Has strong identification with parent of same gender; tends to have friends of same gender; has increasing awareness of self; increased modesty; desire for privacy; continues self-stimulating behavior; learns the roles and concepts of own genders as part of the total self-concept; at about 8 or 9 years becomes concerned about specific sex behavior and often approaches parents with explicit concerns about sexuality and reproduction.
- Adolescence (1218 years): Primary and secondary sexual characteristics develop; menarche usually takes place; develops relationships with interested partners; masturbation is common; may participate in sexual activity; may experiment with homosexual relationships; are at risk for pregnancy and sexually transmitted diseases.
- Young adulthood (1849 years): Sexual activity is common; establishes own lifestyle and values; homosexual identity is established by the mid-20s; many couples share financial obligations and household tasks.
- Middle adulthood (4065 years): Men and women experience decreased hormone production; menopause occurs in women, usually anywhere between 4055 years; the climacteric occurs

gradually in men; quality rather the number of sexual experiences becomes important; individuals establish independent moral and ethical standards.

- Late adulthood (65 years and older): Interest in sexual activity often continues; sexual activity may be less frequent; women's vaginal secretions diminish and breasts atrophy; men produce fewer sperm and need more time to achieve an erection and to ejaculate.

2. Sexual health

- The World Health Organization (WHO) defined sexual health in 1975 as the integration of the somatic, emotional, intellectual, and social aspects of sexual being, in ways that are positively enriching and that enhance personality, communication, and love. This definition recognizes the biologic, psychologic, and sociocultural dimensions of sexuality.
- Characteristics of sexual health include: knowledge about sexuality and sexual behavior; ability to express one's full sexual potential, excluding all forms of sexual coercion, exploitation, and abuse; ability to make autonomous decisions about one's sexual life within a context of personal and social ethics; experience of sexual pleasure as a source of physical, psychologic, cognitive, and spiritual well-being; capability to express sexuality through communication, touch, emotional expression, and love; right to make free and responsible reproductive choices; and ability to access sexual health care and treatment for all sexual concerns, problems, and disorders.

3. Varieties of Sexuality

- There are many varieties of sexuality, including sexual orientation, gender identity, and erotic preferences.
- Sexual orientation is one's attraction to people of the same sex, other sex, or both sexes. It lies along a continuum between exclusively heterosexual attraction and exclusively homosexual attraction.
- Western culture is deeply committed to the idea that there are only two sexes. Biologically speaking, there are many gradations of gender identity running from female to male; this is known as transgenderism. In some cases gender is clear, in other cases, there is a blending of both genders within the same individual. Intersex is a condition in which there are contradictions among chromosomal gender, gonadal gender, internal organs, and external genital appearance. The gender of such an infant is ambiguous. Transsexuals have a condition called gender dysphoria (strong and persistent feelings of discomfort with one's assigned

gender) or gender identity disorder. For the transsexual person, sexual anatomy is not consistent with gender identity. Cross-dressers are typically males who cross-dress to express the feminine side of their personality. In most instances they are not interested in permanently altering their bodies through surgical means.

- Sexual fantasies and single-partner sex are the most common sexual outlets for women and men, single and coupled persons, and heterosexual, gay/lesbian, and bisexual persons. Masturbation is the ongoing love affair that each of us has with ourselves throughout our lifetime. Oralgenital sex is known as cunnilingus and involves kissing, licking, or sucking of the female genitals, including the mons pubis, vulva, clitoris, labia, and vagina. Fellatio is oral stimulation of the penis by licking and sucking. Sixty-nine is simultaneous oralgenital stimulation by two persons. Anal stimulation can be a source of sexual pleasure, and stimulation may be applied with fingers, mouth, or sex toys such as vibrators. Genital intercourse is penilevaginal intercourse (coitus). The other form of genital intercourse is anal intercourse in which the penis is inserted into the anus and rectum of the partner. There are many other varieties of sexuality, including several or many partners, nudism, swinging, group sex, fetishism, sexual sadism, and sexual masochism.

4. Family, Culture, Religion, And Personal Ethics Influence Ones Sexuality

Gender identity, body image, sexual self-concepts, and capacity for intimacy are developed within the family. Children observe and model parents. Family messages about sex range from sex is so shameful it shouldn't be talked about to sex is a joyful part of adult relationships. Sexuality is regulated by the individual's culture. Culture influences the sexual nature of dress, rules about marriage, expectations of role behavior and social responsibilities, and specific sex practices. Cultures differ with regard to which body parts they find to be erotic. Female circumcision and male circumcision are culturally related practices. Religion influences sexual expression. It provides guidelines for sexual behavior and acceptable circumstances for the behavior, as well as prohibited sexual behavior and the consequences of breaking the sexual rules. Many religious values conflict with the more flexible values of society. These conflicts create marked anxiety and potential sexual dysfunctions in some individuals. Personal expectations and ethics concerning sexual behavior come from cultural norms. Examples include values regarding masturbation, oral or anal intercourse, and cross-dressing.

5. Physiologic Changes In Males And Females During The Sexual Response Cycle

- Commonly occurring phases of the human sexual response follow a similar sequence in both females and males regardless of sexual orientation. It does not matter if the motive for being sexually active is true love or passionate lust.
- Desire phase: Both: response cycle starts in the brain; sexually (erotic) stimuli may be real or symbolic; sight, hearing, smell, touch, and imagination (sexual fantasy) can all evoke sexual arousal.
- Excitement/plateau: Both: Muscle tension increases as excitement increases. Sex flush, usually on chest. Nipple erection.
- Male: Penile erection; glans size increases as excitement increases. Appearance of a few drops of lubricant, which may contain sperm.
- Female: Erection of the clitoris. Vaginal lubrication. Labia may increase 2 to 3 times in size. Breasts enlarge. Inner two-thirds of vagina widen and lengthens; outer third swells and narrows. Uterus elevates.
- Orgasmic: Both: Respirations may increase to 40 breaths per minute. Involuntary spasms of muscle groups throughout the body. Diminished sensory awareness. Involuntary contractions of the anal sphincter. Peak heart rate (110-180 BPM), respiratory rate (40/min or greater), and blood pressure (systolic 30-80 mm Hg and diastolic 20-50 mm Hg above normal).
- Male: Rhythmic, expulsive contractions of the penis at 0.8-sec intervals. Emission of seminal fluid into the prostatic urethra from contraction of the vas deferens and accessory organs (stage 1 of the expulsive process). Closing of the internal bladder sphincter just before ejaculation to prevent retrograde ejaculation into bladder. Orgasm may occur without ejaculation. Ejaculation of semen through the penile urethra and expulsion from the urethral meatus. The force of ejaculation varies from man to man and at different times but diminishes after the first two to three contractions (stage 2 of the expulsive process).
- Female: Approximately 5-12 contractions in the orgasmic platform at 0.8-sec intervals. Contraction of the muscles of the pelvic floor and the uterine muscles. Varied pattern of orgasms, including minor surges and contractions, multiple orgasms, or a simple intense orgasm similar to that of the male.
- Resolution: Both: Reversal of vasocongestion in 10-30 min; disappearance of all signs of myotonia within 5 min. Genitals and breasts return to their preexcitement states. Sex flush disappears in reverse order of appearance. Heart rate, respiratory rate, and blood pressure

return to normal. Other reactions include sleepiness, relaxation, and emotional outbursts such as crying or laughing.

- Male: A refractory period during which the body will not respond to sexual stimulation; varies, depending on age and other factors, from a few moments to hours or days.

Topic : Spirituality

Topic Objective:

At the end of this topic student will able to understand:

- concepts of spirituality
- characteristics of spiritual health
- spiritual distress and manifestations
- spiritual development of the individual across the life span

Definition/Overview:

Spirituality, in a narrow sense, concerns itself with matters of the spirit, a concept closely tied to religious belief and faith, a transcendent reality, and one or more deities. Spiritual matters are thus those matters regarding humankind's ultimate nature and purpose, not only as material biological organisms, but as beings with a unique relationship to that which is perceived to be beyond both time and the material world.

As such, the spiritual is traditionally contrasted with the material, the temporal and the worldly. A perceived sense of connection forms a central defining characteristic of spirituality connection to a metaphysical reality greater than oneself, which may include an emotional experience of religious awe and reverence, or such states as satori or Nirvana. Equally importantly, spirituality relates to matters of sanity and of psychological health. Spirituality is the personal, subjective dimension of religion, particularly that which pertains to liberation or salvation.

Spirituality may involve perceiving or wishing to perceive life as more important ("higher"), more complex or more integrated with one's world view; as contrasted with the merely sensual. Many spiritual traditions, accordingly, share a common spiritual theme: the "path", "work", practice, or tradition of perceiving and internalizing one's "true" nature and

relationship to the rest of existence (God, creation of the universe, or life), and of becoming free of the lesser egoic self (or ego) in favor of being more fully one's "true" "Self".

Key Points:

An important distinction exists between spirituality in religion and spirituality as opposed to religion. In recent years, spirituality in religion often carries connotations of a believer having a faith more personal, less dogmatic, more open to new ideas and myriad influences, and more pluralistic than the doctrinal/dogmatic faiths of mature religions. It also can connote the nature of believers' personal relationship or "connection" with their god(s) or belief-system(s), as opposed to the general relationship with a Deity as shared by all members of a given faith. Those who speak of spirituality as opposed to religion generally meta-religiously believe in the existence of many "spiritual paths" and deny any objective truth about the best path to follow. Rather, adherents of this definition of the term emphasize the importance of finding one's own path to whatever-god-there-is, rather than following what others say works. In summary: the path which makes the most coherent sense becomes the correct one (for oneself). Many adherents of orthodox religions who regard spirituality as an aspect of their religious experience tend to contrast spirituality with secular "worldliness" rather than with the ritual expression of their religion.

1. Concepts of Spirituality

- Spirituality refers to that part of being human that seeks meaningfulness through intra-, inter-, and transpersonal connection (Reed, 1992). It generally involves a belief in a relationship with some higher power, creative force, divine being, or infinite source of energy. Spirituality includes the following aspects (Martsolf & Mickley, 1998): meaning, value, transcendence, connecting, and becoming. Words or concepts reflective of spirituality, such as faith, courage, cheer, and hope, may be used in ordinary speech when discussing spirituality.
- Religion is an organized system of beliefs and practices. It offers a way of spiritual expression that provides guidance for believers in responding to life's questions and challenges. Organized religions offer a sense of community bound by common beliefs; the collective study of scripture; the performance of ritual; the use of disciplines and practices, commandments, and sacraments; and ways of taking care of the person's spirit.
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2. Characteristics Of Spiritual Health

Spiritual health or spiritual well-being is manifested by a feeling of being generally alive, purposeful, and fulfilled. As defined by the Nursing Outcomes Classification project, it is the connectedness with self, others, higher power, all life, nature and the universe that transcends and empowers the self. lists indicators of spiritual health: uncompromised faith, hope, meaning and purpose of life, achievement of spiritual world, feelings of peacefulness, ability to love, ability to forgive, ability to pray, ability to worship, spiritual experiences, participation in spiritual rites and passages, participation in meditation, participation in spiritual reading, interaction with spiritual leaders, expression through song/music, expression through art, expression through writing, connectedness with inner self, connectedness with others, and interaction with others to share thoughts, feelings, and beliefs.

3. Factors Associated With Spiritual Distress And Manifestations

- Spiritual distress refers to a challenge to the spiritual well-being or to the belief system that provides strength, hope, and meaning to life.
- Some factors that may be associated with or contribute to a persons spiritual distress include physiologic problems, treatment-related concerns, and situational concerns.
- NANDA offers the following as defining characteristics of spiritual distress: expresses lack of hope, meaning and purpose in life, forgiveness of self; expresses being abandoned by or having anger toward God; refuses interaction with friends and family; makes sudden changes in spiritual practices; requests to see a religious leader; and has no interest in nature or reading spiritual literature. No list could be complete, however, considering the complexity and variability of people and their spiritual dimensions.

4. Spiritual Development Of The Individual Across The Life Span

- Just as individuals develop physically, cognitively, and morally, they also develop spiritually.
- Neonates and toddlers (0 to 3 years) are acquiring fundamental spiritual qualities of trust, mutuality, courage, hope, and love. Transition to the next stage of faith begins when the childs language and thought begin to allow use of symbolism.
- The period from age 3 to 7 years is a fantasy-filled, imitative phase when the child can be influenced by examples, moods, and actions. The child relates intuitively to ultimate

conditions of existence through stories, images, and the fusion of facts and feelings. Make-believe is experienced as reality (Santa Claus, God as grandfather in the sky).

- From age 7 to 12 years, and even into adulthood, the child is attempting to sort fantasy from fact by demanding proofs or demonstrations of reality. Stories are important for finding meaning and organizing experience. The child accepts stories and beliefs literally. The child is able to learn the beliefs and practices of the culture and religion.
- By adolescence, experience of the world is beyond the family unit and spiritual beliefs can aid understanding of the extended environment. Adolescents generally conform to the beliefs of those around them. They begin to examine beliefs objectively, especially in late adolescence.
- Young adulthood is characterized by development of a self-identity and worldview differentiated from those of others. Young adults form independent commitments, lifestyles, beliefs, and attitudes. The individual begins to develop personal meaning for symbols of religion and faith.
- During mid-adulthood, the individual has newfound appreciation for the past, increased respect for one's inner voice, and more awareness of myths, prejudices, and images that exist because of social background. The adult in this stage attempts to reconcile contradictions in mind and experience and to remain open to others' truths.
- By mid- to late adulthood, the individual is able to believe in, and live with a sense of participation in, a nonexclusive community. The adult in this stage may work to resolve social, political, economic, or ideological problems in society. The individual is able to embrace life, yet hold it loosely.

People of a more New-Age disposition tend to regard spirituality not as religion per se, but as the active and vital connection to a force/power/energy, spirit, or sense of the deep self. As cultural historian and yogi William Irwin Thompson (1938 -) put it, "Religion is not identical with spirituality; rather religion is the form spirituality takes in civilization." (1981, 103)

For a religious parallel to the approach whereby some see spirituality in everything, compare pantheism. To Christians, referring to one's self as "more spiritual than religious" implies relative deprecation of rules, rituals, and tradition while preferring an intimate relationship with God and/or talking to Him as one's best friend. Their basis for this belief is that Jesus Christ came to free man from those rules, rituals, and traditions, giving them the ability to "walk in the spirit" thus maintaining a "Christian" lifestyle through that one-to-one

relationship with God. Some excellent resources that further explain the "spiritual Christian" are found in the Bible, Gospel of John 4:24 for example, and in the works of Watchman Nee. Nee probes deeply into the building blocks of mankind and derives that we are Spirit, Body and Soul.

Topic : Stress And Coping

Topic Objective:

At the end of this topic student will able to understand:

- concepts of stress as a stimulus, as a response, and as a transaction
- stages of Selyes general adaptation syndrome
- physiologic, psychologic, and cognitive indicators of stress
- levels of anxiety

Definition/Overview:

Stress management encompasses techniques intended to equip a person with effective coping mechanisms for dealing with psychological stress, with stress defined as a person's physiological response to an internal or external stimulus that triggers the fight-or-flight response. Stress management is effective when a person utilizes strategies to cope with or alter stressful situations.

A coping skill is a behavioral tool which may be used by individuals to offset or overcome adversity, disadvantage, or disability without correcting or eliminating the underlying condition. Virtually all living beings routinely utilize coping skills in daily life. These are perhaps most noticeable in response to physical disabilities. An easy example of the use of coping skills in the animal kingdom are three-legged dogs, which typically learn to overcome the obvious disability to become as agile and mobile as their four-legged counterparts, whether born with the disability, or having received it due to an injury. When helping humans deal with specific problems, professional counselors has found that a focus of attention on coping skills (with or without remedial action) often helps individuals. The range of successful coping skills varies widely with the problems to be overcome. However, the learning and practice of coping skills are generally regarded as very helpful to most individuals. Even the sharing of learned coping skills with others is often beneficial. When

coping methods are overused they may actually worsen one's condition. Alcohol, cocaine and other drugs may provide temporary escape from one's problems, but, with excess use, ultimately result in greater problems.

One group of coping skills are coping mechanisms, defined as the skills used to reduce stress. In psychological terms, these are consciously used skills and defense mechanisms are their unconscious counterpart. Overuse of coping mechanisms (such as avoiding problems or working obsessively) and defense mechanisms (such as denial and projection) may exacerbate one's problem rather than remedy it.

Key Points:

1. Concepts of Stress as a Stimulus, As A Response, And As A Transaction

Three main models of stress are stimulus-based, response-based, and transaction-based.

In stimulus-based stress models, stress is defined as a stimulus, a life event, or a set of circumstances that arouses physiologic and/or psychologic reactions that may increase the individuals vulnerability to illness. In this view both positive and negative events are considered Stress may also be considered as a response. This definition was developed and described by Selye (1956, 1976) as the nonspecific response of the body to any kind of demand made upon it. Transaction-based theories are based on the work of Lazarus (1966) who stated that the stimulus and response theories do not consider individual differences. The Lazarus transactional stress theory encompasses a set of cognitive, affective, and adaptive (coping) responses that arise out of person-environment transactions. The person and the environment are inseparable; each affects and is affected by the other. Stress refers to any event in which the environmental demands, internal demands, or both tax or exceed the adaptive resources of an individual, social system, or tissue system.

2. Stages Of Selyes General Adaptation Syndrome

Selyes stress response is characterized by a chain or pattern of physiologic events called the general adaptation syndrome (GAS). The three stages of Selyes general adaptation syndrome are alarm reaction (which is divided into two parts: the shock phase and the countershock phase), stage of resistance, and stage of exhaustion. The initial reaction of the body is the alarm reaction, which alerts the bodys defenses. This stage is divided into two parts; the

shock phase and the countershock phase. During the shock phase, the stressor may be perceived consciously or unconsciously by the person. Stressors stimulate the sympathetic nervous system (SNS), which stimulates the hypothalamus. The hypothalamus releases the corticotrophin releasing hormone (CRH) causing the anterior pituitary to release the adrenocorticotropin hormone (ACTH) which stimulates the adrenal medulla to release epinephrine and norepinephrine. Epinephrine causes increased myocardial contractility, bronchial dilation, increased blood clotting, increased cellular metabolism, and increased fat mobilization. Norepinephrine causes decreased blood to the kidneys and increased secretion of renin, a hormone that produces angiotensin, which increases blood pressure by constricting arterioles. The net effect is that the person is ready for fight or flight. This primary response is short-lived, lasting from 1 minute to 24 hours. The second part of the alarm reaction is the countershock phase, in which the changes produced in the body during the shock phase are reversed. Thus the person is best mobilized to react during the shock phase of the alarm reaction. The stage of resistance is when the body's adaptation takes place. In other words, the body attempts to cope with the stressor and to limit the stressor to the smallest area of the body that can deal with it. During the third stage, the stage of exhaustion, the adaptation that the body made during the second stage cannot be maintained. If adaptation has not overcome the stressor, the stress effect may spread to the entire body. At the end of this stage, the body may either rest and return to normal, or death may be the ultimate consequence. The end of this stage depends largely on the adaptive energy resources of the individual, the severity of the stressor, and the external adaptive resources that are provided.

3. Physiologic, Psychologic, and Cognitive Indicators Of Stress

- Indicators of stress may be physiologic, psychologic, or cognitive.
- Physiologic indicators of stress are listed in Clinical Manifestations: Stress. Pupils dilate, sweat production increases, heart rate and cardiac output increase, skin is pallid, sodium and water are retained, rate and depth of respiration increase, urinary output decreases, the mouth may be dry, peristalsis of the intestines decreases; for serious threats, mental alertness improves, and blood sugar increases.
- Psychologic manifestations of stress include anxiety, fear, anger, depression, and unconscious ego defense mechanisms.
- Cognitive indicators of stress are thinking responses that include problem solving (thinking through threatening situations using specific steps to arrive at a solution), structuring

(arranging or manipulating of a situation so that threatening events do not occur), self-control or self-discipline (assuming a manner and facial expression that convey a sense of being in control or in charge), suppression (consciously or willfully putting thoughts or feelings out of mind), and fantasy or daydreaming (likened to make-believe; unfulfilled wishes or desires are imagined as fulfilled or a threatening situation is reworked or replayed so it ends differently from reality).

4. Levels Of Anxiety

- The four levels of anxiety are mild, moderate, severe, and panic.
- Indicators of mild anxiety include increased questioning, mild restlessness, sleeplessness, feelings of increased arousal and alertness, and the use of learning to adapt.
- Indicators of moderate anxiety include voice tremors and pitch changes; tremors, facial twitches, and shakiness; increased muscle tension; narrowed focus of attention; ability to focus but selectively inattentive; slightly impaired learning; slightly increased respiratory and heart rate; and mild gastric symptoms.
- Indicators of severe anxiety include communication that is difficult to understand, increased motor activity, inability to relax, fearful facial expression, inability to focus or concentrate, easily distracted, severely impaired learning, tachycardia, hyperventilation, headache, dizziness, and nausea.
- Indicators of panic include communication that may not be understandable, increased motor activity, agitation, unpredictable responses, trembling, poor motor coordination, perception distorted or exaggerated, inability to learn or function, dyspnea, palpitations, choking, chest pain or pressure, feeling of impending doom, paresthesia, and sweating.

In Section 5 of this course you will cover these topics:

- Loss, Grieving And Death
- Activity And Exercise
- Rest
- Pain Management
- Nutrition
- Urinary Elimination
- Fecal Elimination
- Oxygenation
- Circulation

Fluid, Electrolyte, And Acid-Base Balance

Topic : Loss, Grieving And Death

Topic Objective:

At the end of this topic student will able to understand:

- types and sources of losses
- frameworks for identifying stages of grieving
- clinical symptoms of grief
- affecting a grief response

Definition/Overview:

Grief is a multi-faceted response to loss. Although conventionally focused on the emotional response to loss, it also has physical, cognitive, behavioral, social, and philosophical dimensions. Common to human experience is the death of a loved one, whether it be a friend, family, or other close companion. While the terms are often used interchangeably, bereavement often refers to the state of loss, and grief to the reaction to loss. Losses can range from loss of employment, pets, status, a sense of safety, order, or possessions, to the loss of loved ones. Our response to loss is varied and researchers have moved away from conventional views of grief (that is, that people move through an orderly and predictable series of responses to loss) to one that considers the wide variety of responses that are influenced by personality, family, culture, and spiritual and religious beliefs and practices.

Bereavement, while a normal part of life for us all, carries a degree of risk when limited support is available. Severe reactions to loss may carry over into familial relations and cause trauma for children, spouses and any other family members: there is an increased risk of marital breakup following the death of a child, for example. Issues of personal faith and beliefs may also face challenge, as bereaved persons reassess personal definitions in the face of great pain. While many who grieve are able to work through their loss independently, accessing additional support from bereavement professionals may promote the process of healing. Grief counseling, professional support groups or educational classes, and peer-led support groups are primary resources available to the bereaved. In the United States, local hospice agencies may be an important first contact for that seeking bereavement support. Death is the cessation of the biological functions that define living organisms. Numerous

factors can cause death: predation, disease, habitat destruction, senescence, conflict, malnutrition, for example, or mere accidents resulting in terminal physical injury. Principal cause of death in people in developed countries is disease precipitated by aging. The chief concern of medicine has been to postpone and avert death. Precise medical definition of death, however, becomes more problematical, paradoxically, as scientific knowledge and technology advance.

Key Points:

Many studies have looked at the bereaved in terms of increased risks for stress-related illnesses. Colin Murray Parkes in the 1960s and 1970s in England noted increased doctor visits, with symptoms such as abdominal pain, breathing difficulties, and so forth in the first six months following a death. Others have noted increased mortality rates (Ward, A.W. 1976) and Bunch et al found a five times greater risk of suicide in teens following the death of a parent. Grief puts a great stress on the physical body as well as on the psyche, resulting in wear and tear beyond what is normal. Complicated grief can be differentiated from normal grief. Normal grief typically involves at least two of Elisabeth Kubler-Ross' five grief stages, though not necessarily in any order. While the experience of grief is a very individual process depending on many factors, certain commonalities are often reported. Nightmares, appetite problems, dryness of mouth, shortness of breath, sleep disorders, and repetitive motions to avoid pain are often reported by people experiencing normal grief. Even hallucinatory experiences may be normal early in grief.

1. Types And Sources Of Losses

- There are two general types of loss: actual and perceived. An actual loss can be recognized by others. A perceived loss is experienced by one person but cannot be verified by others. Psychological losses are often perceived losses in that they are not directly verifiable.
- Both losses can be anticipatory. Anticipatory loss is experienced before the loss actually occurs.
- Loss can be viewed as situational or developmental. Examples of situational losses include the loss of one's job, the death of a child, or the loss of functional ability because of acute illness or injury. Developmental losses occur in the process of normal development, such as the departure of children from the home, or retirement from a career.

- There are many sources of loss: (a) loss of an aspect of oneself a body part, a physiologic function, or a psychologic attribute; (b) loss of an object external to oneself; (c) separation from an accustomed environment; and (d) loss of a loved one or valued person.

Complicated grief typically cycles through these five stages and then some, processing them out of order and often much more rapidly. Examples of complicated grief can often be found in those who have survived a suicide attempt (Hsu, 2002). Complicated grief responses almost always are a function of intensity and timing: a grief that after a year or two begins to worsen, accompanied by unusual behaviors, is a warning sign. Complicated grief is usually grief where the story of the loss is in some ways difficult to tell. Deaths such as suicides, murders, accidents, and other sudden and unexpected deaths can result in complicated grief due to the sudden shock. The surprise makes it difficult to integrate the "story" of the loss, so the person struggles with an initial task of simply believing that the loss has occurred. Variables surrounding the death such as expectedness, naturalness, presence of violence, ambivalence, degree of attachment, and others play into the presence of complicated grief. All too often complicated grief can last for years and most people (friends of the mourner) will recoil when hearing that this sort of grief may still be present after several years.

2. Frameworks for Identifying Stages Of Grieving

- Many authors have described stages or phases of grieving. Kbler-Ross (1969) described five stages: denial, anger, bargaining, depression, and acceptance. Engel (1964) identified six stages of grieving: shock and disbelief, developing awareness, restitution, resolving the loss, idealization, and outcome. Sanders (1998) described five phases of bereavement: shock, awareness, conservation/withdrawal, healing, and renewal. Martocchio (1985) described five clusters of griefshock and disbelief; yearning and protest; anguish, disorganization and despair; identification in bereavement; and reorganization and restitution and maintained that there is no single correct way, nor a correct timetable, by which a person progresses through the grief process.
- Rando (1991, 1993, 2000) has described three categories of responses: avoidance, confrontation, and accommodation. Avoidance is similar to Kbler-Ross's phases of denial, anger, and bargaining and Engel's phase of shock and disbelief. Confrontation is the most upsetting phase for the grieving person facing the loss. Accommodation is the phase in which the person begins to resume more usual activities, feels better, and places the loss in perspective.

Additionally, there is a clinical problem of becoming "identified" with the grief. In this situation, mourners are reluctant to release the grief because grieving has been integrated as part of their identity. Reporting in the journal *NeuroImage* (May 10, 2008, online), scientists suggest that complicated grief activates neurons in the reward centers of the brain, possibly giving these memories addiction-like properties. The authors found activity in the nucleus accumbens, a region of the brain most commonly associated with reward and one that has also been shown to play a role in social attachment, such as sibling and maternal affiliation. In animals, small movements of the limbs (for example twitching legs or wings) known as a postmortem spasm can sometimes be observed following death. Pallor mortis is a postmortem paleness which accompanies death due to a lack of capillary circulation throughout the body. Algor mortis describes the predictable decline in body temperature until ambient temperature is reached. Within a few hours of death rigor mortis is observed with a chemical change in the muscles, causing the limbs of the corpse to become stiff (Latin rigor) and difficult to move or manipulate. Assuming mild temperatures, full rigor occurs at about 12 hours, eventually subsiding to relaxation at about 36 hours; however, decomposition is not always a slow process. Fire, for example, is the primary mode of decomposition in most grassland ecosystems.

3. Clinical Symptoms Of Grief

Physiologically, the body responds to a current or anticipated loss with a stress reaction. The nurse can assess the clinical signs of this response. Manifestations of grief that would be considered normal include verbalization of the loss, crying, sleep disturbance, loss of appetite, and difficulty concentrating. Complicated grieving may be characterized by extended time of denial, depression, severe physiologic symptoms, or suicidal thoughts.

Some organisms have hard parts such as shells or bones which may fossilize before decomposition can occur. Fossils are the mineralized or otherwise preserved remains or traces (such as footprints) of animals, plants, and other organisms. Fossils vary in size from microscopic, such as single cells, to gigantic, such as dinosaurs. A fossil normally preserves only a small portion of the deceased organism, usually that portion that was partially mineralized during life, such as the bones and teeth of vertebrates, or the chitinous exoskeletons of invertebrates. Preservation of soft tissues, such as in mummification, is extremely rare in the fossil record.

4. Factors Affecting A Grief Response

- A number of factors affect a persons responses to a loss or death: age, significance of the loss, culture, spiritual beliefs, gender, socioeconomic status, support systems, and the cause of loss or death.
- Age affects a persons understanding of and reaction to loss. With familiarity, people usually increase their understanding and acceptance of life, loss, and death.
- Significance of the loss depends on the perception of the individual experiencing the loss. A number of factors affect the significance: importance of the lost person, object, or function; degree of change required because of the loss; and the persons beliefs and values.
- Culture influences an individuals reaction to the loss. How grief is expressed is often determined by the customs of the culture.
- Spiritual beliefs greatly influence both a persons reaction to loss and subsequent behavior. Most religious groups have practices related to dying, and these are often important to the client and support people.
- Gender roles affect reactions at times of loss. Men are frequently expected to be strong and show very little emotion during grief, whereas it is acceptable for women to show grief by crying. Gender role also affects the significance of body image changes to clients.
- Socioeconomic status often affects the support system available at the time of a loss. A pension plan or insurance can offer a widowed or disabled person a choice of ways to deal with a loss. A person who is confronted with both severe loss and economic hardship may not be able to cope with either.
- The people closest to the grieving individual are often the first to recognize and provide emotional, physical, and functional assistance; however, some individuals feel uncomfortable or inexperienced in dealing with losses and may withdraw from the grieving person. In addition, support may be available when the loss first occurs, but as the support people return to usual activities, the ongoing need for support may be unmet. Also, the grieving person may be unable or unready to accept support.
- Individual and societal views on the cause of a loss or death may significantly influence the grief response. Some diseases are considered clean and engender compassion, whereas others may be viewed as repulsive and less unfortunate. A loss or death that is beyond the control of those involved may be more acceptable than one that is preventable, such as a drunk driving accident. Injuries or deaths occurring during respected activities such as in the line of duty are

considered honorable, whereas those occurring during illicit activities may be considered the individuals just rewards.

Topic : Activity And Exercise

Topic Objective:

At the end of this topic student will able to understand:

- elements of normal movement
- isotonic, isometric, isokinetic, aerobic, and anaerobic exercise
- exercise and immobility on body systems

Definition/Overview:

Action has developed into a sub-field called philosophy of action. Action is what an agent can do. For example, throwing a ball is an instance of action; it involves an intention, a goal, and a bodily movement guided by the agent. On the other hand, catching a cold is not considered an action because it is something which happens to a person, not something done by one. Generally an agent doesn't intend to catch a cold or engage in bodily movement to do so (though we might be able to conceive of such a case). Other events are less clearly defined as actions or not. For instance, distractedly drumming ones fingers on the table seems to fall somewhere in the middle. Deciding to do something might be considered a mental action by some. However, others think it is not an action unless the decision is carried out.

Unsuccessfully trying to do something might also not be considered an action for similar reasons (for e.g. lack of bodily movement). It is contentions whether believing, intending, and thinking are actions since they are mental events. A physical exercise is a bodily activity that develops and maintains physical fitness and overall health. It is often practiced to strengthen muscles and the cardiovascular system, and to hone athletic skills. Frequent and regular physical exercise boosts the immune system, and helps prevent diseases of affluence such as heart disease, cardiovascular disease, Type 2 diabetes and obesity. It also improves mental health and helps prevent depression.

Key Points:

Some would prefer to define actions as requiring bodily movement. The side-effects of actions are considered by some to be part of the action; in an example from Anscombe's manuscript *Intention*, pumping water can also be an instance of poisoning the inhabitants. This introduces a moral dimension to the discussion. If the poisoned water resulted in a death, that death might be considered part of the action of the agent that pumped the water. Whether a side-effect is considered part of an action is especially unclear in cases in which the agent isn't aware of the possible side effects. For example, an agent that accidentally cures a person by administering a poison he was intending to kill him with.

A primary concern of philosophy of action is to analyze the nature of actions and distinguish them from similar phenomena. Other concerns include individuating actions, explaining the relationship between actions and their effects, explaining how an action is related to the beliefs and desires which cause and/or justify it, as well as examining the nature of agency. A primary concern is the nature of free will and whether actions are determined by the mental states that precede them. Some philosophers (for e.g. Donald Davidson) have argued that the mental states the agent invokes as justifying his action are physical states that cause the action. Problems have been raised for this view because the mental states seem to be reducing to mere physical causes. Their mental properties don't seem to be doing any work. If the reasons an agent cites as justifying his action, however, are not the cause of the action, they must explain the action in some other way or be causally impotent.

1. Four Basic Elements Of Normal Movement

- Body movement requires coordinated muscle activity and neurologic integration. It involves four basic elements: body alignment (posture), joint mobility, balance, and coordinated movement.
- Proper body alignment and posture bring body parts into position in a manner that promotes optimal balance and maximal body function whether the client is standing, sitting, or lying down. A person maintains balance as long as the line of gravity (an imaginary vertical line drawn through the body's center of gravity) passes through the center of gravity (the point at which all the body's mass is centered) and the base of support (the foundation on which the body rests).

- Range of motion (ROM) of a joint is the maximum movement that is possible for that joint. ROM varies from individual to individual and is determined by genetic makeup, developmental patterns, the presence or absence of disease, and the amount of physical activity in which the person normally engages.
- The mechanisms involved in maintaining balance and posture are complex and involve informational inputs from the labyrinth (inner ear), from vision (vestibulo-ocular input), and from stretch receptors of muscles and tendons (vestibulospinal input). Mechanisms of equilibrium respond, frequently without awareness. Proprioception is the term used to describe awareness of posture, movement, and changes in equilibrium and the knowledge of position, weight, and resistance of objects in relation to the body.
- Balanced, smooth, purposeful movement is the result of proper functioning of the cerebral cortex, cerebellum, and basal ganglia. The cerebral cortex initiates voluntary movement; the cerebellum coordinates motor activity; and the basal ganglia maintain posture.

Physical exercise is important for maintaining physical fitness and can contribute positively to maintaining healthy weight, building and maintaining healthy bone density, muscle strength, and joint mobility, promoting physiological well-being, reducing surgical risks, and strengthening the immune system.

Frequent and regular aerobic exercise has been shown to help prevent or treat serious and life-threatening chronic conditions such as high blood pressure, obesity, heart disease, Type 2 diabetes, insomnia, and depression. Strength training appears to have continuous energy-burning effects that persist for about 24 hours after the training, though they do not offer the same cardiovascular benefits as aerobic exercises do. Exercise can also increase energy and raise one's threshold for pain. There is conflicting evidence as to whether vigorous exercise (more than 70% of VO₂ Max) is more or less beneficial than moderate exercise (40 to 70% of VO₂ Max). Some studies have shown that vigorous exercise executed by healthy individuals can effectively increase opioid peptides (aka endorphins, a naturally occurring opiate that in conjunction with other neurotransmitters is responsible for exercise induced euphoria and has been shown to be addictive), positively influence hormone production (i.e., increase testosterone and growth hormone), benefits that are not as fully realized with moderate exercise.

2. Isotonic, Isometric, Isokinetic, Aerobic, And Anaerobic Exercise

- Isotonic (dynamic) exercises are those in which the muscle shortens to produce muscle contraction and active movement. Isotonic exercises increase muscle tone, mass, and strength and maintain joint flexibility and circulation. During isotonic exercise, both heart rate and cardiac output quicken to increase blood flow to all parts of the body. Most physical conditioning exercises (e.g., running and walking) are isotonic ADLs and active ROMs.
- Isometric (static or setting) exercises are those in which there is muscle contraction without moving the joint (muscle length does not change). These exercises involve exerting pressure against a solid object. Isometric exercises produce a mild increase in heart rate and cardiac output but no apparent increase in blood flow to other parts of the body. Isometric exercises are useful for strengthening abdominal, gluteal, and quadriceps muscles used for walking; strengthening muscles immobilized in casts or by traction; and for endurance training.
- Isokinetic (resistive) exercises involve muscle contraction or tension against resistance. Thus, they can be either isotonic or isometric. During isokinetic exercises, the person moves (isotonic) or tenses (isometric) against resistance. An increase in blood pressure and blood flow to muscles occurs with resistance training. Isokinetic exercises are done for physical conditioning and to build up certain muscle groups.
- Aerobic exercise is activity during which the amount of oxygen taken in the body is greater than that used to perform the activity. Aerobic exercises improve cardiovascular conditioning and physical fitness.
- Anaerobic exercise involves activity in which the muscles cannot draw enough oxygen from the bloodstream, and anaerobic pathways are used to provide additional energy for a short time. This type of exercise is used in endurance training for athletes, such as weight lifting and sprinting.

3. Effects Of Exercise And Immobility On Body Systems

- The effects of exercise on the musculoskeletal system include maintenance of the size, shape, tone, and strength of muscles (including the heart muscle). Since joints lack a discrete blood supply, it is through activity that joints receive nourishment. Exercise also increases joint flexibility, stability, and ROM. Bone density and strength is maintained through weight bearing. The effects of immobility include disuse osteoporosis, disuse atrophy, contractures, and stiffness and pain in the joints.

- The effects of adequate moderate-intensity exercise on the cardiovascular system include increases in the heart rate, the strength of the heart muscle contraction, and the blood supply to the heart and muscles through increased cardiac output. Exercise also promotes heart health by mediating the harmful effects of stress. The effects of immobility include diminished cardiac reserve, increased use of the Valsalva maneuver, orthostatic (postural) hypotension, venous vasodilation and stasis, dependent edema, and thrombus formation.
- The effects of exercise on the respiratory system include an increase in ventilation and oxygen intake during exercise, thereby improving gas exchange. Adequate exercise also prevents pooling of secretions in the bronchi and bronchioles, decreasing the breathing effort and the risk of infection. Exercising the muscles of respiration (deep breathing) throughout activity as well as rest enhances oxygenation improving stamina and circulation of lymph improving immune function. The effects of immobility include decreased respiratory movement, pooling of respiratory secretions, atelectasis, and hypostatic pneumonia.
- The effects of exercise on the metabolic/endocrine system include elevation of the metabolic rate, thus increasing the production of body heat and waste products and calorie use. Exercise increases use of triglycerides and fatty acids, resulting in a decreased level of triglycerides and cholesterol. Weight loss and exercise stabilize blood sugar and make cells more responsive to insulin. The effects of immobility include decreased metabolic rate, negative nitrogen balance, anorexia, and negative calcium balance.
- The effects of exercise on the gastrointestinal system include improved appetite and increased gastrointestinal tract tone, facilitating peristalsis. The effects of immobility include constipation.
- The effects of exercise on the urinary system include promotion of blood flow to the kidneys, causing body wastes to be excreted more effectively. In addition, stasis (stagnation) of urine in the bladder is usually prevented. The effects of immobility include urinary stasis, renal calculi, urinary retention, and urinary infection.
- The effects of exercise on the immune system include more efficient pumping of lymph fluid from tissues into lymph capillaries and vessels throughout the body and increased circulation through lymph nodes where destruction of pathogens and removal of foreign antigens can occur. Although moderate exercise seems to enhance immunity, strenuous exercise may reduce immune function, leaving a window of opportunity for infection during the recovery phase.
- According to a strong and growing body of evidence, the effects of exercise on the psychoneurologic system include elevating mood and relieving stress and anxiety across the

life span. Regular exercise also improves quality of sleep for most individuals. The effects of immobility include a decline in mood-elevating substances. In addition, perception of time intervals deteriorates, problem-solving and decision-making abilities may deteriorate, and loss of control over events can cause anxiety.

- Current research supports the positive effects of exercise on cognitive functioning, in particular decision-making and problem-solving processes, planning, and paying attention. Physical exertion induces cells in the brain to strengthen and build neuronal connections.
- There is evidence that a program of Pilates, yoga-style exercise, slow walking a labyrinth (circular mandala) improves spiritual health and alters heart, blood pressure, and respiratory rates.
- The effects of immobility on the integumentary system include reduced skin turgor and skin breakdown.

Exercise has been shown to improve cognitive functioning via improvement of hippocampus-dependent spatial learning, and enhancement of synaptic plasticity and neurogenesis. In addition, physical activity has been shown to be neuroprotective in many neurodegenerative and neuromuscular diseases. For instance, it reduces the risk of developing dementia. Furthermore, anecdotal evidence suggests that frequent exercise may reverse alcohol-induced brain damage. Physical activity is thought to have other beneficial effects related to cognition as it increases levels of nerve growth factors, which support the survival and growth of a number of neuronal cells.

Both aerobic and anaerobic exercise also work to increase the mechanical efficiency of the heart by increasing cardiac volume (aerobic exercise), or myocardial thickness (strength training). Not everyone benefits equally from exercise. There is tremendous variation in individual response to training: where most people will see a moderate increase in endurance from aerobic exercise, some individuals will as much as double their oxygen uptake, while others will never get any benefit at all from the exercise. Similarly, only a minority of people will show significant muscle growth after prolonged weight training, while a larger fraction experience improvements in strength. This genetic variation in improvement from training is one of the key physiological differences between elite athletes and the larger population. Studies have shown that exercising in middle age leads to better physical ability later in life.

Topic : Rest**Topic Objective:**

At the end of this topic student will able to understand:

- functions and the physiology of sleep
- characteristics of the sleep states: NREM and REM sleep
- variations in sleep patterns throughout the life span
- factors that affect normal sleep

Definition/Overview:

Leisure or free time, is a period of time spent out of work and essential domestic activity. It is also the period of recreational and discretionary time before or after compulsory activities such as eating and sleeping, going to work or running a business, attending school and doing homework, household chores, and day-to-day stress. The distinction between leisure and compulsory activities is loosely applied, i.e. people sometimes do work-oriented tasks for pleasure as well as for long-term utility.

For an experience to qualify as leisure, it must meet three criteria: 1) The experience is a state of mind. 2) It must be entered into voluntarily. 3) It must be intrinsically motivating of its own merit.

Key Points:

Active leisure activities involve the exertion of physical or mental energy. Low-impact physical activities include walking and yoga, which expend little energy and have little contact or competition. High-impact activities such as kick-boxing and soccer consume much energy and are competitive. Some active leisure activities involve almost no physical activity, but do require a substantial mental effort, such as playing chess or painting a picture. Active leisure and recreation overlap significantly. Passive leisure activities are those in which a person does not exert any significant physical or mental energy, such as going to the cinema, watching television, or gambling on slot machines. Some leisure experts discourage these types of leisure activity, on the grounds that they do not provide the benefits offered by active leisure activities. For example, acting in a community drama (an active leisure activity) could

build a person's skills or self-confidence. Nevertheless, passive leisure activities are a good way of relaxing for many people. People who work indoors and spend most of their time sitting and doing sedentary office work can add physical activity to their lives by doing sports during their leisure time, such as playing a ball game, going camping, hiking or fishing. On the other hand, people whose jobs involve a lot of physical activity may prefer to spend their free time doing quiet, relaxing activities, such as reading books or magazines or watching TV. Some people find that collecting stamps, postcards, badges, model cars or ships, bottles, or antiques is a relaxing hobby. Free time is organized in many schools and institutions. Schools offer many extracurricular activities including hobby groups, sports activities, and choirs. Other institutions such as retirement homes and hospitals also offer activities such as clubs and meetings for playing games.

1. Functions AndThe Physiology Of Sleep

- Sleep is an altered state of consciousness in which the individuals perception of and reaction to the environment are decreased.
- The cyclic nature of sleep is thought to be controlled by centers located in the lower part of the brain. Neurons within the reticular formation, located in the brain stem, integrate sensory information from the peripheral nervous system and relay the information to the cerebral cortex. The upper part of the reticular formation, called the reticular activating system (RAS), is involved with the sleepwake cycle. An intact cerebral cortex and reticular formation are necessary for the regulation of sleep and waking states.
- Neurotransmitters affect the sleepwake cycle. Serotonin is thought to lessen the response to sensory stimulation and gamma-aminobutyric acid (GABA) to shut off the activity in the neurons of the RAS. Acetylcholine, released in the reticular formation, dopamine, in the midbrain, and noradrenalin, in the pons, are associated with cerebral cortical arousal.
- Another key factor to sleep is exposure to darkness. Darkness and preparing for sleep causes a decrease in the stimulation of the RAS. The pineal gland begins to actively secrete the hormone melatonin and the person feels less alert. During sleep the growth hormone is secreted and cortisol is inhibited.
- Sleep is a complex biological rhythm. When a persons biological clock coincides with the sleepwake cycle, the person is said to be in circadian synchronizationthe person is awake when the body temperature is highest and asleep when the body temperature is lowest.

Circadian rhythm regularly begins to develop by the sixth week of life and by 3 to 6 months most infants have a regular sleepwake cycle.

- The effects of sleep are not completely known. Sleep exerts physiologic effects on both the nervous system and other body structures. Sleep in some way restores normal levels of activity and normal balance among parts of the nervous system. Sleep is necessary for protein synthesis. The role of sleep in psychological well-being is best noticed by the deterioration in mental functioning related to sleep loss. With inadequate amounts of sleep, people tend to become emotionally irritable, have poor concentration, and experience difficulty making decisions.

Most people like socializing with friends for dinner or a drink after a hard day at work. For many young people, having a regular night out a week is a normal part of their free time, whether it is joining friends for a drink in a pub, dining out in a restaurant, watching a film, playing video games or dancing the night away at a club. Some people do leisure activities that also have a longer-term goal. In some cases, people do a leisure activity that they hope to turn into a full-time activity (e.g., volunteer paramedics who hope to eventually become professional paramedics). Many people also study part-time in evening university or college courses, both for the love of learning, and to help their career prospects.

2. Characteristics Of The Sleep States: NREM And REM Sleep

- Sleep architecture refers to the basic organization of normal sleep. There are two types of sleep: NREM (non-rapid-eye movement) and REM (rapid-eye movement). During sleep, NREM and REM sleep alternate in cycles.
- NREM sleep occurs when activity in the RAS is inhibited. It constitutes about 75% to 80% of sleep and consists of four stages.
- Stage I is the stage of very light sleep and lasts only a few minutes. The person feels drowsy and relaxed, eyes roll from side to side, and the heart and respiratory rates drop slightly. The sleeper can be readily awakened and may deny having been sleeping.
- Stage II is the stage of light sleep during which the body processes continue to slow down. The eyes are generally still, the heart and respiratory rates decrease slightly, and the body temperature falls. This stage lasts only about 10 to 15 minutes but constitutes 44% to 55% of total sleep. More intense stimuli is required to awaken the person.
- Stages III and IV are the deepest stages of sleep, differing only in the percentage of delta waves recorded during a 30-second period. During delta sleep or deep sleep, the sleepers

heart and respiratory rates drop 20% to 30% below those exhibited during waking hours. The sleeper is difficult to arouse and is not disturbed by sensory stimuli. Skeletal muscles are very relaxed, reflexes are diminished, and snoring is most likely to occur. Even swallowing and saliva production are reduced. These stages are essential for restoring energy and releasing important growth hormones.

- Physiologic changes that occur in NREM sleep include: arterial blood pressure falls; pulse rate decreases; peripheral blood vessels dilate; cardiac output decreases; skeletal muscles relax; basal metabolism rate decreases 10-30%; growth hormone levels peak; and intracranial pressure decreases.
- REM sleep usually occurs every 90 minutes and lasts 5 to 10 minutes. Most dreams take place during REM sleep. The brain is highly active, and brain metabolism may increase as much as 20%. Acetylcholine and dopamine are released. Distinctive eye movements occur, voluntary muscle tone is dramatically decreased, and deep tendon reflexes are absent. The sleeper may be difficult to arouse or may wake spontaneously, gastric secretions increase, and heart and respiratory rates often are irregular. It is thought that the regions of the brain that are used in learning, thinking, and organizing information are stimulated during REM sleep.

3. Variations in Sleep Patterns throughout The Life Span

- Newborns sleep 16 to 18 hours a day, on an irregular schedule with periods of 1 to 3 hours spent awake. They enter REM sleep immediately and spend nearly 50% of their time in each of NREM and REM sleep states. The sleep cycle is about 50 minutes.
- At first, infants awaken every 3 to 4 hours, eat, and then go back to sleep. Periods of wakefulness gradually increase during the first months. By 6 months, most infants sleep through the night and begin to establish a pattern of daytime naps. At the end of the first year, an infant usually takes two naps per day and should get about 14 to 15 hours of sleep in 24 hours. About half of the infants sleep time is spent in light sleep.
- Toddlers (1 to 3 years of age) require 12 to 14 hours of sleep. Most still need an afternoon nap but the need for midmorning naps gradually decreases. Nighttime fears and nightmares are also common.
- The preschool child (3 to 5 years of age) requires 11 to 13 hours of sleep per night, particularly if the child is in preschool. Sleep needs fluctuate in relation to activity and

growth spurts. The school-age child (5 to 12 years of age) needs 10 to 11 hours of sleep, but most receive less because of increasing demands.

- Adolescents (12 to 18 years of age) require 9 to 10 hours of sleep each night; however, few actually get that much sleep. As children reach adolescence, their circadian rhythms tend to shift. The natural tendency for teenagers is to stay up late at night and wake up later in the morning.
- Most healthy adults need 7 to 9 hours of sleep; however, there is individual variation. Some adults may be able to function well with 6 hours of sleep, and others may need 10 hours to function optimally.
- A hallmark change with age is a tendency toward earlier bedtime and wake times. Older adults (65 to 75 years) usually awaken 1.3 hours earlier and go to bed approximately 1 hour earlier than younger adults (20 to 30 years). They may show an increase in disturbed sleep that can create a negative impact on their quality of life, mood, and alertness. Although the ability to sleep becomes more difficult, the need to sleep does not decrease with age.

4. Factors That Affect Normal Sleep

Factors that affect normal sleep include illness, environment, lifestyle, emotional stress, stimulants and alcohol, diet, smoking, motivation, and medications. Illness that causes pain or physical distress can result in sleep problems. People who are ill require more sleep than normal and the normal rhythm of sleep and wakefulness are often disturbed. Any change in environment can inhibit sleep. In addition, noise, room temperature, size and comfort of the bed, snoring of partner, for example, may alter sleep.

Lifestyle factors such as irregular schedules, time of day when a person exercises, and stress may alter sleep. Emotional stress is the number one cause of short-term sleeping difficulty due to inability to relax sufficiently. The amount of norepinephrine is increased leading to less deep sleep and REM sleep and more stage changes and awakening. Stimulants such as caffeine-containing stimulate the CNS and may inhibit sleep. Alcohol disrupts REM sleep but hastens the onset of sleep. Weight gain is associated with decreased total sleep time as well as broken sleep and earlier awakening. Weight loss is associated with increased total sleep time and less broken sleep. L-tryptopan, found in cheese and milk, may induce sleep. Nicotine is a stimulant and smokers have more difficulty falling asleep and are easily aroused. Motivation can increase alertness but not sufficiently to overcome circadian rhythm and also cannot

overcome sleepiness associated with insufficient sleep. Some medications affect quality of sleep.

Topic : Pain Management

Topic Objective:

At the end of this topic student will able to understand:

- physiological and neuropathic pain categories
- processes involved in nociception
- physical, mental, spiritual, and social aspects of pain
- theory and its application to nursing care

Definition/Overview:

Pain management (also called pain medicine) is the medical discipline concerned with the relief of pain. Pain management generally benefits from a multidisciplinary approach that includes pharmacologic measures (analgesics such as narcotics or NSAIDs and pain modifiers such as tricyclic antidepressants or anticonvulsants), non-pharmacologic measures (such as interventional procedures, physical therapy and physical exercise, application of ice and/or heat), and psychological measures (such as biofeedback and cognitive therapy). The World Health Organization (WHO) recommended a pain ladder for managing analgesia which was first described for usage in cancer pain, but can be used by medical professionals as a general principle when dealing with analgesia for any type of pain.

Pain management practitioners come from all fields of medicine. Most often, pain fellowship trained physicians are anesthesiologists, neurologists, physiatrists or psychiatrists. Some practitioners focus more on the pharmacologic management of the patient, while others are very proficient at the interventional management of pain. Interventional procedures - typically used for chronic back pain - include: epidural steroid injections, facet joint injections, neurolytic blocks, Spinal Cord Stimulators and intrathecal drug delivery system implants, etc. Over the last several years the number of interventional procedures done for pain has grown to a very large number.

Key Points:

Acute pain, such pain resulting from trauma, often has a reversible cause and may require only transient measures and correction of the underlying problem. In contrast, chronic pain often results from conditions that are difficult to diagnose and treat, and that may take a long time to reverse. Some examples include cancer, neuropathy, and referred pain. Often, pain pathways (nociceptors) are set up that continue to transmit the sensation of pain even though the underlying condition or injury that originally caused pain has been healed. In such situations, the pain itself is frequently managed separately from the underlying condition of which it is a symptom, or the goal of treatment is to manage the pain with no treatment of any underlying condition (e.g. if the underlying condition has resolved or if no identifiable source of the pain can be found).

As well as medical practitioners, the area of pain management may often benefit from the input of Physiotherapists, Chiropractors, Clinical Psychologists and Occupational therapists, amongst others. Together the multidisciplinary team can help create a package of care suitable to the patient. One of the pain management modalities are trigger point injections and nerve blocks utilizing long acting anesthetics and small doses of steroids.

1. Physiological And Neuropathic Pain Categories

- Physiological pain is experienced when an intact, properly functioning nervous system signals that tissues are damaged, requiring attention and proper care. This type of pain may be transient (for example, pain from a cut or broken bone) if the cause of the pain is eliminated, or it may be persistent if it is not possible to eliminate the cause of the pain (for example, pain from loss of the protective cartilage in the joints as in osteoarthritis). Subcategories of physiological pain include somatic (originates in the skin, muscles, bone, or connective tissue) and visceral (results from activation of pain receptors in organs and/or hollow viscera).
- Neuropathic pain is experienced by people who have damaged or malfunctioning nerves. The nerves may be abnormal due to illness, injury, or undetermined reasons. Peripheral neuropathic pain (e.g., phantom limb, carpal tunnel) follows damage and/or sensitization of peripheral nerves. Central neuropathic pain (e.g., spinal cord injury pain) results from malfunctioning nerves in the central nervous system. Sympathetically maintained pain occurs occasionally when abnormal connections between pain fibers and the sympathetic nervous

system perpetuate problems with both the pain and sympathetically controlled functions. Neuropathic pain is typically chronic and tends to be difficult to treat. It may result from a failure to treat pain effectively during the postoperative period.

2. Processes Involved In Nociception

The physiologic processes related to pain perception are described as nociception. Four physiologic processes are involved: transduction, transmission, perception, and modulation. During the transduction phase, noxious stimuli trigger the release of biochemical mediators (e.g., prostaglandins, bradykinin, serotonin, histamine, substance P) that sensitize nociceptors. Noxious or painful stimulation also causes movement of ions across cell membranes, which excite nociceptors. Pain medications can work during this phase by blocking the production of prostaglandin (e.g., ibuprofen or aspirin), by decreasing the movement of ions across the cell membrane (e.g., local anesthetic), or by use of a topical analgesic (e.g., capsaicin) which depletes the accumulation of substance P and blocks transduction.

Transmission of pain includes three segments. During the first segment, the pain impulse travels from the peripheral nerve fibers to the spinal cord. Substance P serves as a neurotransmitter. Two types of nociceptor fibers cause this type of transmission in the spinal cord: unmyelinated C fibers (transmit dull, aching pain) and thin A-delta fibers (transmit sharp, localized pain). In the dorsal horn, the pain signal is modified by modulating factors (e.g., excitatory amino acids or endorphins) before the amplified or dampened signal travels via spinothalamic tracts. The second segment is transmission from the spinal cord and ascension via the spinothalamic tracts to the brain stem and thalamus. The third segment involves transmission of signals between the thalamus and the sensory cortex

when pain perception occurs. Opioids block the release of neurotransmitters, particularly substance P, which stops the pain at the spinal level. Capsaicin may also deplete substance P and inhibit the transmission of pain signals.

Modulation occurs when neurons in the thalamus and brain stem send signals back down to the dorsal horn of the spinal cord. These descending fibers release substances such as endogenous opioids, serotonin, and norepinephrine that can inhibit (dampen) the ascending noxious (painful) impulses in the dorsal horn. In contrast, excitatory amino acids, e.g.,

glutamate, N -methyl-D-aspartate (NMDA), and the upregulation of excitatory glial cells can facilitate (amplify) these pain fibers. The effects of the excitatory amino acids and glial cells tend to persist, while the effects of the inhibitory neurotransmitters tend to be short-lived as they are reabsorbed into the neurons. Tricyclic antidepressants block the reuptake of norepinephrine and serotonin. NMDA antagonists (e.g., ketamine, dextromethorphan) may be used to help diminish the signals of pain.

Perception, the final process, is when the client becomes conscious of the pain. Pain perception is the sum of complex activities in the central nervous system that may shape the character and intensity of pain perceived and ascribes meaning to the pain. The psychosocial context of the situation and the meaning of the pain based on past experiences and future hopes/dreams help to shape the behavioral responses that follow

3. Physical, Mental, Spiritual, and Social Aspects Of Pain

Numerous factors can affect a person's perception of and reaction to pain. These include the person's ethnic and cultural values, developmental level, support people, previous pain experiences, and the meaning of the current pain.

Ethnic background and cultural heritage have long been recognized as factors that influence both a person's reaction to pain and the expression of that pain. Behavior related to pain is part of the socialization process. Although there appears to be little variation in pain threshold, cultural background can affect the level of pain that an individual is willing to tolerate. Additionally, there are significant variations in the expressions of pain.

The age and developmental stage of a client is an important variable that will influence both the reaction to and the expression of pain. Age variations and related nursing interventions are presented. A strange environment can compound pain. In addition, the lonely person who is without a support network may perceive pain as severe, whereas the person who has supportive people around may perceive less pain. Some people prefer to withdraw when they are in pain, whereas others prefer the distraction of people and activity around them. Expectations of significant others can affect a person's perceptions of and responses to pain. The presence of support people often changes a client's reaction to pain.

Past pain experiences alter a clients sensitivity to pain. People who have personally experienced pain or who have been exposed to the suffering of someone close are often more threatened by anticipated pain than people without a pain experience. In addition, the success or lack of success of pain relief measures influences a persons expectations for relief and future response to interventions. Some clients may accept pain more readily than others, depending on the circumstances and the clients interpretation of its significance. A client who associates the pain with a positive outcome may withstand pain amazingly well. By contrast, clients with unrelenting chronic pain may suffer more intensely. Chronic pain affects the body, mind, spirit, and social relationships in an undesirable way. Mood often becomes impaired when pain persists as the sadness of being unable to do important or enjoyable activities is combined with self-doubts and learned helplessness to produce depression. Anxiety and worry about coping with the pain experience may escalate to panic. Spiritually, pain may be viewed in a variety of ways. It may be perceived as a punishment for wrongdoing, a betrayal by the higher power, a test of fortitude, or a threat to the essence of who the person is. As such, pain may be a source of spiritual distress, or be a source of strength and enlightenment. Socially, pain often strains valued relationships, in part because of the impaired ability to fulfill role expectations.

4. Gate Control Theory And Its Application To Nursing Care

- According to Melzack and Walls gate control theory (1965), small-diameter (A-delta or C) peripheral nerve fibers carry signals of noxious stimuli to the dorsal horn, where these signals are modified when they are exposed to the substantia gelatinosa that may be imbalanced in an excitatory or inhibitory direction.
- Ion channels on the pre- and postsynaptic membranes serve as gates that, when open, permit positively charged ions to rush into the second order neurons, sparking an electrical impulse and sending signals of pain to the thalamus.
- Peripherally, large-diameter (A-delta) nerve fibers, which typically send messages of touch, warm, or cold temperatures, have an inhibitory effect on the substantia gelatinosa, and may activate the descending mechanism that can lessen the intensity of pain perceived or inhibit the transmission of those pain impulses that is, close the (ion) gates.
- Higher centers of the brain, especially those associated with affect and motivation, are capable of modifying the substantia gelatinosa and influence the opening or closing of the gates.

- Clinically, nurses can use this model to stop nociceptor firing (treat the underlying cause), apply topical therapies (e.g., heat, ice, electrical stimulation, or massage), and address the clients mood (e.g., reduce fear, anxiety, and anger) and goals (e.g., client education, anticipatory guidance).

Topic : Nutrition

Topic Objective:

At the end of this topic student will able to understand:

- nutrients and their dietary sources
- normal digestion, absorption, and metabolism of carbohydrates, proteins, and lipids
- essential aspects of energy balance
- body weight and body mass standards

Definition/Overview:

Nutrition (also called nourishment or aliment) is the provision, to cells and organisms, of the materials necessary (in the form of food) to support life. Many common health problems can be prevented or alleviated with good nutrition.

The diet of an organism refers to what it eats. Dietitians are health professionals who specialize in human nutrition, meal planning, economics, preparation, and so on. They are trained to provide safe, evidence-based dietary advice and management to individuals (in health and disease), as well as to institutions. Poor diet can have an injurious impact on health, causing deficiency diseases such as scurvy, beriberi, and kwashiorkor; health-threatening conditions like obesity and metabolic syndrome, and such common chronic systemic diseases as cardiovascular disease, diabetes, and osteoporosis.

Key Points:

Nutritional science investigates the metabolic and physiological responses of the body to diet. With advances in the fields of molecular biology, biochemistry, and genetics, the study of nutrition is increasingly concerned with metabolism and metabolic pathways, the sequences of biochemical steps through which the many substances of living things change from one form to another. The human body contains chemical compounds, such as water,

carbohydrates (sugar, starch, and fiber), amino acids (in proteins), fatty acids (in lipids), and nucleic acids (DNA/RNA). These compounds, in turn, consist of elements such as carbon, hydrogen, oxygen, nitrogen, phosphorus, calcium, iron, zinc, magnesium, manganese, and so on. All of these chemical compounds and elements occur in various forms and combinations (e.g. hormones/vitamins, phospholipids, hydroxyapatite), both in the human body and in organisms (e.g. plants, animals) that humans eat.

1. Essential Nutrients And Their Dietary Sources

The body's most basic nutrient need is water. The energy-providing nutrients are carbohydrates, fats, and proteins. Micronutrients (vitamins and minerals) are required in small amounts to metabolize the energy-providing nutrients.

Carbohydrates are sugars (simple carbohydrates) and starches and fiber (complex carbohydrates). Sugars may be monosaccharides (one molecule) or disaccharides (double molecules). Glucose is the most common monosaccharide. Most sugars are produced naturally by plants, especially fruits, sugar cane, and sugar beets. However, other sugars are from an animal source such as lactose found in animal milk. Processed or refined sugars have been extracted from natural sources. Starches are insoluble, non-sweet forms of carbohydrates that exist naturally in plants such as grains, legumes, and potatoes. Cereals, breads, flour, and puddings are processed from starches.

Fiber is derived from plants and is found in the outer layer of grains, bran, and in the skin, seeds, and pulp of many vegetables and fruits. The Nutritional Reference Guide lists sources of fiber-rich foods. Proteins are composed of amino acids (essential and nonessential). Most animal proteins, including meat, poultry, fish, dairy products, and eggs, are complete proteins (contain all of the essential amino acids plus many nonessential ones). Incomplete proteins lack one or more essential amino acids and are usually derived from vegetables. (Presents combinations of plant proteins that provide complete proteins.) Fats are lipids that are solid at room temperature and oils are lipids that are liquid at room temperature. Fatty acids are the basic structural units of most lipids. Fatty acids are either saturated (for example, butyric acid found in butter) or unsaturated. Unsaturated fatty acids may be monounsaturated or polyunsaturated (for example, linoleic acid found in vegetable oil). Lipids are classified as simple (glycerides) or compound (triglycerides which may be saturated or unsaturated). Saturated triglycerides are found in animal products such as butter. Unsaturated triglycerides

are found in plant products such as olive oil and corn oil. Cholesterol is a fatlike substance produced by the body and found in foods of animal origin (milk, egg yolk, and organ meat). Vitamins are either water soluble (vitamin C and the B-complex vitamins) or fat soluble (vitamins A, D, E, K). Vitamin content is highest in fresh foods that are consumed as soon as possible after harvest. Minerals are found in organic compounds, as inorganic compounds, and as free ions. Macrominerals are those that people require daily in amounts over 100 mg (calcium, phosphorus, sodium, potassium, magnesium, chloride, and sulfur). Microminerals are those that people require daily in amounts less than 100 mg (iron, zinc, manganese, iodine, fluoride, copper, cobalt, chromium, and selenium). The Nutritional Reference Guide lists major food sources of calcium and iron.

The human body consists of elements and compounds ingested, digested, absorbed, and circulated through the bloodstream. Except in the unborn fetus, it is the digestive system which carries out the first steps in feeding the cells of the body. In a typical adult, about seven liters of digestive juices enter the lumen of the digestive tract. They break chemical bonds in ingested molecules and modulate their conformations and energy states. Though some molecules are absorbed into the bloodstream unchanged, digestive processes release them from the matrix of foods in which they occur. Unabsorbed matter is excreted in the feces.

2. Normal Digestion, Absorption, And Metabolism Of Carbohydrates, Proteins, And Lipids

- Major enzymes of carbohydrate digestion include ptyalin (salivary amylase), pancreatic amylase, and the disaccharidases: maltase, sucrase, and lactase. The desired end products are monosaccharides. Essentially all monosaccharides (glucose, fructose, and galactose) are absorbed by the small intestines in healthy people. After the body breaks carbohydrates into glucose, some glucose continues to circulate in the blood to maintain blood levels and to provide a readily available source of energy. Insulin is secreted by the pancreas and aids the transport of glucose into cells. Carbohydrates are stored either as glycogen or fat. Almost all body cells are capable of storing glycogen; however, most is stored in the liver or skeletal muscles for conversion back to glucose. Glucose that cannot be stored as glycogen is converted to fat.
- Digestion of protein foods begins in the mouth, where the enzyme pepsin breaks protein down into smaller units. However, most protein is digested in the small intestine. The pancreas secretes the proteolytic enzymes trypsin, chymotrypsin, and carboxypeptidase.

Glands in the intestinal wall secrete aminopeptidase and dipeptidase, which break protein down into smaller molecules and eventually into amino acids. Amino acids are absorbed by active transport through the small intestines into the portal blood circulation. Protein metabolism includes three activities: anabolism (building tissue), catabolism (breaking down tissue), and nitrogen balance (a measure of the degree of protein anabolism and catabolism).

- Lipid digestion begins in the stomach, but they are mainly digested in the small intestine, primarily by bile, pancreatic lipase, and enteric lipase. End products of lipid digestion are glycerol, fatty acids, and cholesterol. They are immediately reassembled inside the intestinal cells into triglycerides and cholesterol esters, which are not water soluble. The small intestine and the liver must convert these into soluble compounds called lipoproteins. Converting fat into usable energy occurs through lipase that breaks down triglycerides in adipose cells, releasing glycerol and fatty acids into the blood. Only the glycerol molecules in fat can be converted to glucose.

Studies of nutritional status must take into account the state of the body before and after experiments, as well as the chemical composition of the diet and the products of excretion. Comparing the food to the waste can help determine the specific compounds and elements absorbed in the body. Their effects may only be discernible after an extended period of time, during which all food and waste must be analyzed. The number of variables involved in such experiments is high, making nutritional studies time-consuming and expensive, which explains why the science of human nutrition is still slowly evolving. In general, eating a wide variety of fresh, whole (unprocessed), foods have proven favorable compared to monotonous diets based on processed foods. In particular, the consumption of whole plant foods slows digestion and provides higher amounts, and a more favorable balance, of essential nutrients per Calorie, resulting in better management of cell growth, maintenance, and mitosis (cell division), as well as better regulation of appetite and blood sugar. Regularly scheduled meals (every few hours) have also proven more wholesome than infrequent, haphazard ones.

3. Essential Aspects Of Energy Balance

Energy balance is the relationship between the energy derived from food and the energy used by the body. The body obtains energy in the form of calories from carbohydrates, protein, fat, and alcohol. The body uses energy for voluntary activities such as walking and talking and for involuntary activities such as breathing and secreting enzymes. A person's energy balance is determined by comparing his or her energy intake with energy output. The amount of

energy that nutrients or foods supply to the body is their caloric value. The energy liberated from the metabolism of food has been determined to be 4 calories/gram of carbohydrate and protein, 9 calories/gram of fat, and 7 calories/gram of alcohol. Metabolism refers to all biochemical and physiologic processes by which the body grows and maintains itself. The basal metabolic rate (BMR) is the rate at which the body metabolizes food to maintain the energy requirements of a person who is awake and at rest. The energy in food maintains the BMR and provides energy for activities such as running and walking. Resting energy expenditure (REE) is the amount of energy required to maintain basic body functions in other words, the calories required to maintain life. The REE of healthy persons is generally about 1 cal/kg of body weight/hr for men and 0.9 cal/kg for women, although there is great variation among individuals. The actual daily expenditure of energy depends on the degree of activity of the individual. There are seven major classes of nutrients: carbohydrates, fats, fiber, minerals, proteins, vitamins, and water.

These nutrient classes can be generally grouped into the categories of macronutrients (needed in relatively large amounts), and micronutrients (needed in smaller quantities). The macronutrients are carbohydrates, fats, fiber, proteins and water. The other nutrient classes are micronutrients.

The macronutrients (excluding fiber and water) provide energy, which is measured in kilocalories, often called "Calories" and written with a capital C to distinguish them from small calories. Carbohydrates and proteins provide four (4) Calories of energy per gram, while fats provide nine (9) Calories per gram. Vitamins, minerals, fiber, and water do not provide energy, but are necessary for other reasons.

Molecules of carbohydrates and fats consist of carbon, hydrogen, and oxygen atoms. Protein molecules contain nitrogen atoms in addition to carbon, hydrogen, and oxygen. The nitrogen-containing components of protein, called amino acids, fulfill many roles other than energy metabolism, and when they are used as fuel, getting rid of the nitrogen places a burden on the kidneys.

Other micronutrients not categorized above include antioxidants, essential fatty acids, and phytochemicals. Most foods contain a mix of some or all of the nutrient classes. Some nutrients are required on a regular basis, while others are needed less frequently. Poor health can be caused by an imbalance of nutrients, whether an excess or a deficiency.

4. Body Weight And Body Mass Standards

- Maintaining a healthy or ideal body weight requires a balance between the expenditure of energy and the intake of nutrients. Generally, when the energy requirements of an individual equate with the daily caloric intake, the body weight remains stable.
- Ideal body weight (IBW) is the optimal weight recommended for optimal health. IBW can be determined by consulting standardized tables or by calculating the Rule of 5 for women and the Rule of 6 for men. Many health professionals consider the body mass index (BMI) to be the more reliable indicator of a person's healthy weight. However, the results must be used with caution in people who have fluid retention, in athletes, or in elders. BMI of < 18.5 is considered to be underweight; 18.5-24.9 normal; 25-29.9 overweight; 30-39.9 obesity; and >40 extreme obesity.
- Another measure of body mass is percent body fat, which can be measured by underwater weighing and dual-energy x-ray (DEXA). Other indirect but more practical measures include waist circumference, skinfold testing, and near-infrared interactance. Bioelectrical impedance analysis (BIA) is used by some modern weight scales and is considered one of the most accurate methods of body fat determination.

Topic : Urinary Elimination

Topic Objective:

At the end of this topic student will be able to understand:

- process of urination
- factors that influence urinary elimination
- common causes of selected urinary problems
- nursing assessment of urinary function

Definition/Overview:

Urine is liquid waste product of the body secreted by the kidneys by a process of filtration from blood and excreted through the urethra. This waste is eventually expelled from the body in a process known as urination. Most commonly the excretion of urine serves for flushing waste molecules collected from the blood by the kidneys, and for the homeostasis of the body fluids.

Key Points:

Urine is the byproduct or fluid secreted by the kidneys, transported by the ureters to the urinary bladder where it is stored until it is voided through the urethra. It is a transparent solution that is clear to amber in color, and is usually a light yellow color. Urine is made up of a watery solution of metabolic wastes (such as urea), dissolved salts and organic materials. Fluid and materials being filtered by the kidneys, destined to become urine, come from the blood or interstitial fluid. The composition of urine is adjusted in the process of reabsorption when essential molecules needed by the body, such as glucose, are reabsorbed back into the blood stream via carrier molecules. The remaining fluid contains high concentrations of urea and other excess or potentially toxic substances that will be released from the body via urination. Urine flows through these structures: the kidney, ureter, bladder, and finally the urethra. Urine is produced by a process of filtration, reabsorption, and tubular secretion. Urine contains large amounts of urea, an excellent source of nitrogen for plants. As such it is a useful accelerator for compost. Urea is much less toxic than ammonia and is formed by the indirect combination of the byproducts of deamination (2 NH₃ molecules) and cellular respiration (1 CO₂ molecule). Other components include various inorganic salts such as sodium chloride (sodium discharge is called natriuresis).

1. Process Of Urination

- Urinary elimination depends on effective functioning of the upper urinary tract (kidneys and ureters) and the lower urinary tract (urinary bladder, urethra, and pelvic floor) as well as normal functioning of the cardiovascular and nervous systems.
- Urine is formed in the nephron, the functional unit of the kidney. Each nephron has a glomerulus, a tuft of capillaries surrounded by Bowmans capsule. Fluids and solutes readily move across the endothelium of the capillaries into the capsule. From Bowmans capsule the filtrate moves into the tubule of the nephron. In the proximal convoluted tubule, most of the water and electrolytes are reabsorbed. Solutes such as glucose are reabsorbed in the loop of Henle, and other substances are secreted into the filtrate. In the distal convoluted tubule, additional water and sodium are reabsorbed under the control of hormones such as the antidiuretic hormone (ADH) and aldosterone. Once urine is formed it moves into the calyces of the renal pelvis and from there into the ureters and then into the bladder.
- The normal process of urination is stimulated when sufficient urine collects in the bladder, stimulating special stretch receptors in the bladder wall. Stretch receptors transmit impulses

to the spinal cord voiding reflex center located at the level of the second to fourth sacral vertebrae, causing the internal sphincter to relax and stimulating the urge to void. If the time and place are appropriate, the conscious portion of the brain relaxes the external urethral sphincter muscle and urine is eliminated through the urethra.

2. Factors That Influence Urinary Elimination

Numerous factors affect the volume and characteristics of the urine produced and the manner in which it is secreted such as developmental factors, psychosocial factors, fluid and food intake, medications, muscle tone, pathologic conditions, and surgical and diagnostic procedures. The fetal kidneys begin to excrete urine between the 11th and 12th weeks of development; the ability to concentrate urine is minimal in infants leading to light yellow urine; kidney function matures between the first and second year; urine is concentrated and urine becomes amber color; between 18 and 24 months the child is able to recognize bladder fullness and hold beyond the urge to void; between 2 1/2 and 3 years the child can perceive bladder fullness, hold, and communicate need to urinate; between 4 and 5 years the child develops full urinary control with daytime control occurring prior to nighttime control; kidneys continue to grow in relation to body growth; kidneys reach maximum size between 35-40 years; after 50 years the kidneys decrease in size and function; most shrinkage occurs in the cortex as nephrons are lost; approximately 30% of nephrons are lost by age 80; renal blood flow decreases because of vascular changes and decreased cardiac output; bladder tone diminishes leading to increased frequency and nocturia; decreased bladder tone and contractility may lead to residual urine and an increased risk of bladder infection; and urinary incontinence may occur due to mobility problems or neurological impairments. In addition an enlarged prostate gland in men and hormonal changes in older women may also affect urinary elimination. Some psychosocial factors influencing urinary elimination include privacy, normal position, sufficient time, occasional sound of running water, change in accustomed conditions, voluntary suppression due to perceived time pressure.

Some fluid and food factors affecting urinary output include as fluid intake increases, urine output also increase. Certain fluids (alcohol and caffeinated fluids) increase urine output and fluids and foods with high sodium content cause fluid retention and other foods such as beets can change the color of the urine.

Medications that affect the autonomic nervous system can interfere with normal urinary processes; diuretics increase urine output, and some medications change the color of urine.

Retention catheters that have been in place for a long period of time may create poor bladder tone and poor tone of the pelvic muscles contribute to changes in the ability to store urine and empty the bladder. Some pathological conditions affect the formation and excretion of urine including diseases of the kidneys, heart and circulatory system; conditions causing abnormal fluid loss (vomiting and fever); obstruction of the flow of urine; and hypertrophy of the prostate gland. Some surgical and diagnostic procedures may affect passage of urine and urine production itself, e.g., urethral tissues may swell after cystoscopy; surgery on any part of the urinary system may cause bleeding; and spinal anesthesia may cause decreased awareness of the need to void and the ability to void until recovery from the anesthesia

3. Common Causes Of Selected Urinary Problems

Polyuria refers to the production of abnormally large amounts of urine. It is associated with ingestion of fluids containing caffeine or alcohol, prescribed diuretics, presence of thirst, dehydration, weight loss, and a history of diabetes mellitus, diabetes insipidus, or kidney disease. Oliguria (low urine output) and anuria (no urine production) are associated with a decrease in fluid intake; signs of dehydration; presence of hypotension, shock, or heart failure; history of kidney disease; signs of renal failure such as elevated blood urea nitrogen (BUN) and serum creatinine; edema; and hypertension. Frequency (voiding at frequent intervals) and nocturia (voiding two or more times a night) are associated with pregnancy, increase in fluid intake, and urinary tract infection.

Urgency, the sudden strong desire to void, is associated with presence of psychologic stress and urinary tract infections. Dysuria, voiding that is either painful or difficult, is associated with urinary tract inflammation, infection, or injury. It is also associated with hesitancy, hematuria, pyuria, and frequency. Enuresis, involuntary urination in children beyond the age when voluntary bladder control is normally acquired, is associated with family history of enuresis, difficult access to toilet facilities, and home stresses. Incontinence, involuntary urination, is associated with bladder inflammation or disease; difficulties in independent toileting; leakage when coughing, laughing, or sneezing; and cognitive impairment.

Retention, bladder overdistention due to inability to empty the bladder, is associated with distended bladder on palpation and percussion; signs and symptoms such as pubic

discomfort, restlessness, frequency, and small urine volume; recent anesthesia; recent perineal surgery; presence of perineal swelling; medications prescribed; and lack of privacy or other factors inhibiting micturition. A neurogenic bladder is flaccid and distended or spastic with frequent involuntary urination. It is associated with impairment of neurologic function.

4. Nursing Assessment Of Urinary Function

- A complete assessment of a clients urinary function includes the following: nursing history, physical assessment of the genitourinary system, hydration status, examination of the urine, and relating the data obtained from the results of any diagnostic tests and procedures.
- The nursing history should include the clients normal voiding patterns and frequency, appearance of the urine and any recent changes, any past or current problems with urination, the presence of an ostomy, and factors influencing the elimination patterns. Examples of the interview questions are shown in the Assessment Interview.
- The physical assessment usually involves percussion of the kidneys to detect areas of tenderness; palpation and percussion of the bladder are also performed. If the clients history or current problems indicate a need for it, the urethral meatus of both male and female clients is inspected for swelling, discharge, and inflammation. It is also important to assess the skin for color, texture, and tissue turgor as well as the presence of edema. If incontinence, dribbling, or dysuria is noted in the history, the skin of the perineum should be inspected for irritation.
- To measure urinary output and residual urine, the nurse assesses the amount of urine eliminated per hour (approximately 60 mL) or per day (about 1,500 mL). Residual urine is normally 50 to 100 mL and can be measured by catheterization after the client voids or by bladder scanner.
- The blood levels of urea and creatinine are routinely used to evaluate renal function. Urea is the end product of protein metabolism and is measured as blood urea nitrogen (BUN). Creatinine is produced in relatively constant quantities by the muscles. The creatinine clearance test uses 24-hour urine and serum creatinine levels to determine the glomerular filtration rate, a sensitive indicator of renal function.

Topic : Fecal Elimination**Topic Objective:**

At the end of this topic student will able to understand:

- physiology of defecation
- factors that influence fecal elimination and patterns of defecation
- normal from abnormal characteristics and constituents of feces
- common causes and effects of selected fecal elimination problems

Definition/Overview:

Feces, faeces, or fces is a waste product from an animal's digestive tract expelled through the anus (or cloaca) during defecation. The word faeces is the plural of the Latin word *faex* meaning "dregs". There is no singular form in the English language, making it a plurale tantum.

After an animal has digested eaten material, the remains of it is excreted from its body as waste. Though it is lower in energy than the food it came from, feces may still contain a large amount of energy, often 50% of that of the original food. This means that of all food eaten, a significant amount of energy remains for the decomposers of ecosystems. Many organisms feed on feces, from bacteria to fungi to insects such as dung beetles, which can sense odors from long distances. Some may specialize in feces, while others may eat other foods as well. Feces serve not only as a basic food, but also a supplement to the usual diet of some animals. This is known as coprophagia, and occurs in various animal species such as young elephants eating their mother's feces to gain essential gut flora, or by other animals such as monkeys.

Feces are also important as a signal. Kestrels for instance are able to detect the feces of their prey (which reflect ultraviolet), allowing them to identify areas where there are large numbers of voles, for example. This adaptation is essential in prey detection, as voles are expert at hiding from such predators. Some caterpillars even shoot their feces away from themselves in an explosive burst, helping them to avoid predators taking advantage of the olfactory signal it creates. In a non-predatory example, dominant wildebeest bulls defend territories marked with feces and pheromones produced by scent glands.

Key Points:

Seeds may also be found in feces. Animals which eat fruit are known as frugivores. The advantage in having fruit for a plant is that animals will eat the fruit and unknowingly disperse the seed in doing so. This mode of seed dispersal is highly successful, as seeds dispersed around the base of a plant are unlikely to succeed and are often subject to heavy predation. Provided the seed can withstand the pathway through the digestive system, it is not only likely to be far away from the parent plant, but is even provided with its own fertilizer. Organisms which subsist on dead organic matter or detritus are known as detritivores, and play an important role in ecosystems by recycling organic matter back into a simpler form which plants and other autotrophs may once again absorb. This cycling of matter is known as the biogeochemical cycle. To maintain nutrients in soil it is therefore important that feces return to the area from which they came, which is not always the case in human society where food may be transported from rural areas to urban populations and then feces disposed of into a river or sea.

1. Physiology Of Defecation

Defecation is the expulsion of feces from the anus and rectum. When peristaltic waves move the feces into the sigmoid colon and the rectum, the sensory nerves in the rectum are stimulated and the individual becomes aware of the need to defecate.

When the internal anal sphincter relaxes, feces move into the anal canal. If appropriate, the external anal sphincter is relaxed voluntarily. Expulsion of the feces is assisted by contraction of the abdominal muscles and the diaphragm, which increases abdominal pressure, and by contraction of the muscles of the pelvic floor, which moves the feces through the anal canal.

Normal defecation is facilitated by thigh flexion, which increases the pressure within the abdomen, and a sitting position, which increases the downward pressure on the rectum.

In humans, defecation may occur (depending on the individual and the circumstances) from once every two or three days to several times a day. Hardening of the feces may cause prolonged interruption in the routine and is called constipation.

Human fecal matter varies significantly in appearance, depending on diet and health. Normally it is semisolid, with a mucus coating. Its brown coloration comes from a combination of bile and bilirubin, which comes from dead red blood cells. In newborn babies, fecal matter is initially yellow/green after the meconium. This coloration comes from the presence of bile alone. In time, as the body starts expelling bilirubin from dead red blood cells, it acquires its familiar brown appearance, unless the baby is breast feeding, in which case it remains soft, pale yellowish, and not-unpleasantly scented until the baby begins to eat significant amounts of other food.

2. Factors That Influence Fecal Elimination And Patterns Of Defecation

Factors that affect defecation include developmental stage, diet, fluid, activity, psychologic factors, defecation habits, medications, diagnostic procedures, anesthesia, surgery, pathologic conditions, and pain. Newborns, infants, children, and elders are groups within which members have similarities in elimination patterns, e.g. newborns pass meconium within 24 hours of birth; control of defecation usually starts at 2 2/3 to 3 years of age; and constipation is the most common bowel management problem in the elderly. Sufficient bulk (cellulose, fiber) is necessary to provide fecal volume. Therapeutic diet may affect fecal elimination as may individual difficulties in digesting certain foods, the effects of certain foods (e.g., spicy, gas-forming). Health elimination requires 2,000-3,000 mL per day of fluid.

Activity stimulates peristalsis facilitating the movement of chyme. Weak abdominal muscles from lack of exercise, immobility, or neurologically impaired can lead to alterations in fecal elimination. Some people who are anxious or angry may experience increased peristalsis and those with depression may experience decreased peristalsis.

Regular defecation patterns provide fecal elimination. When normal defecation reflexes are ignored, water is continued to be reabsorbed leading to hard feces that is difficult to expel. Some medications have side effects that interfere with normal elimination. Some directly affect elimination (laxatives). Some medications appear in the feces.

For accuracy of certain diagnostic procedures, food and fluids may be restricted and enemas may need to be administered which interfere with normal patterns. General anesthesia can block the parasympathetic nervous system stimulation to the colon and handling of the bowel during surgery can cause temporary cessation of peristalsis.

Spinal cord and head injuries may decrease sensory stimulation and impaired mobility may decrease the ability to respond to urge to defecate. Painful elimination may cause the client to suppress the urge to defecate. One of the side effects of narcotic analgesics given for pain is constipation. Throughout the life of an ordinary human, one may experience many types of feces. A "green" stool is from rapid transit of feces through the intestines (or the consumption of certain blue or green food dyes in quantity), and "clay-like" appearance to the feces is the result of a lack of bilirubin. Bile overload is very rare, and not a health threat. Problems as simple as serious diarrhea can cause blood in one's stool. Black stools caused by blood usually indicate a problem in the intestines (the black is digested blood), whereas red streaks of blood in stool are usually caused by bleeding in the rectum or anus. Food may sometimes make an appearance in the feces. Common undigested foods found in human feces are seeds, nuts, corn and beans, mainly because of their high dietary fiber content. Beets may turn feces different hues of red. Artificial food coloring in some processed foods such as highly colorful packaged breakfast cereals can also cause unusual feces coloring if eaten in sufficient quantities.

3. Normal From Abnormal Characteristics And Constituents Of Feces

Normal feces are made of about 75% water and 25% solid materials.

Some normal characteristics of fecal matter include: feces in adults that are brown in color and yellow in infants; formed, soft, semisolid, and moist consistency; cylindrical shape with about 2.5 cm (1 in) diameter; amount varies with diet about 100 to 400 g/day; aromatic odor that is affected by ingested food and individual bacterial flora; constituents include small amount of undigested roughage, sloughed dead bacterial and epithelial cells, fat, protein, dried elements of digestive juices.

Some abnormal characteristics of fecal matter include; clay, white, black, tarry, red, pale, orange or green color; hard, dry, diarrhea consistency; narrow, pencil-shaped, string-like consistency; pungent odor; pus, mucus, parasites, blood, large quantities of fat or foreign objects within the feces .

4. Common Causes and Effects of Selected Fecal Elimination Problem

Four common problems related to fecal elimination are constipation, diarrhea, bowel incontinence, and flatulence. Defining characteristics for constipation include decreased frequency of defecation; hard, dry, formed stools; straining at stool; painful defecation; reports of rectal fullness or pressure or incomplete bowel evacuation; abdominal pain, cramps, or distention; anorexia or nausea; and headache. Many causes and factors contribute to constipation, including insufficient fiber and fluid intake, insufficient activity or immobility, irregular defecation habits, change in daily routine, lack of privacy, chronic use of laxatives or enemas, irritable bowel syndrome (IBS), pelvic floor dysfunction or muscle damage, poor motility or slow transit, neurological conditions, stroke or paralysis, emotional disturbances such as depression or mental confusion, and medications such as opioids, iron supplements, antihistamines, antacids, and antidepressants.

Fecal impaction is a mass or collection of hardened feces in the folds of the rectum. Fecal impaction can be recognized by the passage of liquid fecal seepage (diarrhea) and no normal stool. The liquid portion of the feces seeps out around the impacted mass. Other symptoms include frequent but nonproductive desire to defecate, rectal pain, a generalized feeling of illness, anorexia, distended abdomen, nausea, and vomiting. Causes of fecal impaction are usually poor defecation habits and constipation. The barium used in radiologic examinations of the upper and lower gastrointestinal tracts can be a causative factor. Diarrhea refers to the passage of liquid feces and an increased frequency of defecation. Often spasmodic cramps occur, and bowel sounds are increased. Irritation of the anal region extending to the perineum and buttocks generally results with persistent diarrhea. Fatigue, weakness, malaise, and emaciation are the results of prolonged diarrhea. Major causes of diarrhea include psychologic stress; medications (antibiotics, iron, cathartics); allergy to foods, fluid, and drugs; intolerance of food or fluids; and diseases of the colon (malabsorption syndrome, Crohns disease).

Bowel incontinence, also called fecal incontinence, refers to the loss of voluntary ability to control fecal and gaseous discharges through the anal sphincter. Incontinence may occur at specific times or it may occur irregularly. Partial incontinence is the inability to control flatus or to prevent minor soiling. Major incontinence is the inability to control feces of normal consistency. Fecal incontinence is generally associated with impaired functioning of the anal

sphincter or its nerve supply, such as in some neuromuscular diseases, spinal cord trauma, and tumors of the external anal sphincter muscle.

Flatulence is the presence of excessive flatus in the intestines and leads to stretching and inflation of the intestines. Flatulence can occur in the colon from a variety of causes, such as foods, abdominal surgery, or narcotics.

5. Methods Used To Assess The Intestinal Tract

Assessment of fecal elimination includes taking a nursing history; performing a physical examination of the abdomen, rectum, and anus; and inspecting the feces. The nurse should also review any data obtained from relevant diagnostic tests.

A nursing history helps the nurse ascertain the clients normal pattern, a description of usual feces, and any recent changes. The nurse collects information about any past or current problems with elimination, the presence of an ostomy, and factors influencing the elimination pattern. Examples of questions to elicit this information are shown in the Assessment Interview.

Physical examination of the abdomen, rectum, and anus is discussed. Auscultation precedes palpation because palpation can alter peristalsis.

Inspecting the feces includes observing the clients stool for color, consistency, shape, amount, odor, and the presence of abnormal constituents. Diagnostic studies include direct visualization techniques, indirect visualization, and laboratory tests for abnormal constituents.

Topic : Oxygenation

Topic Objective:

At the end of this topic student will be able to understand:

- structure and function of the respiratory system
- Processes of breathing (ventilation) and gas exchange (respiration).
- role and function of the respiratory system
- factors influencing respiratory function

Definition/Overview:

Oxygenation refers to the amount of oxygen in a medium. In blood it may be taken to be synonymous with saturation, which describes the degree to which the oxygen-carrying capacity of haemoglobin is utilised, normally 98-100%.

Key Points:**1. Structure And Function Of The Respiratory System**

- The function of the respiratory system is gas exchange. Oxygen from inspired air diffuses from alveoli in the lungs into the blood in the pulmonary capillaries. Carbon dioxide produced during cell metabolism diffuses from the blood into the alveoli and is exhaled.
- The respiratory system is divided structurally into the upper respiratory system and the lower respiratory system. The mouth, nose, pharynx, and larynx compose the upper respiratory system. The lower respiratory system includes the trachea and lungs, with the bronchi, bronchioles, alveoli, pulmonary capillary network, and pleural membranes. Inspired air is warmed, humidified, and filtered by the nose. Inspired air passes from the nose to the pharynx (composed of the nasopharynx and oropharynx), which is supplied with lymphoid tissue that traps and destroys pathogens entering with the air.
- The larynx has a role in providing speech, maintaining airway patency, and protecting the lower airways from swallowed food by closing the epiglottis to route food to the esophagus.
- The trachea and bronchi are lined with mucosal epithelium that produce a thin layer of mucus (the mucous blanket) that traps pathogens and microscopic particulate. Foreign particles are swept upward to the larynx and throat by cilia.
- No gas exchange occurs until the air enters the respiratory bronchioles and alveoli. Alveoli have very thin walls, composed of a single layer of cells covered by a network of pulmonary capillaries (the respiratory membrane) where gas exchange occurs.
- The outer surface of the lungs is covered by a thin, double layer of tissue known as the pleura. Between the layers is a potential space that contains a small amount of pleural fluid which prevents friction during movement of breathing.

2. Processes of Breathing (Ventilation) and Gas Exchange (Respiration)

Ventilation of the lungs is accomplished through the act of breathing: inspiration (inhalation) when air flows into the lungs and expiration (exhalation) as air moves out of the lungs. The intrapulmonary pressure (pressure within the lungs) always equalizes with atmospheric pressure. Inspiration occurs when the diaphragm and intercostal muscles contract, increasing the size of the thoracic cavity. The volume of the lungs increases, decreasing intrapulmonary pressure. Air then rushes into the lungs to equalize this pressure with atmospheric pressure. Conversely, when the diaphragm and intercostal muscles relax, the volume of the lungs decreases, intrapulmonary pressure rises, and air is expelled. After the alveoli are ventilated, the second phase of the respiratory process—the diffusion of oxygen from the alveoli and into the pulmonary blood vessels—begins. Pressure differences in the gases on each side of the respiratory membrane affect diffusion. The partial pressure (the pressure exerted by each individual gas in a mixture of gases according to its concentration in the mixture) of oxygen (PO₂) in the alveoli is about 100 mm Hg, whereas the PO₂ in the venous blood of the pulmonary arteries is about 60 mm Hg. These pressures rapidly equalize, however, so that the arterial oxygen pressure also reaches about 100 mm Hg. By contrast, carbon dioxide in the venous blood entering the pulmonary capillaries has a partial pressure of about 45 mm Hg, whereas that in the alveoli has a partial pressure of about 40 mm Hg. Therefore, carbon dioxide diffuses from the blood into the alveoli, where it can be eliminated with expired air.

3. The Role And Function Of The Respiratory System In Transporting Oxygen

- The third part of the respiratory process involves the transport of respiratory gases. Oxygen is transported from the lungs to the tissues, and carbon dioxide must be transported from the tissues to the lungs.
- Normally, most of the oxygen (97%) combines loosely with hemoglobin in the red blood cells and is carried to the tissues as oxyhemoglobin. The remaining oxygen is dissolved and transported in the fluid of the plasma and cells.
- Carbon dioxide, continually produced in the processes of cell metabolism, is transported from the cells to the lungs in three ways. The majority (about 65%) is carried inside the red blood cells as bicarbonate (HCO₃⁻) and is an important component of the bicarbonate buffer system. A moderate amount of carbon dioxide (30%) combines with hemoglobin as carbhemoglobin for transport. Smaller amounts (5%) are transported in solution in the plasma and as carbonic acid (the compound formed when carbon dioxide combines with water).

4. Factors Influencing Respiratory Function

Factors that influence respiratory function affect the cardiovascular system as well. These factors are age, environment, lifestyle, health status, medications, and stress

Profound changes occur in the respiratory system at birth when the fluid-filled lungs drain, PCO₂ rises, and the neonate, take the first breath. Changes of aging affect the respiratory system and may become especially important if the system is compromised by infection, stress, surgery, anesthesia, or other procedures. Altitude, heat, cold, and air pollution affect oxygenation.

Physical exercise or activity increases the rate and depth of respirations and hence the supply of oxygen in the body. Certain occupations may predispose the individual to lung disease. Diseases of the respiratory system adversely affect oxygenation of the blood. A variety of medications can decrease the rate and depth of respirations (benzodiazepines, sedative-hypnotics, and antianxiety and narcotics such as morphine).

Some people hyperventilate in response to stress. During stress the sympathetic nervous system is stimulated and epinephrine is released. Epinephrine dilates bronchioles increasing blood flow and oxygen to active muscles.

Topic : Circulation

Topic Objective:

At the end of this topic student will able to understand:

- structure and function of the cardiovascular system
- factors influencing cardiovascular function
- major risk factors for the development of coronary heart disease
- manifestations of cardiovascular disorders
- common responses to alterations in cardiovascular status

Definition/Overview:

The circulatory system is an organ system that moves nutrients, gases, and wastes to and from cells, helps fight diseases and helps stabilize body temperature and pH to maintain homeostasis. This system may be seen strictly as a blood distribution network, but some consider the circulatory system as composed of the cardiovascular system, which distributes blood, and the lymphatic system, which distributes lymph. While humans, as well as other vertebrates, have a closed cardiovascular system (meaning that the blood never leaves the network of arteries, veins and capillaries), some invertebrate groups have an open cardiovascular system. The most primitive animal phyla lack circulatory systems. The lymphatic system, on the other hand, is an open system.

Key Points:

The main components of the human circulatory system are the heart, the blood, and the blood vessels. The circulatory system includes: the pulmonary circulation, a "loop" through the lungs where blood is oxygenated; and the systemic circulation, a "loop" through the rest of the body to provide oxygenated blood. An average adult contains five to six quarts (roughly 4.7 to 5.7 litres) of blood, which consists of plasma that contains red blood cells, white blood cells, and platelets. Two types of fluids move through the circulatory system: blood and lymph. The blood, heart, and blood vessels form the cardiovascular system. The lymph, lymph nodes, and lymph vessels form the lymphatic system. The cardiovascular system and the lymphatic system collectively make up the circulatory system. Systemic circulation is the portion of the cardiovascular system which carries oxygenated blood away from the heart, to the body, and returns deoxygenated blood back to the heart.

1. Structure And Function Of The Cardiovascular System

- The cardiovascular system is made up of the heart, blood vessels, and blood.
- The heart is a hollow organ covered by the pericardium (double layer fibroserous membrane). The three layers of the heart are the epicardium, myocardium, and endocardium. There are four hollow chambers right and left atria and right and left ventricles separated by the interventricular septum. The atria and ventricles are separated by the atrioventricular (AV) valves, the tricuspid on the right and bicuspid (mitral) on the left. The ventricles are separated from the great vessels (pulmonary arteries and aorta) by the semilunar valves, pulmonic on

the right and aortic on the left. The valves serve to direct the flow of blood, allowing it to move from atria to ventricles and ventricles to the great vessels, but preventing backflow. Deoxygenated blood from the superior and inferior vena cava flows into the right atria, through the tricuspid valve into the right ventricle, through the pulmonic valve into the pulmonary arteries to the lungs for exchange of gases. Oxygenated blood from the lungs flows into the pulmonary veins and into the left atria, through the bicuspid (mitral) valve into the left ventricle and through the aortic valve to the aorta and then to the tissues of the body (See Figure 51.3).

- The heart receives nourishment from the coronary arteries (See Figure 51.4). Electrical stimulation to cause contraction of the chambers of the heart is supplied by the cardiac conduction system: the sinoatrial (SA) node, the atrioventricular (AV) node, the bundle of His, the right and left bundle branches, and the Purkinje fibers. The function of the heart is to pump deoxygenated blood through the pulmonary arteries into the lungs for gas exchange and freshly oxygenated blood through the aorta into the systemic circulation. A closed system of blood vessels transports blood to the tissues and returns it to the heart. The blood flows from the aorta into arteries, arterioles, and into the capillaries. From the capillaries the blood flows into venules and then veins returning to the heart through the venae cavae. With the exception of capillaries, blood vessel walls have three distinct layers, or tunics: the tunica intima (smooth endothelium), the tunica media (elastic fibers and smooth muscle cells innervated by the autonomic nervous system), and the tunica adventitia (connective tissue). Capillaries contain only one thin layer of tunica intima.
- The function of the arterial system is to transport oxygenated blood to the tissues, and the venous system returns deoxygenated blood from the tissues to the heart.
- The blood consists of formed elements (blood cells) suspended in fluid (plasma).
- The primary functions of the blood are (a) transporting oxygen, nutrients, and hormones to cells, and metabolic wastes from the tissues for elimination; (b) regulating body temperature, pH, and fluid volume; and (c) preventing infection and blood loss.
- Arteries always take blood away from the heart, regardless of their oxygenation, and veins always bring blood back. In general, arteries bring oxygenated blood to the tissues; veins bring deoxygenated blood back to the heart. In the case of the pulmonary vessels, however, the oxygenation is reversed: the pulmonary artery takes deoxygenated blood from the heart to the lungs, and oxygenated blood is pumped back through the pulmonary vein to the heart. As blood circulates through the body, oxygen and nutrients diffuse from the blood into cells

surrounding the capillaries, and carbon dioxide diffuses into the blood from the capillary cells.

- The release of oxygen from red blood cells or erythrocytes is regulated in mammals. It increases with an increase of carbon dioxide in tissues, an increase in temperature, or a decrease in pH. Such characteristics are exhibited by tissues undergoing high metabolism, as they require increased levels of oxygen.

2. Factors Influencing Cardiovascular Function

Factors influencing cardiovascular function include cardiac output (the amount of blood ejected from the heart each minute), stroke volume (amount of blood ejected from the heart with each beat), heart rate (number of beats per minute), contractility (inotropic state of the myocardium, strength of contraction), preload (left ventricular end diastolic volume, stretch of the myocardium), and afterload (resistance against which the heart muscle must pump).

3. Risk Factors For The Development Of Coronary Heart Disease

The lists the risk factors for coronary heart disease, separating these into nonmodifiable, modifiable, and other risk factors. Nonmodifiable risk factors include heredity, age, and gender (womens risk increases with menopause). Modifiable risk factors include elevated serum lipid levels, hypertension, cigarette smoking, diabetes, obesity, and sedentary lifestyle. Other risk factors include heat and cold, previous health status, stress and coping, dietary factors, alcohol intake, and elevated homocysteine level.

4. Manifestations Of Cardiovascular Disorders

- Cardiovascular function can be altered by conditions that affect the following:
- The function of the heart as a pump
- Blood flow to organs and peripheral tissues
- The composition of the blood and its ability to transport oxygen and carbon dioxide
- Three major alterations in cardiovascular function are decreased cardiac output, impaired tissue perfusion, and disorders that affect the composition or amount of blood available for transport of gases.

- Conditions that may decrease cardiac output include myocardial infarction (heart attack), heart failure, irregular heart rhythms (dysrhythmias), and structural heart conditions (congenital or acquired).
- Conditions that may affect tissue perfusion include atherosclerosis particularly of the coronary arteries (angina pectoris), of the vessels supplying the brain (transient ischemic attacks or a stroke), and peripheral arteries (peripheral vascular disease), vessel inflammation, arterial spasms, blood clots (thrombus), incompetent valves of the veins, and pulmonary emboli.
- Conditions that affect the composition of the blood are various types of anemia.
- Conditions that affect volume of blood include hemorrhage, dehydration, fluid retention, and kidney failure.

5. Common Responses To Alterations In Cardiovascular Status

- Decreased cardiac output may occur when vessels that supply the heart muscle become occluded by atherosclerosis or a blood clot shutting off the blood supply to a portion of the heart. Tissues in the affected area become necrotic and die, a condition known as myocardial infarction (MI) or heart attack.
- Heart failure may develop if the heart is not able to keep up with the body's need for oxygen and nutrients to the tissues. Heart failure usually occurs because of myocardial infarction, but it may also result from chronic overwork of the heart, such as in clients with uncontrolled hypertension or extensive arteriosclerosis. In left-sided heart failure, the vessels of the pulmonary system become congested or engorged with blood. This may cause fluid to escape into the alveoli and interfere with gas exchange, a condition known as pulmonary edema.
- Atherosclerosis is the most common cause of impaired blood flow to organs and tissues. Vessels narrow and become constricted, and distal tissues receive less oxygen and nutrients. Ischemia is a lack of blood supply due to obstructed circulation. Coronary arteries, vessels supplying blood to the brain, and arteries in the peripheral tissues are most often affected. Obstruction in the coronary arteries causes myocardial ischemia, leading to angina pectoris. Obstruction in vessels supplying the brain results in transient ischemic attack (TIA) or stroke. Obstruction in peripheral arteries leads to peripheral vascular disease.
- Incompetent venous valves may allow blood to pool in veins, causing edema and decreasing venous return to the heart. Veins may also become inflamed, reducing blood flow and increasing the risk of thrombus formation. Thrombi may break loose, becoming emboli,

occluding blood supply to the capillary side of the alveolar-capillary membrane. No gas exchange occurs there because of impaired blood flow. This condition is known as an acute pulmonary embolism.

- Because most oxygen is transported to the tissues in combination with hemoglobin, the problems of inadequate red blood cells (RBCs), low hemoglobin levels, or abnormal hemoglobin structure can affect tissue oxygenation. Anemia (low hemoglobin level) may be caused by loss of RBCs due to acute or chronic bleeding, dietary deficiencies of iron or folic acid, inadequately formed hemoglobin or RBCs (sickle-cell disease), and some disorders that cause RBCs to break down excessively.

Topic : Fluid, Electrolyte, And Acid-Base Balance

Topic Objective:

At the end of this topic student will be able to understand:

- function, distribution, movement, and regulation of fluids and electrolytes in the body
- regulation of acidbase balance in the body
- factors affecting normal body fluid, electrolyte, and acidbase balance
- factors for and the causes and effects of fluid, electrolyte, and acidbase imbalances
- assessment data related to the clients fluid, electrolyte, and acidbase balances

Definition/Overview:

A fluid is defined as a substance that continually deforms (flows) under an applied shear stress regardless of how small the applied stress. All liquids and all gases are fluids. Fluids are a subset of the phases of matter and include liquids, gases, plasmas and, to some extent, plastic solids. The term "fluid" is often used as being synonymous with "liquid". This can be erroneous and sometimes clearly inappropriate - such as when referring to a liquid which does not or should not involve the gaseous state. "Brake fluid" is hydraulic oil which will not perform its required function if gas is present. The medical profession relies on the term "fluids" in dietary references ("take plenty of fluids") where the presence of gases is irrelevant or even possibly dangerous.

An electrolyte is any substance containing free ions that behaves as an electrically conductive medium. Because they generally consist of ions in solution, electrolytes are also known as

ionic solutions, but molten electrolytes and solid electrolytes are also possible. They are sometimes referred to in abbreviated jargon as lytes.

Acid-base homeostasis is the part of human homeostasis concerning the proper balance between acids and bases, in other words the pH. The body is very sensitive to its pH level. Outside the range of pH that is compatible with life, proteins are denatured and digested, enzymes lose their ability to function, and the body is unable to sustain itself.

Key Points:

Liquids form a free surface (that is, a surface not created by the container) while gases do not. The distinction between solids and fluid is not entirely obvious. The distinction is made by evaluating the viscosity of the substance. Silly Putty can be considered to behave like a solid or a fluid, depending on the time period over which it is observed. However Silly Putty is correctly termed a viscoelastic fluid.

1. Function, Distribution, Movement, And Regulation Of Fluids And Electrolytes In The Body

- A delicate balance of fluids, electrolytes, and acids and bases is maintained in the body. This balance depends on multiple physiologic processes that regulate fluid intake and output and the movement of water and substances dissolved in it between body compartments.
- Water is vital to health and normal cellular function. It serves as a medium for metabolic reactions within the cells; a transporter for nutrients, waste products, and other substances; a lubricant; an insulator; a shock absorber; and one means of regulating and maintaining body temperature.
- The body's fluid is divided into two major compartments: intracellular and extracellular. Intracellular fluid (ICF) is found within the cells, and extracellular fluid (ECF) is found outside the cells. The two main compartments of the ECF are intravascular fluid (plasma) and interstitial fluid (surrounds the cells). Other compartments of ECF include lymph and transcellular fluids such as cerebrospinal, pericardial, pancreatic, pleural, intraocular, biliary, peritoneal, and synovial fluids. Intracellular fluid is vital to normal cell functioning. It contains solutes such as oxygen, electrolytes, and glucose, and it provides a medium in which metabolic processes of the cell take place. Extracellular fluid is the transport system that carries nutrients to and waste products from the cells.

- Fluids and electrolytes move among the body compartments by osmosis, diffusion, filtration, and active transport. The volume and composition of body fluids is regulated through several homeostatic mechanisms: the kidneys, the endocrine system, the cardiovascular system, the lungs, and the gastrointestinal system. The antidiuretic hormone (ADH), also called arginine vasopressin (AVP), the renin-angiotensin-aldosterone system, and the atrial natriuretic factor are also involved in maintaining fluid balance.
- Normally fluid intake balances fluid loss. The thirst mechanism is the primary regulator of fluid intake. There are four routes of fluid loss: urine, insensible loss through the skin as perspiration and through the lungs as water vapor in the expired air, noticeable loss through the skin, and loss through the intestines in feces. ECF and ICF contain ions (charged particles). Anions are negative ions and cations are positive ions called electrolytes. The number of cations and anions in should be equal. The principal electrolytes in the ECF are sodium, chloride, and bicarbonate. Other electrolytes such as potassium, calcium, and magnesium but in much smaller quantities. Plasma and interstitial fluids (major components of ECF) contain essentially the same electrolytes and solutes with the exception of proteins, which are plentiful in the plasma. The primary electrolytes in the ICF are potassium, magnesium, phosphate, and sulfate. As in ECF, other electrolytes are present within the cells, but in smaller concentrations.

2. Regulation Of Acid Base Balance In The Body, Including The Roles Of The Lungs, The Kidneys, And Buffers

- An important part of regulating the chemical balance or homeostasis of body fluids is regulating their acidity or alkalinity, which is measured as pH. The pH reflects the hydrogen concentration of the solution. The higher the hydrogen ion concentration, the lower the pH (more acidic) and vice versa. Body fluids are maintained within a narrow range that is slightly alkaline (arterial blood is between 7.35 and 7.45). Several body systems, including buffers, the respiratory system, and the renal system, are actively involved in maintaining the narrow pH range necessary for optimal function. The lungs and kidneys help maintain a normal pH by either excreting or retaining acids and bases.
- Buffers prevent excessive changes in the pH by removing or releasing hydrogen ions. The major buffer system in ECF is the bicarbonate (HCO_3^-) and carbonic acid (H_2CO_3) system. The amounts of bicarbonate and carbonic acid in the body vary. However, as long as a ratio

of 20 parts of bicarbonate to 1 part of carbonic acid is maintained, pH remains within normal limits. In addition, plasma proteins, hemoglobin, and phosphates function as buffers.

- The lungs help regulate acidbase balance by eliminating or retaining carbon dioxide, a potential acid. Combined with water, carbon dioxide forms carbonic acid. This chemical reaction is reversible. Working together with the bicarbonate-carbonic acid buffer system, the lungs regulate acidbase balance and pH by altering the rate and depth of respirations. Carbon dioxide is a powerful stimulator of the respiratory center. When blood levels of carbonic acid and carbon dioxide rise, the respiratory center is stimulated and the rate and depth of respiration increase. Carbon dioxide is exhaled and carbonic acid levels fall. By contrast when bicarbonate levels are excessive, the rate and depth of respirations are reduced, causing carbon dioxide to be retained, carbonic acid to rise, and excess bicarbonate to be neutralized. The respiratory system response to changes in pH is rapid, occurring within minutes.
- The kidneys are the ultimate long-term regulator of acidbase balance. They are slower to respond to changes, requiring hours to days to correct imbalances, but their response is more permanent and selective than that of the other systems. Kidneys maintain acidbase balance by selectively excreting or conserving bicarbonate and hydrogen ions. When excess hydrogen ion is present and the pH falls (acidosis), the kidneys reabsorb and regenerate bicarbonate and excrete hydrogen ions. In the case of alkalosis and a high pH, excess bicarbonate is excreted and a hydrogen ion is retained. The relationship of the respiratory and renal regulation of acidbase balance is further explained

3. Factors Affecting Normal Body Fluid, Electrolyte, And AcidBase Balance

- Factors affecting normal body fluid, electrolyte, and acidbase balance include age, gender and body size, environmental temperature, and lifestyle.
- Age infants and growing children have much greater fluid turnover than adults because of their higher metabolic rates, increase fluid loss, immature kidneys (infants), rapid respiratory rate (infants), and greater body surface area (infants). In elderly people normal aging process and the likelihood of the presence of chronic diseases may affect fluid balance. Thirst is blunted; nephrons are less able to conserve water in response to ADH; the increased level of atrial natriuretic hormone may contribute to impaired ability to conserve water in older people.

- Gender and body size: fat cells contain little water and lean tissue has an increased water content. People with a greater percentage of body fat have less body fluid. Women have proportionally greater body fat than men and have less body water than men.
- Environmental temperature: individuals with illness and participation in strenuous exercise are at risk for fluid and electrolyte imbalances when the environmental temperature is high. The loss of water and salt in sweat.
- Lifestyle: diet (intake of fluid and electrolytes), exercise (calcium balance), and stress (increases cellular metabolism, blood glucose concentration, and catecholamine levels) affect fluid and electrolyte and acid-base balance. Heavy alcohol consumption decreases calcium, magnesium, and phosphate levels and increases the risk of acidosis from breakdown of fat.

4. The Risk Factors For and The Causes And Effects Of Fluid, Electrolyte, And Acid-Base Imbalances

- Common risk factors for fluid, electrolyte, and acid-base imbalances are listed and include: chronic diseases (e.g., lung disease, heart failure, Cushing's or Addison's diseases, diabetes mellitus, and cancer), acute conditions (e.g., acute gastroenteritis, burns, crushing injuries, surgery, or fever), medications (e.g., diuretics, corticosteroids, and NSAIDs), treatments (e.g., chemotherapy, intravenous therapy or total parenteral nutrition, nasogastric suction, enteral feedings, mechanical ventilation) and other factors (such as the very young and the very old, inability to access food and fluids independently).
- Fluid imbalances are of two basic types: isotonic and osmolar. Isotonic imbalances occur when water and electrolytes are lost or gained in equal proportions so that the osmolality of body fluids remains constant. Osmolar imbalances involve the loss of only water so that the osmolality of the serum is altered. Thus there are four categories of fluid imbalances: an isotonic loss of water and electrolytes (fluid volume deficit), an isotonic gain of water and electrolytes (fluid volume excess), a hyperosmolar loss of only water (dehydration), and a hypo-osmolar gain of only water (overhydration).
- Lists risk factors, clinical manifestations, and nursing interventions for isotonic fluid volume deficit. The risk for dehydration increases with older age due to decreased thirst sensation. Also at risk for dehydration are clients who are hyperventilating or have prolonged fever or are in diabetic ketoacidosis and those receiving enteral feedings with insufficient water. Common manifestations of dehydration include weight loss, decreased skin turgor and

capillary refill, dry mucous membranes, weak, rapid pulse, decreased blood pressure and orthostatic hypotension, increased specific gravity of the urine, hematocrit and blood urea nitrogen. Overhydration may occur if only water is replaced or from the syndrome of inappropriate antidiuretic hormone (SIADH), which can result from some malignant tumors, AIDS, head injury, or administration of certain drugs such as barbiturates or anesthetics. Common manifestations of overhydration include weight gain, full bounding pulse, tachycardia, elevated blood pressure, distended neck and peripheral veins, adventitious lung sounds, shortness of breath, and confusion.

5. Assessment Data Related To The Clients Fluid, Electrolyte, And AcidBase Balances

Components of the assessment include the nursing history, physical assessment of the client, clinical measurement, and review of laboratory test results.

The nursing history includes current and past medical history, medications, and functional, developmental, and socioeconomic factors.

Common risk factors for fluid and electrolyte imbalances

The nurse also needs to elicit data about the clients food and fluid intake, fluid output, and the presence of signs or symptoms suggestive of altered fluid and electrolyte balance. The Assessment Interview provides examples of questions to elicit information regarding fluid, electrolyte, and acidbase balance. Other laboratory tests to review include complete blood count, osmolality (serum and urine), urine pH, urine specific gravity, urine sodium, and chloride excretion.

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