“Substance Abuse and Behavioral Therapy”.

In Section 1 of this course you will cover these topics:
' Introduction To Substance Abuse Counseling
' The Major Substances Of Abuse And The Body
' Etiological Theories Of Substance Abuse

**Topic : Introduction To Substance Abuse Counseling**

**Topic Objective:**

At the end of this topic student would be able to:

- To provide a historical perspective of the prevalence of drug use and abuse including the impact on current substance abuse issues, ensuing ramifications, and treatments.
- Describe the history, use, impact, and current statistical trends of commonly used drugs such as alcohol, marijuana, and tobacco.
- Identify patterns and societal costs of substance use and abuse.

**Definition/Overview:**

**Substance abuse:** is the overindulgence in and dependence of a drug or other chemical leading to effects that are detrimental to the individual's physical and mental health, or the welfare of others.

**Key Points:**

1. **Substance Abuse**

Substance abuse is the overindulgence in and dependence of a drug or other chemical leading to effects that are detrimental to the individual's physical and mental health, or the welfare of others. The disorder is characterized by a pattern of continued pathological use of a medication, non-medically indicated drug or toxin, that results in repeated adverse social consequences related to drug use, such as failure to meet work, family, or school obligations, interpersonal conflicts, or legal problems. There are on-going debates as to the exact distinctions between substance abuse and substance dependence, but current practice standard
distinguishes between the two by defining substance dependence in terms of physiological and behavioral symptoms of substance use, and substance abuse in terms of the social consequences of substance use.

Substance abuse may lead to addiction or substance dependence. Medically, physiologic dependence requires the development of tolerance leading to withdrawal symptoms. Both abuse and dependence are distinct from addiction which involves a compulsion to continue using the substance despite the negative consequences, and may or may not involve chemical dependency. Dependence almost always implies abuse, but abuse frequently occurs without dependence, particularly when an individual first begins to abuse a substance. Dependence involves physiological processes while substance abuse reflects a complex interaction between the individual, the abused substance and society.

2. Distinct from the concept of drug abuse

Substance abuse is sometimes used as a synonym for drug abuse, drug addiction, and chemical dependency, but actually refers to the use of substances in a manner outside sociocultural conventions. All use of illicit drugs and all use of licit drugs in a manner not dictated by convention (e.g. according to physician’s orders or societal norms) is abuse according to this definition, however there is no universally accepted definition of substance abuse. The physical harm for twenty drugs was compared in an article in the Lancet, with the results shown in the diagram. Physical harm was assigned a value from 0 to 3 for acute harm, chronic harm and intravenous harm. Shown is the mean physical harm. Not shown, but also evaluated, was the social harm.

3. History

In the early 1950s, the first edition of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders grouped alcohol and drug abuse under Sociopathic Personality Disturbances, which were thought to be symptoms of deeper psychological disorders or moral weakness.

The third edition, in the 1980s, was the first to recognize substance abuse (including drug abuse) and substance dependence as conditions separate from substance abuse alone, bringing in social and cultural factors. The definition of dependence emphasised tolerance to drugs, and
withdrawal from them as key components to diagnosis, whereas abuse was defined as "problematic use with social or occupational impairment" but without withdrawal or tolerance.

In 1987 the DSM-IIIR category "psychoactive substance abuse", which includes former concepts of drug abuse is defined as "a maladaptive pattern of use indicated by...continued use despite knowledge of having a persistent or recurrent social, occupational, psychological or physical problem that is caused or exacerbated by the use (or by) recurrent use in situations in which it is physically hazardous". It is a residual category, with dependence taking precedence when applicable. It was the first definition to give equal weight to behavioral and physiological factors in diagnosis.

By 1988, the DSM-IV defines substance dependence as "a syndrome involving compulsive use, with or without tolerance and withdrawal"; whereas substance abuse is "problematic use without compulsive use, significant tolerance, or withdrawal". Substance abuse can be harmful to your health and may even be deadly in certain scenarios.

By 1994, The fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM) issued by the American Psychiatric Association, the DSM-IV-TR, defines substance dependence as "when an individual persists in use of alcohol or other drugs despite problems related to use of the substance, substance dependence may be diagnosed." followed by criteria for the diagnosis.

4. DSM-IV-TR Concept of Substance Abuse

A maladaptive pattern of substance use leading to clinically significant impairment or distress, as manifested by one (or more) of the following, occurring within a 12-month period: Recurrent substance use resulting in a failure to fulfill major role obligations at work, school, or home (e.g., repeated absences or poor work performance related to substance use; substance-related absences, suspensions or expulsions from school; neglect of children or household) Recurrent substance use in situations in which it is physically hazardous (e.g., driving an automobile or operating a machine when impaired by substance use). Continued substance use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of the substance (e.g., arguments with spouse about consequences of intoxication, physical fights)
The symptoms have never met the criteria for Substance Dependence for this class of substance.

The fifth edition of the DSM, planned for release in 2010, is likely to have this terminology revisited yet again. Under consideration is a transition from the abuse/dependence terminology. At the moment, abuse is seen as an early form or less hazardous form of the disease characterized with the dependence criteria. However, the APA’s ‘dependence’ term, as noted above, does not mean that physiologic dependence is present but rather means that a disease state is present, one that most would likely refer to as an addicted state. Many involved recognize that the terminology has often led to confusion, both within the medical community and with the general public. The American Psychiatric Association requests input as to how the terminology of this illness should be altered as it moves forward with DSM-V discussion.

5. Additional Mediators and Moderators of Substance Abuse

Baron and Kenny (1986) define a moderator as, a qualitative (e.g., sex, race, class) or quantitative (e.g., level of reward) variable that affects the direction and/or strength of the relation between and independent or predictor variable and a dependent or criterion variable. Moderators may operate as protective factors, decreasing the strength of the relationship between the predictor variable and the outcome. Conversely, moderators may heighten risk levels and strengthen the effects of the predictor on the outcome. In either instance, moderators do not explain why the connection exists, but rather affect the strength and direction of the relationship between the variables. A mediator, as defined by Baron and Kenny (1986), represents the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest.

Unlike moderators, mediators can explain the relationship between the predictor variable and outcome. Holmbeck (1997) elaborated on Baron and Kennys definition by adding, The nature of the mediated relationship is such that the independent variable influences the mediator which, in turn, influences the outcome. Examples of mediators and moderators in empirical research: Examples of mediators and moderators can be found in several empirical studies. For example, Pilgrim et al.s hypothesized mediation model posited that school success and time spent with friends mediated the relationship between parental involvement and risk-taking behavior with substance use.
More specifically, the relationship between parental involvement and risk-taking behavior is explained via the interaction with third variables, school success and time spent with friends. In this example, increased parental involvement led to increased school success and decreased time with friends, both of which were associated with decreased drug use. Another example of mediation involved risk-taking behaviors. As risk-taking behaviors increased, school success decreased and time with friends increased, both of which were associated with increased drug use. A second example of a mediating variable is depression. In a study by Lo and Cheng (2007), depression was found to mediate the relationship between childhood maltreatment and subsequent substance abuse in adulthood. In other words, childhood physical abuse is associated with increased depression, which in turn, in associated with increased drug and alcohol use in young adulthood. More specifically, depression helps to explain how childhood abuse is related to subsequent substance abuse in young adulthood.

A third example of a mediating variable is an increase of externalizing symptoms. King and Chassin (2008) conducted research examining the relationship between stressful life events and drug dependence in young adulthood. Their findings identified problematic externalizing behavior on subsequent substance dependency. In other words, stressful life events are associated with externalizing symptoms, such as aggression or hostility, which can lead to peer alienation or acceptance by socially deviant peers, which could lead to increased drug use. The relationship between stressful life events and subsequent drug dependence however exists via the presence of the mediation effects of externalizing behaviors. An example of a moderating variable is level of cognitive distortion. An individual with high levels of cognitive distortion might react adversely to potentially innocuous events, and may have increased difficulty reacting to them in an adaptive manner.

In their study, Shoal and Giancola investigated the moderating effects of cognitive distortion on adolescent substance use. Individuals with low levels of cognitive distortion may be more apt to choose more adaptive methods of coping with social problems, thereby potentially reducing the risk of drug use. Individuals with high levels of cognitive distortions, because of their increased misperceptions and misattributions, are at increased risk for social difficulties. Individuals may be more likely to react aggressively or inappropriately, potentially alienating themselves from their peers, thereby putting them at greater risk for delinquent behaviors, including substance use and abuse. In this study, social problems are a significant risk factor for drug use when moderated by high levels of cognitive distortions.
Topic: The Major Substances Of Abuse And The Body

Topic Objective:

At the end of this topic student would be able to:

- To provide a brief yet concise anatomical and physiological overview of the brain including how psychoactive substances change the brains neurochemistry.
- Identify gender differences in substance use including effects on fetuses.
- Discuss psychoactive agents that are not listed as controlled substances on the DEAs Controlled Substances Schedule yet are commonly used, surrounded by controversy, and have effects, tolerance, dependence, and withdrawal symptoms.
- Define club drugs, its rising popularity, and the risks taken in dose administration.

Definition/Overview:

**Pleasure**: which scientists call reward, is a very powerful biological force for our survival. If you do something pleasurable, the brain is wired in such a way that you tend to do it again.

Key Points:

1. Introduction of Psychoactive Substances into the Body

It is difficult to ignore the chemical effects that substance use, abuse and addiction has on the human brain. The introduction of psychoactive substances into the body creates neurochemical alterations in functioning. Substances crossing the blood-brain barrier impede the brains ability to communicate within its existing structural framework. Abused drugs influence the activities of the Central Nervous System (CNS) in a variety of ways. As its name indicates, depressants like ethanol, barbiturates, and benzodiazepines depress the CNS, whereas stimulants such as cocaine and caffeine cause arousal, and hallucinogens (e.g. LSD, PCP) alter somatic symptoms. Although opiates are primarily used for pharmacological purposes, abuse is still common. Controversy surrounds marijuana, which is the most frequently used illicit drug in the United States. Research has yet to substantiate the effect of marijuana on the bodys ability to manufacture pivotal cellular molecules. The outcomes of club drugs and anabolic-androgenic steroids use appear to be severe despite their popularity.
Essentially, each classification of drugs produces three types of effects: (a) psychoactive, (b) bodily, and (c) toxic and lethal. In addition to these effects, tolerance, dependence, withdrawal, and gender differences are all factors to consider when addressing substance use, abuse and addiction. The interactions between the brain and substances delivered orally, by inhalation, injection, contact absorption, and or snorting will continue to produce various behavioral, cognitive, and affective changes resulting in societal consequences.

2. Pleasure

Pleasure, which scientists call reward, is a very powerful biological force for our survival. If you do something pleasurable, the brain is wired in such a way that you tend to do it again. Life sustaining activities, such as eating, activate a circuit of specialized nerve cells devoted to producing and regulating pleasure. One important set of these nerve cells, which uses a chemical neurotransmitter called dopamine, sits at the very top of the brainstem in the ventral tegmental area (VTA). These dopamine-containing neurons relay messages about pleasure through their nerve fibers to nerve cells in a limbic system structure called the nucleus accumbens. Still other fibers reach to a related part of the frontal region of the cerebral cortex. So, the pleasure circuit, which is known as the mesolimbic dopamine system, spans the survival-oriented brainstem, the emotional limbic system, and the frontal cerebral cortex.

3. Drug addiction

All drugs that are addicting can activate the brain's pleasure circuit. Drug addiction is a biological, pathological process that alters the way in which the pleasure center, as well as other parts of the brain, functions. To understand this process, it is necessary to examine the effects of drugs on neurotransmission. Almost all drugs that change the way the brain works do so by affecting chemical neurotransmission. Some drugs, like heroin and LSD, mimic the effects of a natural neurotransmitter. Others, like PCP, block receptors and thereby prevent neuronal messages from getting through. Still others, like cocaine, interfere with the molecules that are responsible for transporting neurotransmitters back into the neurons that released them finally, some drugs, such as Methamphetamine, act by causing neurotransmitters to be released in greater amounts than normal. Prolonged drug use changes the brain in fundamental and long-lasting ways. These long-lasting changes are a major component of the addiction itself. It is as though there is a figurative "switch" in the brain that "flips" at some point during an individual's drug use. The point at which this "flip" occurs
varies from individual to individual, but the effect of this change is the transformation of a
drug abuser to a drug addict.

4. Alcohol Abuse Effects

User may develop problems such as anemia, which can be brought on by not taking care of
you physically or nutritionally. Some other common problems can be ulcers, cirrhosis of the
liver, hallucinations, dementia, wet brain" and even death.

One major health problem due to alcohol abuse is cirrhosis of the liver.

Chronic alcoholism can have a profound affect on the human liver. Being the biggest organ
inside the body, it is readily known that it plays a key role in the major functions of the
human body. What happens when cirrhosis of the liver occurs is good, healthy organ tissue is
replaced with bad scar tissue. This bad tissue then keeps the liver from having blood flow
through, which in turn stops it from working properly. Some of the early warning signs of
cirrhosis of the liver can be abdominal pain, nausea, exhaustion or fatigue, swelling of the
ankles and redness of the palms. Interestingly, cirrhosis is almost exclusively a disease of
malnutrition in third world countries; only in developed countries is it associated with
alcoholism, simply because most alcoholics do not eat when they drink.

If you are already a diabetic, though drinking in moderation can be safe, you could have
serious problems if you abuse alcohol. Many alcoholic beverages, particularly some mixed
drinks, contain sugar, thus having the potential to harm a person who has diabetes. Alcohol
abuse can also increase serum triglycerides within a diabetic. Because of this and some of the
other problems that could develop, diabetics must refrain from abusing alcohol and be careful
to limit their intake. There have even been recent studies to show that alcohol abuse can even
have the effect of shrinking the brain of alcoholics. It has proven that out of the alcoholics
studied, they seem to have lighter, smaller brains almost shrunken in nature when compared
to people who were not alcoholics.

Luckily, these effects on the brain seem to be reversible over time should drinking cease.
Another frightening result of alcoholism can be the link to certain cancers.

Some of the cancers that have been associated with excessive drinking are cancers of the
mouth, larynx and the esophagus. People that drink very heavily tend to have a higher risk of
getting esophageal cancer than people who do not drink, by what studies have shown to be about 75%. Obviously, if a person both drinks and smokes, their risk factor is much higher. Unfortunately, these two vices tend to go hand-in-hand with a lot of people, usually having an unhappy ending.

Of all of the effects that alcohol abuse can have on the human body, the effects on an unborn fetus have proven to be the most horrifying. Though many doctors may say that it can be okay to have a glass of wine or so while pregnant, you are still playing a dangerous game with the life and health of your baby at risk.

Would you put alcohol into a baby bottle and have them drink it? Well, then it should be obvious that a pregnant woman should not drink, because whatever the mother eats and drinks, it also goes through the body of the unborn fetus. Fetal Alcohol Syndrome is a terrible and unfair defect to be placed on a baby but when a mother drinks heavily during her pregnancy, this syndrome can develop.

The unborn child can have problems getting enough oxygen and nourishment, which in turn can lead to poor development of important organs. Babies who are born with this syndrome can be small at birth, have some facial malformations, have small eye openings, webbed or even missing fingers or toes, organ deformities, learning disabilities, mental retardation and much more.

Effects of alcohol on the body are tremendous and can be equally as deadly. Alcoholism is a progressive disease and eventually one aspect or another of an alcoholic's body will simply give out from the abuse. If you or someone that you know has a problem with alcohol, you should get help or seek treatment as soon as you can. Though some damage may already be done, there is still time to stop further damage and reclaim your life from alcohol.

5. Effects of stimulants

Cocaine is made from the leaves of the coca shrub, which grows in the mountain regions of South American countries such as Bolivia, Colombia, and Peru. In Europe and North America, the most common form of cocaine is a white crystalline powder. Cocaine is a stimulant but is not normally prescribed therapeutically for its stimulant properties, although it sees clinical use as a local anesthetic, particularly in ophthalmology.
Most cocaine use is recreational and its abuse potential is high, and so its sale and possession are strictly controlled in most jurisdictions. Other tropanederivative drugs related to cocaine are also known such as tropariland lometopane but have not been widely sold or used recreationally.

Caffeine is found naturally in coffee, tea, and to a small extent cocoa. It is also found in many soft drinks, particularly energy drinks. Caffeine stimulates the body, increasing heart rate and blood pressure, and alertness, making some people feel better and able to concentrate. Caffeine is also a diuretic. The vast majority (over 80%) of people in the United States consume caffeine on a daily basis. As a result, few jurisdictions restrict its sale and use.

Caffeine is also sold in some countries as an isolated drug (as opposed to its natural occurrence in many foods). It serves as a mild stimulant to ward off sleepiness and sees wide use among people who must remain alert in their work (e.g., truck drivers, military members). Some medications contain caffeine as one of their minor active ingredients, often for the purpose of enhancing the effect of the main ingredient or reducing one of its side effects.

Nicotine is an alkaloid found in the nightshade family of plants (Solanaceae), predominantly in tobacco, and in lower quantities in tomato, potato, eggplant (aubergine), and green pepper. Nicotine alkaloids are also found in the leaves of the coca plant. Nicotine constitutes 0.3 to 5% of the tobacco plant by dry weight, with biosynthesis taking place in the roots, and accumulates in the leaves. It is a potent nerve poison and is included in many insecticides.

The primary therapeutic use of nicotine is in treating nicotine dependence in order to eliminate smoking with its risks to health. In very low concentrations, nicotine acts as a stimulant, and it is one of the main factors responsible for the dependence-forming properties of tobacco smoking. Although pure nicotine is noncarcinogenic, its presence may inhibit the body's ability to cull aberrant cells.

Cannabis has psychoactive and physiological effects when consumed, usually by smoking or ingestion. The minimum amount of THC required to have a perceptible psychoactive effect is about 10 micrograms per kilogram of body weight (which, in practical terms, is a varying amount, dependent upon potency).
A related compound, 9-tetrahydrocannabivarin, also known as THCV, is produced in appreciable amounts by certain drug strains. This cannabinoid has been described in the popular literature as having shorter-acting, flashier effects than THC, but recent studies suggest that it may actually inhibit the effects of THC.

Relatively high levels of THCV are common in African dagga (marijuana), and in hashish from the northwest Himalaya.

6. Mixing of drugs

The potentiating effect of one drug on another is sometimes considerable, and here the illicit drugs and medicines such as alcohol, nicotine and antidepressants have to be considered in conjunction with the controlled psychoactive substances. The risk level will depend on the dosage level of both substances.

Concerns exist about a number of pharmacological pairings: alcohol and cocaine increase cardiovascular toxicity; alcohol or depressant drugs, when taken with opioids, lead to an increased risk of overdose; and opioids or cocaine taken with ecstasy or amphetamines also result in additional acute toxicity.

The risk for aggression and violent outbursts increase when some benzodiazepines, Flunitrazepam, are combined with alcohol. Within the general concept of multiple drug use, several specific meanings of the term must be considered.

At one extreme is planned use. On the other hand, the use of several substances in an intensive and chaotic way, simultaneously or consecutively, in many cases each drug substituting for another according to availability.

Topic: Etiological Theories Of Substance Abuse

Topic Objective:

At the end of this topic student would be able to:

- To provide an overview of prevailing theories describing causes of substance abuse.
- Present both current and historic perspectives of the causes of substance abuse.
- To provide an objective analysis of theoretical models of the causes of substance abuse.
Definition/Overview:

The Integrated Theory: which is gaining popularity, utilizes all available factors in determining causes or influences upon the development of addiction and substance abuse

Genetic Markers: are sought as indicators of biological reasons that one individual will abuse substances and another will not.

Disease model: The disease model of addiction describes an addiction as a lifelong disease involving biologic and environmental sources of origin.

Key Points:

1. Etiology of Substance Abuse

Understanding the etiology of substance abuse is essential for effective prevention and treatment of substance abuse. Historically, reasons for substance abuse have been elusive and unclear. The search for causes includes the development of the Moral Model, which was later replaced by the Disease Theory that has become the basis of AA and other Anon groups. Research and development of sociological and psychological theories have broadened the search. Genetic markers are sought as indicators of biological reasons that one individual will abuse substances and another will not.

Systems theorists look to the family for pressures on an individual to abuse substances. Behaviorists examine substance abuse as a learned behavior. Sociocultural theorists address issues in the social and cultural context of an individual for factors that might cause substance abuse. The Integrated Theory, which is gaining popularity, utilizes all available factors in determining causes or influences upon the development of addiction and substance abuse. No immediate cause of substance abuse has been found, leading to several possibilities: either substance abuse is not a single condition but a variety of them, there is no one cause, or both. Thus, the notion that there are complex interacting influences on initiation and maintenance of substance abuse allows elements of present theories, as well as new research, to be used to examine vulnerability and resiliency issues in addition to providing explanations for why one individual will abuse substances and another will not.
2. Disease model

The disease model of addiction describes an addiction as a lifelong disease involving biologic and environmental sources of origin. The traditional medical model of disease requires only that an abnormal condition be present that causes discomfort, dysfunction, or distress to the individual afflicted. The contemporary medical model attributes addiction, in part, to changes in the brain's mesolimbic pathway. The medical model also takes into consideration that such disease may be the result of other biologic, psychologic, or sociologic entities despite an incomplete understanding of the mechanisms of these entities. Within the disease model of addiction, a genetic predisposition is believed to be present. An environmental event is also felt likely to be required. These hypotheses would explain the result of adoption and twin studies that have been carried out, indicating that twins separated at birth have a higher likelihood of concordance for addictive disease than would be expected were there not a genetic component, and indicating that these twins have a lower likelihood of concordance for addictive disease than do twins who remain together in identical environments.

3. Systems theory

Systems theory postulates that a change in the function of an individual is followed by compensatory change in other family members. Based on this theoretical premise, an adolescent substance abuser has an influence on every member of the family system. An example of this is the "family secret" of an abusing family, which in time becomes the dominating force around which the family's rules and rituals are centered. Preservation of this unhealthy system supersedes the healthy development of any individuals within this system and can cause developmental retardation of the family members.

4. Behavioral theories

Marijuana has long been considered a gateway drug. In light of evidence of a developmental sequence in the evolvement of substance abuse, kids should be told about the dangerousness/non-dangerousness of tobacco, alcohol, and marijuana by means of awareness given in schools.
5. Sociocultural theory

In many homes with substance abuse, healthy, nurturing relationships are not modeled for children to learn. Abuse is learned behavior. Unfortunately it is usually learned at an early age. The chain or cycle of abuse is like a family disease that will not be cured or eradicated. In a large extended family of aunts, uncles, and cousins, the abusive behavior may be widespread. Because the behavior is so deep and so ingrained in the older generation, it is going to be up to the younger members to break the Intergenerational cycle, to teach both their parents and their children. This is going to be difficult as parents will be reluctant to learn from their children. However, there is really no choice. In severe cases, counseling may help.

6. Disease theory of alcoholism

Alcoholism or alcohol addiction is a disease characterized by the compulsive drinking of alcoholic beverages. Alcoholism can also refer to the behavior of drinking to the point of negative consequences. The existence of the disease alcoholism is widely accepted by the medical and scientific communities.

The modern disease theory of alcoholism meaning it is not at all a disease states that problem drinking is sometimes caused by a disease of the brain, characterized by altered brain structure and function. Within the theory, this disease is called "alcoholism" or "alcohol addiction" although in common usage these words often have other meanings.

Alcoholism is a chronic, life-long disease, such as diabetes. However, if managed properly, damage to the brain can be stopped and to some extent reversed. In addition to problem drinking, the disease is characterized by symptoms including an impaired control over alcohol, compulsive thoughts about alcohol, and distorted thinking. Alcoholism can also lead indirectly, through excess consumption, to physical dependence on alcohol, and diseases such as cirrhosis of the liver.

The risk of developing alcoholism depends on many factors, including genetics and the environment. Those with a family history of alcoholism are more likely to develop it themselves;[citation needed] however, many individuals have developed alcoholism without a family history of the disease. Since the consumption of alcohol is necessary to develop alcoholism, the availability of and attitudes towards alcohol in an individual's environment.
affect their likelihood of developing the disease. Current evidence indicates that in both men and women, alcoholism is 50-60% genetically determined, leaving 40-50% for environmental influences.

In a review in 2001, McLellan et al. compared the diagnoses, heritability, etiology (genetic and environmental factors), pathophysiology, and response to treatments (adherence and relapse) of drug dependence vs. type 2 diabetes mellitus, hypertension, and asthma. They found that genetic heritability, personal choice, and environmental factors are comparably involved in the etiology and course of all of these disorders, providing evidence that drug (including alcohol) dependence is a chronic medical illness.

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

- Assessment And Diagnosis
- Treatment Planning And Treatment Setting
- Individual And Group Treatment

**Topic : Assessment And Diagnosis**

**Topic Objective:**

At the end of this topic student would be able to:

- Making an accurate diagnosis of substance abuse or dependence.
- Establish theoretical and practical frameworks for assessment, methods, and instruments utilized in the diagnosis of abuse or dependency.

**Definition/Overview:**

**Drug abuse:** has a huge range of definitions related to taking a psychoactive drug or performance enhancing drug for a non-therapeutic or non-medical effect.

**Assessment:** assessment is integral to treatment planning that includes information gathering, clinical evaluation, and diagnosis.
Key Points:

1. Assessment

Implementing effective treatment services for substance abuse resides in the accuracy of the assessment. Thus, the assessment is integral to treatment planning that includes information gathering, clinical evaluation, and diagnosis. Several issues however often complicate these processes. Currently, inconsistent social attitudes about substance abuse, unavailability of medical or psychological tests to determine, precisely, chemical dependency in individuals, and inadequate definitions exist. Attempts to address these issues have been numerous. Definitions and criteria for substance abuse and dependence are differentiated in the DSM-IV TR.

Several psychometric instruments such as the MAST, SASSI-3, and CAGE are utilized based on the information collected during the diagnostic interview. Since substance abuse often occurs within the context of other problems, behavioral symptoms and characteristics are also identified and assessed. Posing a question such as, Did all or any of these problems occur while you were drinking or using any other type drug during the initial interview is significant. Clinicians are more likely to recognize denial and minimization, which impedes the diagnostic process. Hence, in order to obtain specific substance abuse information, it is essential that the diagnostic interview is carefully planned and conducted. Deciding whether substance abuse or dependence is present in individuals is complicated and complex. It requires adequate conceptualization of abuse and addiction, which involves interactions between the user, physiological effects, and social context of use. Comprehension of and training in dual and differential diagnoses is critical as well.

2. Urine-Based Drug Test Kits

The main disadvantages of urine-based drug test kits is/are the ease at which they can be "cheated" via simple adulteration or substitution, unless specimen collection is directly observed, inability to detect current / on-the-job drug abuse, the need for bathroom facilities, and with respect to SAMHSA-5, or NIDA-5, the inability to test for drugs used in current society. The main disadvantage of saliva based drug testing is a difficulty in detecting some drug types such as benzodiazepines and marijuana with sufficient accuracy using point of care equipment. Although detecting impairment is one of the major advantages, it is not necessarily the case that all impaired people will correctly be identified as positive using a
saliva test when they should. Another disadvantage is that saliva is a potentially infectious medium and can harbor infection and disease. Accordingly, saliva specimens need to be handled with considerable care.

The main disadvantage of spray or sweat based drug testing is the fact that they are open to contamination. Also large variations of sweat production rates of possible donors make some results inconclusive. There is not much variety in these drug tests since they are not as popular as urine or saliva drug testing kits. Their prices tend to be higher per test conducted. One main disadvantage of this testing method is the limited number of drugs that can be detected. Hair drug test costs more than urine testing, and one must have a lab for results.

3. Four Stages in the Dynamics of an Addicts Family

There are 4 stages of family illness before the family either "bottoms out" or enters recovery. The first stage is the Concern Stage. This is the stage where family members are acting out of a genuine concern. They are only beginning to experience the effects of alcohol and drug abuse by a loved one. Family members at this stage have no idea what they are up against.

The second phase is the Defense Stage. This happens after the "first blackout" where the family members have blocked out the reality of the situation and are going in and out of denial. Addicts and alcoholics often experience during "blockouts."

During this stage, families are preoccupied with the addict's or alcoholic's behavior. They protect the addict by lying to other family members, employers, or to others about his behavior. While tolerating the addict's behavior, they feel increasingly responsible for the family problems. The result is the "blockouts" increase, too. They can't remember all the negative behavior of the addict and tend to minimize the consequences.

After repeated "blockouts" comes the Adaptation Phase. During this phase, family members try to change their own behavior to adapt to the chemically dependent person's behavior. This is a critical phase that may cause family members to either become obsessed with the addict, or they may begin to drink or use drugs them.

Family members may attempt to become "the perfect person" hoping that will make the addict/alcoholic happy and change his/her ways. It is at this time that family members may begin to feel they are "losing their minds," become absent minded, feel like failures, and need medical or mental health care. They often give so much to others that they have nothing left to take care of themselves.
Next come the Exhaustion Phase, when family members defend their use of intoxicant emotions, just like the addict defends his use of drugs or alcohol. They lose their self-worth and experience severe anxiety or depression. All excuses fail and fear rules their lives. They have reached their "bottom."

Just as when addicts reach their bottom, family members must choose to admit the problem and recover, face insanity or death. They absolutely cannot go on the way things are. When they reach this point, family members must admit their problems and accept help in dealing with them. One of the tests used to assist in the diagnosis of an alcohol or substance abuse problem is the Urine drug test kits are available as on-site tests, or laboratory analysis. Urinalysis is the most common test type and used by federally mandated drug testing programs.

**Topic : Treatment Planning And Treatment Setting**

**Topic Objective:**

At the end of this topic student would be able to:

- Introduce and illustrate basic terms and processes of treatment planning and settings.
- To provide an overview of treatment planning that includes creating plans, comprehension of terminology, and meeting requirements.

**Definition/Overview:**

Accurate assessments: and diagnoses of substance abuse and dependency provide the basis for the development and organization of effective treatment experiences. Planning for treatment is a significant part of all treatment settings.

**Key Points:**

1. **Accurate assessments**

Accurate assessments and diagnoses of substance abuse and dependency provide the basis for the development and organization of effective treatment experiences. Planning for treatment is a significant part of all treatment settings. It addresses current problems, goals, objectives, and outcome criteria of the client. Furthermore, clear and concise expectations and guidelines that are specific to each type of setting are provided to both client and clinician.
written documents, treatment plans serve multiple purposes including uniting clinical and non-clinical professionals in the delivery of services, and providing a focus for the therapeutic relationship and contract. These plans are tailored to meet individualized needs and goals of the client.

Thus, treatment planning is not stagnant. Recording changes to the plans is necessary especially if an accrediting body such as the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) regulates the treatment settings substance abuse program. It is imperative that clinicians are knowledgeable about treatment requirements, the accrediting bodies that guide and monitor their facilities, and treatment planning terminology. Another factor for consideration when creating and implementing treatment plans is the treatment setting itself. Important distinctions such as flexibility, adaptability, and responsiveness to the clients current recovery needs exist among settings. Different treatment settings are illustrated in the topic to provide the reader with a sense of how diversified the delivery of substance abuse treatments are and will continue to be as more advanced settings and plans emerge.

2. Types of treatment

Various types of programs offer help in drug rehabilitation, including: residential treatment (in-patient), out-patient, local support groups, extended care centers, and sober houses. Newer rehab centers offer age and gender specific programs.

3. Pharmacotherapies

Pharmacotherapies should not play a part in drug rehabilitation. Certain opioid medications such as methadone and more recently buprenorphine are widely used and do not show efficacy in the treatment of dependence on other opioids such as heroin, morphine or oxycodone. Methadone and buprenorphine are maintenance therapies used with intent of stabilizing an abnormal opioid system and used for long durations of time though both may be used to withdraw patients from narcotics over short term periods as well. Ibogaine is an experimental medication proposed to interrupt both physical dependence and psychological craving to a broad range or drugs including narcotics, stimulants, alcohol and nicotine. Some antidepressants also show use in moderating drug use, particularly to nicotine, and it has become common for researchers to re-examine already approved drugs for new uses in drug rehabilitation.
4. Criminal justice

Drug rehabilitation is sometimes part of the criminal justice system. People convicted of minor drug offenses may be sentenced to rehabilitation instead of prison, and those convicted of driving while intoxicated are sometimes required to attend Alcoholics Anonymous meetings. There have been lawsuits filed, and won, regarding the requirement of attending Alcoholics Anonymous and other twelve-step meetings as being inconsistent with the Establishment Clause of the First Amendment of the U. S. Constitution, mandating separation of church and state.

5. Diseased person model

Some psychotherapists question the validity of the "diseased person" model used within the drug rehabilitation environment. Instead, they state the individual person is entirely capable of rejecting previous behaviors. Further, they contend the use of the disease model of addiction simply perpetuates the addicts' feelings of worthlessness, powerlessness, and inevitably causes inner conflicts that could be resolved if the addict were to approach addiction as behavior that is no longer productive, the same as childhood tantrums. Most drug rehabilitation programs do not utilize any of these ideas, inasmuch as they are seen to contradict the assumption the addict is a sick person in need of help.

6. Counseling

Traditional addiction treatment is based primarily on counseling. However, recent discoveries have shown those suffering from addiction often have chemical imbalances that make the recovery process more difficult. Often, these imbalances may be corrected through improved diet, nutritional supplements and leading a healthy lifestyle. Some of the more innovative centers are now offering a "Biochemical Restoration" process to supplement the counselings portion of treatment.

7. Methods of care

Early editions of the American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM) described addiction as a physical dependency to a substance that resulted in withdrawal symptoms in its absence. Recent editions, including DSM-IV, have moved toward a diagnostic instrument that classifies such conditions as dependency, rather
than addiction. The American Society of Addiction Medicine recommends treatment for people with chemical dependency based on patient placement criteria (currently listed in PPC-2), which attempt to match levels of care according to clinical assessments in six areas, including:

- Acute intoxication and/or withdrawal potential
- Biomedical conditions or complications
- Emotional/behavioral conditions or complications
- Treatment acceptance/resistance
- Relapse potential
- Recovery environment

Some medical systems, including those of at least 15 states of the United States, refer to an Addiction Severity Index to assess the severity of problems related to substance use. The index assesses problems in six areas: medical, employment/support, alcohol and other drug use, legal, family/social, and psychiatric.

While addiction or dependency is related to seemingly uncontrollable urges, and arguably could have roots in genetic predispositions, treatment of dependency is conducted by a wide range of medical and allied professionals, including Addiction Medicine specialists, psychiatrists, psychologists, and appropriately trained nurses, social workers, and counselors. Early treatment of acute withdrawal often includes medical detoxification, which can include doses of anxiolytics or narcotics to reduce symptoms of withdrawal. An experimental drug, ibogaine, is also proposed to treat withdrawal and craving. Alternatives to medical detoxification include acupuncture detoxification. In chronic opiate addiction, a surrogate drug such as methadone is sometimes offered as a form of opiate replacement therapy. But treatment approaches universal focus on the individual's ultimate choice to pursue an alternate course of action.

Therapists often classify patients with chemical dependencies as either interested or not interested in changing. Treatments usually involve planning for specific ways to avoid the addictive stimulus, and therapeutic interventions intended to help a client learn healthier ways to find satisfaction. Clinical leaders in recent years have attempted to tailor intervention approaches to specific influences that affect addictive behavior, using therapeutic interviews.
in an effort to discover factors that led a person to embrace unhealthy, addictive sources of pleasure or relief from pain.

**Topic : Individual And Group Treatment**

**Topic Objective:**

At the end of this topic student would be able to:

- To provide an overview of individual and group modalities used to provide treatment.
- Describe the process of intervention and identify ethical and legal concerns.
- Identify various treatment approaches including direct effect and broad spectrum strategies utilized in individual therapy.

**Definition/Overview:**

**Group Psychotherapy:** is a form of psychotherapy in which one or more therapists treat a small group of clients together as a group.

**Key Points:**

1. **Treatment Programs**

The most effective treatment programs integrate components of individual, group, and family therapies. Success of any type of treatment, however, can only occur once the client reduces harm from or terminates substance use. Thus, the primary objective of individual and group treatment is to suspend substance-abusing behaviors. Individuals may enter treatment voluntarily or through coercion. Coercive treatment involves an intervention whether it is legally based, constructive coercion or controlled motivation.

Upon entry into the treatment setting, clients are likely to benefit the most from a holistic approach to addressing their substance use. Such an approach includes individual, group and family therapy, examination of dietary behaviors, exercise, and environmental change.

Individual and group therapies are the foci of this topic. Exploring clients intrapsychic conflicts and issues is the purpose of individual therapy whereas group therapy utilizes interactions between group members to facilitate change, support, education, and
therapy. Individual therapeutic approaches include strategies that are both direct-effect (e.g. aversion therapy, behavioral self-control training and medication) and broad spectrum (e.g. harm reduction, social skills training and solution-focused brief therapy). Clients presented issues and situations provide the foundation for choosing an approach. The same can be said about group therapy, which encompasses the following variables:

- Group type
- Group dynamics
- Therapeutic factors
- Ground rules
- Goal setting
- Confrontation
- Immediacy
- trust,
- safety
- cohesiveness

Consideration of the various individual and group treatment types also includes recognizing the significance of the counselors characteristics in the therapeutic process.

2. Group psychotherapy

Group psychotherapy is a form of psychotherapy in which one or more therapists treat a small group of clients together as a group. The term can legitimately refer to any form of psychotherapy when delivered in a group format, including Cognitive behavioral therapy or Interpersonal therapy, but it is usually applied to psychodynamic group therapy where the group context and group process is explicitly utilized as a mechanism of change by developing, exploring and examining interpersonal relationships within the group. The broader concept of group therapy can be taken to include any helping process that takes place in a group, including support groups, skills training groups (such as anger management, mindfulness, relaxation training or social skills training), and psycho-education groups.
3. History of group psychotherapy

The founders of group psychotherapy in the USA were Joseph H. Pratt, Trigant Burrow and Paul Schilder. All three of them were active and working at the East Coast in first half of the 20th century. After World War II group psychotherapy was further developed by Jacob L. Moreno, Samuel Slavson, Hyman Spotnitz, Irvin Yalom, and Lou Ormont. Yalom's approach to group therapy has been very influential not only in the USA but across the world, through his classic text "The Theory and Practice of Group Psychotherapy". Moreno developed a specific and highly structured form of group therapy known as Psychodrama.

In the United Kingdom group psychotherapy initially developed independently, with pioneers S. H. Foulkes and Wilfred Bion using group therapy as an approach to treating combat fatigue in the Second World War. Foulkes and Bion were psychoanalysts and incorporated psychoanalysis into group therapy by recognizing that transference can arise not only between group members and the therapist but also among group members. Furthermore the psychoanalytic concept of the unconscious was extended with recognition of a group unconscious, in which the unconscious processes of group members could be acted out in the form of irrational processes in group sessions. Foulkes developed the model known as Group Analysis and the Institute of Group Analysis, while Bion was influential in the development of group therapy at the Tavistock Clinic. Bion has been criticized, for example by Yalom, for his technical approach, which had an exclusive focus on analysis of whole-group processes to the exclusion of any exploration of individual group members' issues. Despite this, his recognition of group defenses in the "Basic Assumption Group", has been highly influential.

Bion's approach is comparable to Social Therapy, first developed in the United States in the late 1970s by Lois Holzman and Fred Newman, which is a group therapy in which practitioners relate to the group, not its individuals, as the fundamental unit of development. The task of the group is to "build the group" rather than focus on problem solving or "fixing" individuals.

4. Therapeutic principles

Yalom's therapeutic factors (originally termed curative factors but re-named therapeutic factors in the 5th edition of The Theory and Practice of Group Psychotherapy) are derived from extensive self-report research with users of group therapy.
4.1. Universality

The recognition of shared experiences and feelings among group members and that these may be widespread or universal human concerns, serves to remove a group member's sense of isolation, validate their experiences and raise self-esteem.

4.2. Altruism

The group is a place where members can help each other, and the experience of being able to give something to another person can lift the member's self esteem and help develop more adaptive coping styles and interpersonal skills.

4.3. Instillation of hope

In a mixed group which has members at various stages of development or recovery, a member can be inspired and encouraged by another member who has overcome the problems that they are still struggling with.

4.4. Imparting information

While this is not strictly speaking a psychotherapeutic process, members often report that it has been very helpful to learn factual information from other members in the group, for example about their treatment or about access to services.

4.5. Corrective recapitulation of the primary family experience

Members often unconsciously identify the group therapist and other group members with their own parents and siblings in a process which is a form of transference specific to group psychotherapy. The therapist's interpretations can help group members gain understanding of the impact of childhood experiences on their personality and they may learn to avoid unconsciously repeating unhelpful past interactive patterns in present day relationships.

4.6. Development of socialising techniques

The group setting provides a safe and supportive environment for members to take risks by extending their repertoire of interpersonal behavior and improving their social skills.
4.7. Imitative behavior

One way in which group members can develop social skills is through a modeling process, observing and imitating the therapist and other group members, for example sharing personal feelings, showing concern and supporting others.

4.8. Cohesiveness

It has been suggested that this is the primary therapeutic factor from which all others flow. Humans are herd animals with an instinctive need to belong to groups, and personal development can only take place in an interpersonal context. A cohesive group is one in which all members feel a sense of belonging, acceptance and validation.

4.9. Existential factors

Learning that one has to take responsibility for one's own life and the consequences of one's decisions.

4.10. Catharsis

Catharsis is the experience of relief from emotional distress through the free and uninhibited expression of emotion. When members tell their story to a supportive audience, they can obtain relief from chronic feelings of shame and guilt.

4.11. Interpersonal learning

Group members achieve a greater level of self-awareness through the process of interacting with others in the group, who give feedback on the member's behavior and impact on others.

4.12. Self-understanding

This factor overlaps with interpersonal learning but refers to the achievement of greater levels of insight into the genesis of one's problems and the unconscious motivations which underlie one's behavior.
5. Settings

Group therapy can form part of the therapeutic milieu of a psychiatric in-patient unit or ambulatory psychiatric Partial hospitalization (also known as Day Hospital treatment). In addition to classical "talking" therapy, group therapy in an institutional setting can also include group-based expressive therapies such as drama therapy, psychodrama, art therapy, and non-verbal types of therapy such as music therapy. Group psychotherapy is a key component of Milieu Therapy in a Therapeutic Community. The total environment or milieu is regarded as the medium of therapy, all interactions and activities regarded as potentially therapeutic and are subject to exploration and interpretation, and are explored in daily or weekly community meetings.

A form of group therapy has been reported to be effective in psychotic adolescents and recovering addicts. Projective group therapy uses an outside text such as a novel or motion picture to provide a "stable delusion" for the former cohort and a safe focus for repressed and suppressed emotions or thoughts in the latter. Patient groups read a novel or collectively view a film. They then participate collectively in the discussion of plot, character motivation and author motivation. In the case of films, sound track, cinematography and background are also discussed and processed. Under the guidance of the therapist, defense mechanisms are bypassed by the use of signifiers and semiotic processes. The focus remains on the text rather than on personal issues.

In Section 3 of this course you will cover these topics:
' Family Therapy In Substance Abuse Treatment
' Working With Selected Populations: Treatment Issues And Characteristics

Topic : Family Therapy In Substance Abuse Treatment

Topic Objective:

At the end of this topic student would be able to:

- Emphasize the need to address multigenerational patterns of substance abuse with families in treatment plans.
- Establish the goals and therapeutic process of family therapy with addicted families.
- Provide statistical evidence of family impact on etiology and maintenance of abuse and dependency.
Definition/Overview:

**Family:** There is no single, immutable definition of *family*. Different cultures and belief systems influence definitions, and because cultures and beliefs change over time, definitions of what is meant by family are by no means static.

**Family therapy:** also referred to as couple and family therapy and family systems therapy, is a branch of psychotherapy that works with families and couples in intimate relationships to nurture change and development. It tends to view change in terms of the systems of interaction between family members. It emphasizes family relationships as an important factor in psychological health.

Key Points:

1. **Conflict between the Addiction Field and Family Therapy**

The conflict between the addiction field and family therapy has not impeded the utilization of the systemic approach to address substance abuse in the present family and future generations. In fact, this approach seems to be effective in creating change, which is an underlying concept of the family therapy/system theory framework. The objective is not only to terminate the present, active abuse with addicted families by examining the family unit as a whole, but to mitigate multigenerational transmission process as well. Thus, family values, communication patterns and styles, hierarchy, and homeostasis are addressed. System theory acknowledges the powerful influence family has on each member's behaviors and interactions in addition to the common characteristics shared by addicted families. Denial, secrecy, codependency, and hypervigilance perpetuate the abuse and retain familial roles and structure thereby maintaining the family balance. There is little doubt that chemical dependence impacts all members, especially children, in multiple ways. Incorporating family systems therapy into the treatment process seems only logical even though it is often ignored or overlooked. The family, defined in multiple ways, is unique as it is self-regulating and self-maintaining. Thus, the family therapy/system theory is a crucial element in the treatment and rehabilitation processes.
2. Family Therapy

There is no single, immutable definition of family. Different cultures and belief systems influence definitions, and because cultures and beliefs change over time, definitions of what is meant by family are by no means static. While the definition of family may change according to different circumstances, several broad categories encompass most families, including traditional families, extended families, and elected families. The idea of family implies an enduring involvement on an emotional level. For practical purposes, family can be defined according to the individual clients closest emotional connections.

Family therapy is a collection of therapeutic approaches that share a belief in the effectiveness of family-level assessment and intervention. Consequently, a change in any part of the system may bring about changes in other parts of the system. Family therapy in substance abuse treatment has two main purposes: to use family's strengths and resources to help find or develop ways to live without substances of abuse, and to ameliorate the impact of chemical dependency on both the identified patient and family. In family therapy, the unit of treatment is the family, and/or the individual within the context of the family system. The person abusing substances is regarded as a subsystem within the family, the person whose symptoms have serious implications for the family system. The familial relationships within this subsystem are the points of therapeutic interest and intervention. The therapist facilitates discussions and problem-solving sessions, often with the entire family group or subsets thereof, but sometimes with a single participant, who may or may not be the person with a substance use disorder.

A number of historical models of family therapy have been developed over the past several decades. These include models such as marriage and family therapy (MFT), strategic family therapy, structural family therapy, cognitivebehavioral family therapy, couples therapy, and solution-focused family therapy. Today four predominant family therapy models are used as the bases for treatment and specific interventions for substance abuse: the family disease model, the family systems model, the cognitivebehavioral approach, and multidimensional family therapy.

The full integration of family therapy into standard substance abuse treatment is still relatively rare. Some of the goals of family therapy in substance abuse treatment include helping families become aware of their own needs and providing genuine, enduring healing for family members; working to shift power to the parental figures in a family and to improve communication; helping the family make interpersonal, intrapersonal, and environmental
changes affecting the person using alcohol or drugs; and keeping substance abuse from moving from one generation to another (i.e., prevention). Other goals will vary; depending on which member of the family is abusing substances.

Multiple therapeutic factors probably account for the effectiveness of family therapy, including acceptance from the therapist, improved communication, organizing the family structure, determining accountability, and enhancing impetus for change. Another reason family therapy is effective is that it provides a neutral forum where family members meet to solve problems. Additionally, family therapy is applicable across many cultures and religions and is compatible with their bases of connection and identification, belonging, and acceptance.

Based on effectiveness data for family therapy and the consensus panels collective experience, the panel recommends that substance abuse treatment agencies and providers consider how to incorporate family approaches, including age-appropriate educational support services for children, into their programs. In addition, while only a few studies have assessed the cost benefits or compared the cost of family therapy to other approaches (such as group therapy, individual therapy, and 12-Step programs), a small but growing body of data has demonstrated the cost benefits of family therapy specifically for substance abuse problems. Additional considerations exist for integrating family therapy into substance abuse treatment. Family therapy for substance abuse treatment demands the management of complicated treatment situations. Specialized strategies may be necessary to engage the identified patient in treatment. In addition, the substance abuse almost always is associated with other difficult life problems, which can include mental health issues, cognitive impairment, and socioeconomic constraints, such as lack of a job or home. It can be difficult, too, to work across diverse cultural contexts or to discern individual family members readiness for change and treatment. These circumstances make meaningful family therapy for substance abuse problems a complex, challenging task for both family therapists and substance abuse treatment providers. Modifications in the treatment approach may be necessary, and the success of treatment will depend to a large degree on the creativity, judgment, and cooperation in and between programs in each field.

Safety and appropriateness of family therapy is another important issue. Only in rare situations are family therapy inadvisable, but there are several considerations of which counselors must be aware. Family or couples therapy should not take place unless all participants have a voice and everyone can raise pertinent issues, even if a dominant family member does not want them discussed. Engaging in family therapy without first assessing
carefully for violence may lead not only to poor treatment, but also to a risk for increased abuse. It is the treatment providers responsibility to provide a safe, supportive environment for all participants in family therapy.

3. Approaches to Therapy

The fields of substance abuse treatment and family therapy share many common assumptions, approaches, and techniques, but differ in significant philosophical and practical ways that affect treatment approaches and goals. Further, within each discipline, theory and practice differ. Although substance abuse treatment is generally more uniform in its approach than is family therapy, in both cases certain generalizations apply to the practice of the majority of providers. Two concepts essential to both fields are denial and resistance presented by clients. Many substance abuse treatment counselors base their understanding of a family's relation to substance abuse on a disease model of substance abuse. Within this model, practitioners have come to appreciate substance abuse as a "family disease" that is, a disease that affects all members of a family as a result of the substance abuse of one or more members. They understand that substance abuse creates negative changes in the individuals moods, behaviors, relationships with the family, and sometimes even physical or emotional health. Family therapists, on the other hand, for the most part have adopted a family systems model. It conceptualizes substance abuse as a symptom of dysfunction in the family. It is this focus on the family system, more than the inclusion of more people that defines family therapy.

Despite these basic differences, the fields of family therapy and substance abuse treatment are compatible. Clinicians in both fields address the clients interactions with a system that involves something outside the self. Multiple systems affect people with substance use disorders at different levels (individual, family, culture, and society), and truly comprehensive treatment would take all of them into consideration. However, some differences exist among many, but not all, substance abuse treatment and family therapy settings and practitioners:

4. Family interventions.

Psycho-education and multifamily groups are more common in the substance abuse treatment field than in family therapy. Family therapists will focus more on intra-family relationships,
while substance abuse treatment providers concentrate on helping clients achieve and maintain abstinence.

5. Process and content

Family therapy generally attends more to the process of family interaction, while substance abuse treatment is usually more concerned with the planned content of each session. Substance abuse clinicians and family therapists typically focus on different targets. Substance abuse treatment counselors see the primary goal as arresting a client’s substance use; family therapists see the family system as an integral component of the substance abuse.

6. Identity of the client

Often, the substance abuse counselor regards the individual with the substance use disorder as the primary person requiring treatment. A family therapist might assume that if long-term change is to occur, the entire family must be treated as a unit, so the family as a whole constitutes the client.

7. Self-disclosure by the counselor

Training in the boundaries related to the therapists or counselors self-disclosure is an integral part of any treatment providers education. Addiction counselors who are in recovery themselves are trained to recognize the importance of choosing to self-disclose their own addiction histories and to use supervision appropriately to decide when and what to disclose. For the family therapist, self-disclosure is not as integral a part of the therapeutic process. It is downplayed because it takes the focus of therapy off of the family.

Different regulations also affect the substance abuse treatment and family therapy fields. This influence comes from both government agencies and third-party payors that affect confidentiality, and training and licensing requirements. Federal regulations attempt to guarantee confidentiality for people who seek substance abuse assessment and treatment. Confidentiality issues for family therapists are less straightforward.
8. Licensure and certification.

Forty-two states require licenses for people practicing as family therapists. Although the specific educational requirements vary from state to state, most require at least a masters degree for the person who intends to practice independently as a family therapist. Certification for substance abuse counselors is more varied.

Specific procedures for assessing clients in substance abuse treatment and family therapy vary from program to program and practitioner to practitioner. Assessments for substance abuse treatment programs focus on substance use and history. Some of the key elements examined when assessing a client's substance abuse history include important related concerns such as family relations, sexual history, and mental health.

In contrast, family therapy assessments focus on family dynamics and client strengths. The primary assessment task is to observe family interactions, which can reveal patterns, along with the family systems strengths and dysfunction. The sources of dysfunction cannot be determined simply by asking individual family members to identify problems within the family. Although most family therapists screen for mental or physical illness, and for physical, sexual, or emotional abuse, issues of substance abuse might not be discovered because the therapist is not familiar with questions to ask or cues that are provided by clients. One technique used by family therapists to help them understand family relations is the genogram, a pictorial chart of the people involved in a three-generational relationship system.

Family therapists and substance abuse counselors should respond knowledgeably to a variety of barriers that block the engagement and treatment of clients. While the specific barriers will vary for clients in different treatment settings, basic issues arise in both substance abuse treatment and family therapy. Issues of family motivation/influence, balance of hierarchal power, general willingness for the family and its members to change, and cultural barriers are essential topics to review for appropriate interventions. Substance abuse counselors should not practice family therapy unless they have proper training and licensing, but they should be sufficiently informed about family therapy to discuss it with their clients and know when a referral is indicated.

The family therapy field is diverse, but certain models have been more influential than others, and models that share certain characteristics can be grouped together. Several family therapy
models have been adapted for working with clients with substance use disorders. None was specifically developed, however, for this integration. These models include behavioral contracting, Bepko and Krestans theory, behavioral marital therapy, brief strategic family therapy, multifamily groups, multi-systemic therapy, network therapy, solution-focused therapy, Stantons approach, and Wegscheider-Cruses techniques.

A number of theoretical concepts that underlie family therapy can help substance abuse treatment providers better understand clients relationships with their families. Perhaps foremost among these is the acceptance of systems theory that views the client as a system of parts embedded within multiple systems—a community, a culture, a nation. The elements of the family as a system include complementarily, boundaries, subsystems, enduring family ties, and change and balance. Other concepts include a family’s capacity for change, a family’s ability to adjust to abstinence, and the concept of triangles.

Family therapists have developed a range of techniques that can be useful to substance abuse treatment providers working with individual clients and families. The consensus panel selected specific techniques on the basis of their utility and ease of use in substance abuse treatment settings, and not because they are from a particular theoretical model. This list of techniques should not be considered comprehensive. These techniques selected by the panel include behavioral techniques, structural techniques, strategic techniques, and solution-focused techniques.

Family therapists would benefit from learning about the treatment approaches used in the substance abuse treatment field. Two of the most common approaches are the medical model of addiction, which emphasizes the biological, genetic, or physiological causes of substance abuse and dependence; and the sociocultural theories, which focus on how stressors in the clients social and cultural environment influence substance use and abuse. In addition, many substance abuse treatment providers add a spiritual component to the bio-psychosocial approach. The consensus panel believes that effective treatment will integrate these models according to the treatment setting, but will always take into account all of the factors that contribute to substance use disorders.
Topic : Working With Selected Populations: Treatment Issues And Characteristics

Topic Objective:

At the end of this topic student would be able to:

- To provide an overview of the research, myths, treatment issues, and characteristics
- Address substance abuse in children and adolescents from a developmental perspective that includes identifying and assessing individual risk factors, family influence, and environmental factors.

Definition/Overview:

Drug Addiction: is widely considered a pathological state. The disorder of addiction involves the progression of acute drug use to the development of drug-seeking behavior, the vulnerability to relapse, and the decreased, slowed ability to respond to naturally rewarding stimuli.

Key Points:

1. Alcohol and Drug Use

Alcohol and drug use behaviors have increased in children and adolescents, women, gays/lesbians/bisexuals/transgenders, people with disabilities, the elderly, and homeless. Members of these groups encounter several risk factors for substance abuse that have a significant impact on their social and psychological development.

In addition, experiencing marginalization within our society is commonplace. Their issues, then, should be of societal importance and concern especially since the risks of involvement with substances tend to increase as risks factors increase. Children and adolescents are vulnerable during their life transitions.

The absence and or lack of protective factors to serve as buffers from the effects of transitory problems heighten the likelihood for experimentation and use.

Women who abuse substances are often stigmatized for deviating from their societal roles. Furthermore, adverse effects of use penetrate to their children, families, and communities.
GLBT individuals are at a higher risk for alcohol and drug use due to the psychological stress of being a homosexual man or woman in a heterosexually dominated society.

Developing a positive GLBT identity often takes time and can be a difficult and complex process. Symptoms of psychiatric disorders might mask substance abuse and dependency for people with disabilities, which influence the treatment approach and delivery. Identifying whether substance abuse behaviors existed before the disability or was a consequence of or response to the disabling event is essential.

Diagnosing substance abuse in the elderly is complicated as it is unique. A common concern for this population is prescription drug abuse. For the homeless, addiction precipitates and sustains homelessness.

Treatment and recovery opportunities are usually hindered by obstacles that exist with being homeless. As evidenced by these groups, a combination of individual, familial, and environmental factors influence substance abuse behaviors. Therefore, designing interventions to meet individual and group needs is necessary.

2. Women's Substance Abuse

Women's substance abuse and their relationships with a husband or significant other is complex. Most people know that alcoholic men keep their wives while alcoholic women are divorced by their husbands. But this may actually be a good thing.

Many women alcoholics stop once divorced of separated. Women who live alone are more likely to develop alcoholism. But this is not because they are unhappy being alone (married women are much likely to be depressed). It is because men and women alike feel more comfortable commenting on and re-directing a woman's behavior.

They will intervene much sooner. There are greater social pressures on women to conform, so their drinking either must be hidden from others. Since this is difficult to do with a housemate not doing it is often the result. There does not seem to be any differences in the genetic tendency towards alcohol abuse.

A typical woman who comes for treatment is about the same age as a man. But while she has had years of gradual escalation, her problem evolved rather quickly. Her drinking was likely
triggered by specific events and she came to treatment because of health or relationship (not job or legal problems like men) affects of the drinking. Women suffer more damage to the liver and other health problems with comparable amounts (standardized by weight) than similar men, so there are more health problems sooner.

Women are more likely to be addicted to prescription drugs than illegal. They combine them with alcohol. Stimulants (cocaine, methamphetamine, even Phen-Fen) are used at about the same rate as men. But women's motivation is often weight loss or to temporarily counters depression that is more common in women.

With images of senior citizens' health and behavior modified by adverse reactions to multiple prescription drugs, alcohol abuse, and illicit substances.

Imagine a world where active efforts to recruit retired workers (some with undiagnosed substance abuse) into a younger, smaller, and more diverse labor force are confounded by historical requirements for a drug-free work environment.

Imagine a world where the achievement of balanced resource allocation and intergenerational equity is strained by unanticipated demands for health care resources, including substance use and abuse-related services, for a growing elderly population that was expected to live longer but with a reduced burden of illness.

3. Stress response

In addition to the reward circuit, it is hypothesized that stress mechanisms also play a role in addiction. Koob and Kreek have hypothesized that during drug use corticotropin-releasing factor (CRF) activates the hypothalamic-pituitary-adrenal axis (HPA) and other stress systems in the extended amygdala. This activation influences the dysregulated emotional state associated with drug addiction. They have found that as drug use escalates, so does the presence of CRF in human cerebrospinal fluid (CSF). In rat models, the separate use of CRF antagonists and CRF receptor antagonists both decreased self-administration of the drug of study. Other studies in this review showed a dysregulation in other hormones associated with the HPA axis, including enkephalin which is endogenous opioid peptides that regulates pain. It also appears that the -opioid receptor system, which enkephalin acts on, is influential in the reward system and can regulate the expression of stress hormones.
4. Behavior

Understanding how learning and behavior work in the reward circuit can help understand the action of addictive drugs. Drug addiction is characterized by strong, drug seeking behaviors in which the addict persistently craves and seeks out drugs, despite the knowledge of harmful consequences. Addictive drugs produce a reward, which is the euphoric feeling resulting from sustained DA concentrations in the synaptic cleft of neurons in the brain. Operant conditioning is exhibited in drug addicts as well as laboratory mice, rats, and primates; they are able to associate an action or behavior, in this case seeking out the drug, with a reward, which is the effect of the drug.

Evidence shows that this behavior is most likely a result of the synaptic changes which have occurred due to repeated drug exposure. The drug seeking behavior is induced by glutamatergic projections from the prefrontal cortex to the NAc. This idea is supported with data from experiments showing the drug seeking behavior can be prevented following the inhibition of AMPA glutamate receptors and glutamate release in the NAc.

5. Allostasis

Allostasis is the process of achieving stability through changes in behavior as well as physiological features. As a person progresses into drug addiction, he or she appears to enter a new allostatic state, defined as divergence from normal levels of change which persist in a chronic state. Addiction to drugs can cause damage to your brain and body as you enter the pathological state; the cost stemming from damage is known as allostatic load. The dysregulation of allostasis gradually occurs as the reward from the drug decreases and the ability to overcome the depressed state following drug use begins to decrease as well. The resulting allostatic load creates a constant state of depression relative to normal allostatic changes. What pushes this decrease is the propensity of drug users to take the drug before the brain and body have returned to original allostatic levels, producing a constant state of stress. Therefore, the presence of environmental stressors may induce stronger drug seeking behaviors.
In Section 4 of this course you will cover these topics:

- Working With Diverse Cultures: Revisiting Issues In Prevention And Intervention
- Sustaining Behavior Change: Relapse Prevention Strategies

**Topic : Working With Diverse Cultures: Revisiting Issues In Prevention And Intervention**

**Topic Objective:**

At the end of this topic student would be able to:

- To provide a demographic overview, risk factors, barriers to treatment, and prevention and intervention considerations for diverse cultural groups.
- Discuss the biological, psychological, and sociocultural factors of substance abuse for American Indians and Alaskan Natives.
- Identify cultural values and situational variables that are influential in Asian American substance abuse behaviors.

**Definition/Overview:**

**Alcoholism:** is a term with multiple and sometimes conflicting definitions to describe the detrimental effects of alcohol intake.

**Key Points:**

**1. Substance Abuse among Multicultural Groups**

Substance abuse among multicultural groups is complex and has yet to be studied extensively. The dearth of literature is a limitation, in that, the ability to effectively address needs and implement prevention and intervention programs is hindered.

Each group, such as those discussed in this topic (e.g. American Indian/Native Alaskans, Asian Americans, African Americans, and Hispanics) experience environmental, social, and cultural stressors that affect the use of substances and treatment approaches. Difficulties in communication, historical distrust, and extended family roles and influence are factors not to be ignored especially during program development.
Other considerations when addressing substance abuse with members of multicultural groups are community perceptions of use and related behaviors, acculturation and identity issues, cultural traditions, beliefs, attitudes and values, and multiplicity in knowing.

Furthermore, different variables exist between and within groups. These differences can limit the generalizations of results. It is necessary, then, to recognize sociocultural worldviews of members in addition to their groups, and to utilize these perceptions in all prevention and rehabilitation programming. Members psychological well-being and health can be dramatically impacted by substance abuse.

Thus, it is of paramount importance that mental health workers increase their knowledge and awareness of multicultural groups while examining their own worldviews. Cultural sensitivity will help break down barriers that deter multicultural groups from seeking mental health services.

Several historic African-American coping strategies are outlined and shown to be powerful factors in client addictive behavior and barriers to recovery.

Through case studies of clients who were successful in their effort to recover, the necessity to address cultural as well as personal issues is shown to be vital to successful recovery among African-Americans.

Despite the growing body of evidence that shows that addictive disorders in Asian Americans are significant and are not absent, there remain many barriers to treatment. These barriers include cultural values, individual factors, and practical issues.

2. Drug Use

Alcohol and drug use behaviors have increased in children and adolescents, women, gays/lesbians/bisexuals/transgenders, people with disabilities, the elderly, and homeless. Members of these groups encounter several risk factors for substance abuse that have a significant impact on their social and psychological development.

In addition, experiencing marginalization within our society is commonplace. Their issues, then, should be of societal importance and concern especially since the risks of involvement
with substances tend to increase as risks factors increase. Children and adolescents are vulnerable during their life transitions.

The absence and or lack of protective factors to serve as buffers from the effects of transitory problems heighten the likelihood for experimentation and use.

Women who abuse substances are often stigmatized for deviating from their societal roles. Furthermore, adverse effects of use penetrate to their children, families, and communities. GLBT individuals are at a higher risk for alcohol and drug use due to the psychological stress of being a homosexual man or woman in a heterosexually dominated society.

Developing a positive GLBT identity often takes time and can be a difficult and complex process. Symptoms of psychiatric disorders might mask substance abuse and dependency for people with disabilities, which influence the treatment approach and delivery. Identifying whether substance abuse behaviors existed before the disability or was a consequence of or response to the disabling event is essential.

Diagnosing substance abuse in the elderly is complicated as it is unique. A common concern for this population is prescription drug abuse. For the homeless, addiction precipitates and sustains homelessness. Treatment and recovery opportunities are usually hindered by obstacles that exist with being homeless.

As evidenced by these groups, a combination of individual, familial, and environmental factors influence substance abuse behaviors. Therefore, designing interventions to meet individual and group needs is

**Topic : Sustaining Behavior Change: Relapse Prevention Strategies**

**Topic Objective:**

At the end of this topic student would be able to:

- Establish definitions, processes, and meaning of recovery and relapse.
- Identify common elements and dimensions of relapse including environmental, behavioral, affective, and relational factors.
- To provide an overview of relapse prevention models from psychoeducational, developmental, cognitive-behavioral/social learning, and AA model of recovery perspectives.
Definition/Overview:

**Drug Rehabilitation**: (often drug rehab or just rehab) is an umbrella term for the processes of medical and/or psychotherapeutic treatment, for dependency on psychoactive substances such as alcohol, prescription drugs, and so-called street drugs such as cocaine, heroin or amphetamines. The general intent is to enable the patient to cease substance abuse, in order to avoid the psychological, legal, financial, social, and physical consequences that can be caused, especially by extreme abuse.

Key Points:

1. **Background**

Changes in physical, psychological, social, familial, and spiritual areas of functioning in addiction to abstain from mind-altering substances or nonproductive compulsive behaviors constitute recovery.

The process of recovery is individual-specific and driven by the individuals motivation to change. Other factors to consider include: (a) length and severity of the abuse/dependency, (b) gender and ethnicity, (c) perception of the problem, and (d) the degree of damage to the environmental, behavioral, and relational aspects of the individuals life.

Eliminating substance use may be easier than sustaining a clean and sober life for the individual in recovery, since a clean and sober life requires the forgoing of a psychologically comfortable lifestyle. Instead of addressing stress and anxiety with substance use, new coping methods must be utilized.

Therefore, incorporating the acquisition of new skills into the recovery process is critical especially to prevent relapse.

Although relapse is perceived as a normal aspect of recovery and a learning experience, several relapse prevention models emerged beginning with Alcoholics Anonymous. Other perspectives on maintaining sobriety include psycho-educational, developmental, and cognitive behavioral/social learning approaches.
Not all of these models are based on the complete abstinence philosophy, yet a common objective to relearn cognitive and behavioral skills is shared. Finally, it should be noted that experiencing and recognizing joy is a powerful deterrent to relapse.

2. Relapse Prevention

An influential cognitive-behavioral approach to addiction recovery and therapy has been Alan Marlatt's (1985) Relapse Prevention approach. Marlatt describes four psychosocial processes relevant to the addiction and relapse processes: self-efficacy, outcome expectancies, attributions of causality, and decision-making processes.

Self-efficacy refers to one's ability to deal competently and effectively with high-risk, relapse-provoking situations. Outcome expectancies refer to an individual's expectations about the psychoactive effects of an addictive substance. Attributions of causality refer to an individual's pattern of beliefs that relapse to drug use is a result of internal, or rather external, transient causes.

Finally, decision-making processes are implicated in the relapse process as well. Substance use is the result of multiple decisions whose collective effects result in consumption of the intoxicant. Marlatt stresses some decisions referred to as apparently irrelevant decisions may seem inconsequential to relapse, but may actually have downstream implications that place the user in a high-risk situation.

As a result of heavy traffic, a recovering alcoholic may decide one afternoon to exit the highway and travel on side roads. This will result in the creation of a high-risk situation when he realizes he is inadvertently driving by his old favorite bar. If this individual is able to employ successful coping strategies, such as distracting himself from his cravings by turning on his favorite music, then he will avoid the relapse risk (PATH 1) and heighten his efficacy for future abstinence.

If, however, he lacks coping mechanisms for instance, he may begin ruminating on his cravings (PATH 2) then his efficacy for abstinence will decrease, his expectations of positive outcomes will increase, and he may experience a lapsean isolated return to substance intoxication.
So doing results in what Marlatt refers to as the Abstinence Violation Effect, characterized by guilt for having gotten intoxicated and low efficacy for future abstinence in similar tempting situations. This is a dangerous pathway, Marlatt proposes, to full-blown relapse.

3. Cognitive Therapy of Substance Abuse

An additional cognitively-based model of substance abuse recovery has been offered by Aaron Beck, the father of cognitive therapy and championed in his 1993 book, Cognitive Therapy of Substance Abuse. This therapy rests upon the assumption addicted individuals possess core beliefs, oftentimes not accessible to immediate consciousness (unless the patient is also depressed). These core beliefs, such as I am undesirable, activate a system of addictive beliefs that result in imagined anticipatory benefits of substance use and, consequentially, craving.

Once craving has been activated, permissive beliefs (I can handle getting high just this one more time) are facilitated. Once a permissive set of beliefs have been activated, then the individual will activate drug-seeking and drug-ingesting behaviors. The cognitive therapists job is to uncover this underlying system of beliefs, analyze it with the patient, and thereby demonstrate its dysfunctionality. As with any cognitive-behavioral therapy, homework assignments and behavioral exercises serve to solidify what is learned and discussed during treatment.

4. Emotion Regulation, Mindfulness, and Substance Abuse

A growing literature is demonstrating the importance of emotion regulation in the treatment of substance abuse. For the sake of conceptual uniformity, this section uses the tobacco cessation as the chief example; however, since nicotine and other psychoactive substances such as cocaine activate similar psychopharmacological pathways, an emotion regulation approach may be similarly applicable to a wider array of substances of abuse. Proposed models of affect-driven tobacco use have focused on negative reinforcement as the primary driving force for addiction; according to such theories, tobacco is used because it helps one escape from the undesirable effects of nicotine withdrawal or other negative moods. Currently, research is being conducted to determine the efficacy of mindfulness based approaches to smoking cessation, in which patients are encouraged to identify and recognize
their negative emotional states and prevent the maladaptive, impulsive/compulsive responses they have developed to deal with them (such as cigarette smoking or other substance use).

In Section 5 of this course you will cover these topics:

- Prevention
- Research And Contemporary Issues

**Topic: Prevention**

**Topic Objective:**

At the end of this topic student would be able to:

- To provide a broad introduction to foundational terms, concepts, and currently accepted approaches in the ATOD prevention and education field.
- Define types of prevention including primary, secondary, and tertiary.
- Emphasize the need for a comprehensive approach to prevention that attempts to address multiple levels of intervention and multiple populations via integration and utilization of several strategies and resources.

**Definition/Overview:**

**The Drug Resistance Strategies Project (DRS):** a program funded by the National Institute on Drug Abuse (NIDA), teaches adolescents and pre-adolescents how to make decisions and resist alcohol, tobacco, and other drugs (ATOD).

**Key Points:**

1. **ATOD Prevention and Education Field**

Organized prevention programming has existed for more than 20 years resulting in the development of environmental, traditional information-based, social influence, and affective approaches. The traditional and most accepted health prevention model addressed the objectives and purposes of primary, secondary and tertiary prevention. ATOD education and prevention efforts targeting the general population are referred to as the universal level of prevention, whereas the selective level of prevention is geared to specifically define at-risk populations. Prevention at an indicated level occurs for individuals and groups who exhibit ATOD related problems.
The long-term impact of these single strategy approaches has yet to be proven despite the history of attempts to prevent substance abuse. A more comprehensive approach is suggested since it addresses the effects and consequences of ATOD abuse through the consideration of factors involved with the problem, utilization of appropriate theories, and integration of multiple strategies to meet current needs. Furthermore, comprehensive approaches such as Project HOPE and Life Skills Training (LST), both with proven effectiveness; presume that prevention is a long-term effort. Proving the effectiveness of approaches rests in the evaluation process that is based on clear and measurable program objectives. Establishing goals and objectives is one essential step of the prevention strategy. A sound planning process that is developmentally appropriate and a needs assessment are also critical in prevention efforts. The most effective prevention programs utilize integrated and coordinated strategies constructed to enhance individual health and well-being by reducing the risks of abusive behaviors and consequences. Therefore, it is imperative that counselors have the knowledge and skills necessary for prevention work.

2. Substance Abuse Prevention Strategies

Substance abuse prevention strategies can be broadly categorized into three core functional domains. Individual Focused programs are designed to alter the knowledge, attitudes and ultimately motivation of potential abusers, Behavioral Alternative programs provide opportunities for responsible behaviors while fulfilling developmental and social needs; Access Control policies, and their enforcement, seek to restrict the access of the AODs or risky ancillary behaviors. It is quite common that these core domains are supported by Community Action programming and structures.

3. Drug Abuse Resistance Education

Drug Abuse Resistance Education, better known as D.A.R.E. or DARE, is an international education program that seeks to prevent use of illegal drugs, membership in gangs, and violent behavior. D.A.R.E., which has expanded globally since its founding in 1983, is a demand-side drug control strategy of the U.S. War on Drugs. Students who enter the program sign a pledge not to use drugs or join gangs and are taught by local law enforcement about the dangers of drug use in an interactive in-school curriculum which lasts ten weeks.
DARE is popular and well-funded, at least in the United States. However, numerous scientific studies of the program report that D.A.R.E. does not actually decrease drug use among graduates. Some studies have even indicated that there is an increased rate of drug use among D.A.R.E. graduates. In 2001, the Surgeon General of the United States placed the D.A.R.E. program in the category of "Does Not Work".

**Topic : Research And Contemporary Issues**

**Topic Objective:**

At the end of this topic student would be able to:

- To provide summaries of research findings on alcohol treatment programs such as the 12-step AA approach to substance abuse, individual outpatient and group counseling programs, family therapy, and multidimensional programs.
- Examine outcome research on methadone maintenance, outpatient, and residential programs.
- Discuss pharmacological, behavioral, and environmental factors unique to treatment problems and the study of cocaine treatment programs.

**Definition/Overview:**

**Alcoholism:** is a term with multiple and sometimes conflicting definitions to describe the detrimental effects of alcohol intake

**Key Points:**

1. **Research Findings on Alcohol Treatment Programs**

Further studies on alcohol, tobacco and other drugs, and program efficacy are in demand despite the existing literature. Concise, well-focused and designed research on substance use, abuse and addiction is limited by major problems. The causes of substance abuse, treatment method strategies and implementation, and inadequate standardized measures for gathering information about the substance-abusing client pose as variables that prevent definable research.

Controversy about what actually works surrounds chemical dependency treatment even though conclusive findings have been produced. Outcome research on various programs (e.g. inpatient, outpatient, residential) suggested clearer guidelines and program recommendations
for treatment. Even contemporary issues of substance abuse have been avenues for further investigation. For example, the disease model is being challenged as are definitions of abuse, labeling, and co morbid diagnoses. Treatment processes are being reexamed as relapse statistics are being recorded. Accessibility to funding and insurance coverage is hindered by the dearth of research driven positive outcome studies and whether substance abuse is a disease.

Treatment services according to gender are rarely acknowledged or implemented despite the research-based evidence indicating major differences between men and women. Debates about clinicians training and experiences, ethical concerns and issues, and burnout are also at the forefront. Substance abuse research must expound upon ethnic minority groups as well. The need for empirically driven research will remain as long as substance abuse related issues exist and evolve.

2. The National Institute on Alcohol Abuse and Alcoholism

The National Institute on Alcohol Abuse and Alcoholism (NIAAA), as part of the U.S. National Institutes of Health, supports and conducts biomedical and behavioral research on the causes, consequences, treatment, and prevention of alcoholism and alcohol-related problems. It funds approximately 90 percent of all such research in the United States and promotes reductions in the per capita consumption of alcohol. NIAAA also provides leadership in the national effort to reduce the severe and sometimes fatal consequences of these problems. According to its Mission Statement, the agency provides leadership in the national effort to reduce alcohol-related problems by:

- Conducting and supporting research in a wide range of scientific areas including genetics, neuroscience, epidemiology, health risks and benefits of alcohol consumption, prevention, and treatment
- Coordinating and collaborating with other research institutes and federal programs on alcohol-related issues
- Collaborating with international, national, state, and local institutions, organizations, agencies, and programs engaged in alcohol-related work
- Translating and disseminating research findings to health care providers, researchers, policymakers, and the public.
- The Vision Statement of the agency is to support and promote the best science on alcohol and health for the benefit of all by:
- Increasing the understanding of normal and abnormal biological functions and behavior relating to alcohol use
- Improving the diagnosis, prevention, and treatment of alcohol use disorders

Enhancing quality health care NIAAA's research initiatives are:

- Basic Research on Medications Development for Alcohol-Use Disorders
- Genetic Studies of Vulnerability to Alcohol
- Mechanisms and Markers of Alcohol-Induced Organ Damage and Organ Protection
- Behavioral and Genetic Risk Factors for Alcoholism
- Long-term, Community-Based Prevention of Alcohol Problems at Specific Life Stages: Underage Populations and the Elderly
- Identifying the Neuro-scientific Basis of Alcohol-Related Behaviors
- Multi-site, Collaborative Initiative on Fetal Alcohol Syndrome, Women, HIV/AIDS, and Alcohol
- Disparities in Adverse and Beneficial Effects of Alcohol
- Advancing Behavioral Therapies for Alcoholism

3. The physiological basis of drug addiction

Researchers have conducted numerous investigations using animal models and functional brain imaging on humans in order to define the mechanisms underlying drug addiction in the brain. This intriguing topic incorporates several areas of the brain and synaptic changes, or neuroplasticity, which occurs in these areas.

4. Acute effects

Acute (or recreational) drug use causes the release and prolonged action of dopamine and serotonin within the reward circuit. Different types of drugs produce these effects by different methods. Dopamine (DA) appears to harbor the largest effect and its action is characterized. DA binds to the D1 receptor, triggering a signaling cascade within the cell. CAMP-dependent protein kinase (PKA) phosphorylates cAMP response element binding protein (CREB), a transcription factor, which induces the synthesis of certain genes including C-Fos.
5. Reward circuit

When examining the biological basis of drug addiction, one must first understand the pathways in which drugs act and how drugs can alter those pathways. The reward circuit, also referred to as the mesolimbic system, is characterized by the interaction of several areas of the brain. The ventral tegmental area (VTA) consists of dopaminergic neurons which respond to glutamate. These cells respond when stimuli indicative of a reward are present. The VTA supports learning and sensitization development and releases dopamine (DA) into the forebrain. These neurons also project and release DA into the nucleus accumbens through the mesolimbic pathway. Virtually all drugs causing drug addiction increase the dopamine release in the mesolimbic pathway, in addition to their specific effects.

The nucleus accumbens (NAcc) consists mainly of medium-spiny projection neurons (MSNs), which are GABA neurons. The NAcc is associated with acquiring and eliciting conditioned behaviors and involved in the increased sensitivity to drugs as addiction progresses. The prefrontal cortex, more specifically the anterior cingulate and orbitofrontal cortices, is important for the integration of information which contributes to whether a behavior will be elicited. It appears to be the area in which motivation originates and the salience of stimuli is determined. The basolateral amygdala projects into the NAcc and is thought to be important for motivation as well.

More evidence is pointing towards the role of the hippocampus in drug addiction because of its importance in learning and memory. Much of this evidence stems from investigations manipulating cells in the hippocampus alters dopamine levels in NAcc and firing rates of VTA dopaminergic cells.

6. Stress response

In addition to the reward circuit, it is hypothesized that stress mechanisms also play a role in addiction. Koob and Kreek have hypothesized that during drug use corticotropin-releasing factor (CRF) activates the hypothalamic-pituitary-adrenal axis (HPA) and other stress systems in the extended amygdala. This activation influences the dysregulated emotional state associated with drug addiction. They have found that as drug use escalates, so does the presence of CRF in human cerebrospinal fluid (CSF). In rat models, the separate use of CRF antagonists and CRF receptor antagonists both decreased self-administration of the drug of
study. Other studies in this review showed a dysregulation in other hormones associated with the HPA axis, including enkephalin which is endogenous opioid peptides that regulates pain. It also appears that the -opioid receptor system, which enkephalin acts on, is influential in the reward system and can regulate the expression of stress hormones.

7. Behavior

Understanding how learning and behavior work in the reward circuit can help understand the action of addictive drugs. Drug addiction is characterized by strong, drug seeking behaviors in which the addict persistently craves and seeks out drugs, despite the knowledge of harmful consequences. Addictive drugs produce a reward, which is the euphoric feeling resulting from sustained DA concentrations in the synaptic cleft of neurons in the brain. Operant conditioning is exhibited in drug addicts as well as laboratory mice, rats, and primates; they are able to associate an action or behavior, in this case seeking out the drug, with a reward, which is the effect of the drug.

Evidence shows that this behavior is most likely a result of the synaptic changes which have occurred due to repeated drug exposure. The drug seeking behavior is induced by glutamatergic projections from the prefrontal cortex to the NAc. This idea is supported with data from experiments showing the drug seeking behavior can be prevented following the inhibition of AMPA glutamate receptors and glutamate release in the NAc.

8. Allostasis

Allostasis is the process of achieving stability through changes in behavior as well as physiological features. As a person progresses into drug addiction, he or she appears to enter a new allostatic state, defined as divergence from normal levels of change which persist in a chronic state. Addiction to drugs can cause damage to your brain and body as you enter the pathological state; the cost stemming from damage is known as allostatic load. The dysregulation of allostasis gradually occurs as the reward from the drug decreases and the ability to overcome the depressed state following drug use begins to decrease as well. The resulting allostatic load creates a constant state of depression relative to normal allostatic changes. What pushes this decrease is the propensity of drug users to take the drug before the brain and body have returned to original allostatic levels, producing a constant state of stress.
Therefore, the presence of environmental stressors may induce stronger drug seeking behaviors.

9. Neuroplasticity

Neuroplasticity is the putative mechanism behind learning and memory. It involves physical changes in the synapses between two communicating neurons, characterized by increased gene expression, altered cell signaling, and the formation of new synapses between the communicating neurons. When addictive drugs are present in the system, they appear to hijack this mechanism in the reward system so that motivation is geared towards procuring the drug rather than natural rewards.

Depending on the history of drug use, excitatory synapses in the nucleus accumbens (NAc) experience two types of neuroplasticity: long-term potentiation (LTP) and long-term depression (LTD). Using mice as a model, Kourrich et al. showed that chronic exposure to cocaine increases the strength of synapses in NAc after a 10-14 day withdrawal period, while strengthened synapses did not appear within a 24 hour withdrawal period after repeated cocaine exposure. A single dose of cocaine did not elicit any attributes of a strengthened synapse. When drug-experienced mice were challenged with one dose of cocaine, synaptic depression occurred. Therefore, it seems the history of cocaine exposure along with withdrawal times affects the direction of glutamatergic plasticity in the NAc.

The hyperactivity of these areas of the brain in addicted subjects is involved in the more intense motivation to find the drug rather than seeking natural rewards, as well as an addicts decreased ability to overcome this urge. Brain imaging has also shown cocaine-addicted subjects to have decreased activity, as compared to non-addicts, in their prefrontal cortex when presented with stimuli associated with natural rewards.

The transition from recreational drug use to addiction occurs in gradual stages and is produced by the effect of the drug of choice on the neuroplasticity of the neurons found in the reward circuit. During events preceding addiction, cravings are produced by the release of dopamine (DA) in the prefrontal cortex. As a person transitions from drug use to addiction, the release of dopamine (DA) in the NAc becomes unnecessary to produce cravings; rather, DA transmission decreases while increased metabolic activity in the orbitofrontal cortex
contributes to cravings. At this time a person may experience the signs of depression if cocaine is not used.

10. Neurogenesis

Drug addiction also raises the issue of potential harmful effects on the development of new neurons in adults. Eisch and Harburg raise three new concepts they have extrapolated from the numerous recent studies on drug addiction. First, neurogenesis decreases as a result of repeated exposure to addictive drugs. A list of studies show that chronic use of opiates, psychostimulants, nicotine, and alcohol decrease neurogenesis in mice and rats. Second, this apparent decrease in neurogenesis seems to be independent of HPA axis activation.

Other environmental factors other than drug exposure such as age, stress and exercise, can also have an effect on neurogenesis by regulating the hypothalamic-pituitary-adrenal (HPA) axis. Mounting evidence suggests this for 3 reasons: small doses of opiates and psychostimulants increase corticosterone concentration in serum but with no effect on neurogenesis; although decreased neurogenesis is similar between self-administered and forced drug intake, activation of HPA axis is greater in self-administration subjects; and even after the inhibition of opiate induced increase of corticosterone, a decrease in neurogenesis occurred. These, of course, need to be investigated further. Last, addictive drugs appear to only affect proliferation in the subgranular zone (SGZ), rather than other areas associated with neurogenesis. The studies of drug use and neurogenesis may have implications on stem cell biology.

11. Psychological drug tolerance

The reward system is partly responsible for the psychological part of drug tolerance;

The CREB protein, a transcription factor activated by cyclic adenosine monophosphate (cAMP) immediately after a high, triggers genes that produce proteins such as dynorphin, which cuts off dopamine release and temporarily inhibits the reward circuit. In chronic drug users, a sustained activation of CREB thus forces a larger dose to be taken to reach the same effect. In addition it leaves the user feeling generally depressed and dissatisfied, and unable to find pleasure in previously enjoyable activities, often leading to a return to the drug for an additional "fix".
12. Sensitization

Sensitization is the increase in sensitivity to a drug after prolonged use. The proteins delta FosB and regulator of G-protein Signaling 9-2 (RGS 9-2) are thought to be involved:

A transcription factor, known as delta FosB, is thought to activate genes that, counter to the effects of CREB, actually increase the user's sensitivity to the effects of the substance. Delta FosB slowly builds up with each exposure to the drug and remains activated for weeks after the last exposure - long after the effects of CREB have faded.

The hypersensitivity that it causes is thought to be responsible for the intense cravings associated with drug addiction, and is often extended to even the peripheral cues of drug use, such as related behaviors or the sight of drug paraphernalia. There is some evidence that delta FosB even causes structural changes within the nucleus accumbens, which presumably helps to perpetuate the cravings, and may be responsible for the high incidence of relapse that occur in treated drug addicts.

Regulator of G-protein Signaling 9-2 (RGS 9-2) has recently been the subject of several animal knockout studies. Animals lacking RGS 9-2 appear to have increased sensitivity to dopamine receptor agonists such as cocaine and amphetamines; over-expression of RGS 9-2 causes a lack of responsiveness to these same agonists. RGS 9-2 is believed to catalyze inactivation of the G-protein coupled D2 receptor by enhancing the rate of GTP hydrolysis of the G alpha subunit which transmits signals into the interior of the cell.