LESSON PLAN

ON

SUBSTANCE RELATED DISORDER

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General Objective:

Help the students to acquire sound knowledge about the substance related disorder and develop skills and desirable positive attitudes towards the development of self analysis is the first building block in providing quality nursing care.

Specific Objective:

At the end of the class, they will be able to:

- define substance abuse
- causes of substance abuse
- enlist the causes of substance abuse
- list the classification of substance abuse
- define alcohol abuse
- enumerate the species of alcoholism
- evaluate the diagnostic evaluation
- describe the complications
- management of alcohol abuse

Sl no	Time	Specific objective	Content	Teaching -learning activities	Av aids	Evaluation

			Introduction Drugs are pervasive part of our society. Certain mood altering substances are quite socially acceptable and are moderately used by many adults. Society has even developed a relative indifference to an occasional abuse of these substances, despite documentation of their negative impact on health. Some illegal substances have achieved a degree of social acceptance by various sub cultural groups within our society. The term ***substance*** is used in reference to any drug, medication or toxin that shares the potential for abuse. ***Addiction*** is a physiologic and psychologic dependence on alcohol or other drugs of abused that affects the central nervous system in such a way that withdrawal symptoms are experienced when the substance is discontinued. ***Abuse*** refers to maladaptive pattern of substance use that impairs health in abroad sense. ***Dependence*** refers to certain physiological and psychological phenomena induced by the repeated taking of a substance. ***Tolerance*** is a state in which after repeated administration a drug produces a decreased effect or increasing doses are required to produce the same effect. ***Withdrawal*** state is a group of signs and symptoms recurring when a drug is reduced in amount or withdrawn, which last for a limited time. The nature of the withdrawal state is related to the class of substance used. **Causes of substance abuse** Probable influences include genetic predisposition, pharmacologic properties of the particular drug, peer pressure, emotional distress and environmental factors.		Black board	

			Genetic theories Family histoty of substance use Co morbid psychiatric/personality/medical disorder **Neurobiological theories** Drug addicts may have an inborn deficiency of endorphins. Imbalnce in dopamine, norepinephrine **Psychological theories** Curiosity, low self esteem, poor stress management, escape from reality, relief from fatigue, early initation of OH, psychological distress. Punitive super ego and fixation at oral stage of pschosexual development **Social factor:** Peer pressure, modelling, easy availability of OH, intrafamilial conflict, religious reason, poor social and family support and rapid urbanisation **Behavioral theories** Behavioral scientists view drug abuse as the result of conditioning or cumulative reinforcement from drug use. Drug use causes euphoric experience perceived as rewarding thereby motivating user to keep taking the drug. Stimuli and setting associated with drug use, may themselves become reinforcing or may trigger drug craving that can lead to relapse. **Classification:** ICD classification of mental and behaviour disorders due to psychoactive substance use. F10 – mental and behavioral disorders due to use of alcohol		Black board and chart	

			F11 – mental and behavioral disorders due to use of opioids. F12 – mental and behavioral disorders due to use of cannabinoids. F13 – mental and behavioral disorders due to use of sedatives or hypnotics. F14 – mental and behavioral disorders due to use of cocaine. F16 – mental and behavioral disorders due to use of hallucinogens. **Classes of psychoactive substance** The following 11 classes of psychoactive substance are associated with substance use and substance use and substance induced disorders. They include 1. Alcohol 2. Amphetamines and other sympathomimetics 3. Caffeine and other stimulants. 4. Cannabis 5. Cocaine 6. Hallucinogens for example LSD, phencyclidine. 7. Inhalants 8. Nicotine 9. Opiods 10. Phencyclidine (PCP) and related substances 11. Sedatives hypnotics or anxiolytics for example barbiturates. **ALCOHOL DEPENDENCE** **Species of Alcoholic Dependence;** According to Jellinck, there are 5 species of alcohol dependence on the basis of			

			patterns of use. ***Alpha Alcoholism:*** • Excessive and inappropriate drinking to relieve physical and / or emotional pain • No loss of control • Ability to abstain present ***Beta Alcoholism:*** • Excessive and inappropriate drinking • Physical complications (e.g. Cirrhosis, Gastritis and Neuritis) due to cultural drinking patterns and poor nutrition. • No dependence ***Gamma Alcoholism:*** • Also called as malignant alcoholism • Progressive course • Physical dependence with tolerance and withdrawal symptoms • Psychological dependence with inability to control drinking. ***Delta Alcoholism;*** • Inability to abstain • Tolerance • Withdrawal symptoms • The amount of alcohol consumed can be controlled. • Social disruption is normal. Ep***silon Alcoholism:***			

- Dipsomania (compulsive drinking)
- Spice drinking.

Laboratory Markers:

Certain laboratory markers of alcohol dependence have been suggested. These include,

G.G.T (Gamma Glutyl Transferase)

It is raised to about 40 IU/L in 80% of alcohol dependent individuals. GGT returns to normal rapidly on abstinence from alcohol.

MCV (Mean Corpuscular Volume)

It is more than 92fl (normal 80 – 90fl) in 60% alcohol dependent individuals. MCV takes several weeks to return to normal from abstinence.

Other lab markers include alkaline phosphates, AST, ALT, uric acid, blood triglycerides and CPK.

In addition BAC (Blood Alcohol Concentration) and breath analyzer can be used for the purpose of identification

Body fluid alcoholic levels.

BAC	Behavioral correlates
25-100 mg %	Excitement

80mg%	Legal unit for driving
100-200mg%	Serious intoxication Slurred speech In coordination, nystagmus
200-300mg%	Dangerous
300-350mg%	Hypothermia, dysarthria, cold sweats
350-400mg%	Coma, respiratory depression
>400mg%	Death may occur

MAST (Michigan Alcoholism Screening Test)

It is frequently used for this purpose, while ***CAGE Questionnaire*** consists of four questions and is easier to administer.

Have you ever had to **cut** down on alcohol amount?

Have you ever been **annoyed** by people criticism of alcoholism?

Have you ever felt **guilty** about drinking?

Have you ever needed **eye opener** drink (early morning drink)

A score of 2 or more identifies problem drinkers.

Complications.

			Alcohol dependence is often associated with complications medical and social ***Medical complications:*** <u>Gastro intestinal system:</u> a. Fatty liver, cirrhosis of liver, hepatitis, liver cell carcinoma, liver failure. b. Gastritis reflux, oesophagitis, esophageal varices, peptic ulcer, carcinoma, stomach and esophagus c. Malabsorption syndrome, protein losing enteropathy, pancreatitis, acute chronic and relapsing <u>Central nervous system:</u> a. Peripheral neuropathy b. Delirium tremens c. Rum fits d. Alcoholic hallucinosos e. Alcoholic jealousy f. Wernicke korsakoff psychosis g. Marchiafava bignam disease h. Alcoholic dementia i. Suicide j. Cerebellar degeneration k. Central pontine myelinosis l. Head injury and fractures <u>Miscellaneous</u> ▪ Acne, rosacca, palmer erythema, rhinophyma, spider neve ▪ Fetal alcohol syndrome ▪ Alcoholic hypoglycemia and ketoacidosis ▪ Cardiomyopathy, cardiac beri beri ▪ Alcoholic myopathy			

			▪ Anemia, thrombocytopenia, vitamin k factor deficiency ▪ Accidental hypothermia ▪ Pseudo Cushing's syndrome, hypogonadism, gynacomastea ▪ Risk for coronary artery disease ▪ Malnutrition, pellagra ▪ Decreased immune function. ***Social complications:*** ➢ Accidents ➢ Marital disharmony ➢ Divorce ➢ Occupational problems ➢ Increased incidence of drug dependence ➢ Criminality, occasionally ➢ Financial difficulties. **Acute intoxication:** After a brief period of excitation, there is generalized central nervous system depression. With increasing intoxication there is increased reaction time, slowed thinking, distractibility and poor motor control. Later dysarthria, ataxia and in coordination occur there is progressive loss of self control with frank disinhibited behaviour. The duration of intoxication depends on the amount and the amount rapidity of ingestion of alcohol. Usually the signs of intoxication are obvious with blood levels of 150-200mg%. With blood alcohol levels of 300-400mg%increaing drowsiness, followed by coma and respiratory depression develop. Death occurs with blood alcohol levels between 400mg% to 800mg%. **Withdrawal syndrome**: The most common withdrawal symptom syndrome is hangover on the next			

			morning, mild tremors, nausea, vomiting, weakness, irritability, insomnia and anxiety are also common withdrawal symptoms may be more severe characterized by one of the following three disturbance, delirium tremens, alcoholic, seizures and alcoholic hallucinosis. **Delirium Tremens:** It is the most severe alcohol withdrawal syndrome. It occurs usually within 2-4 days of complete or significant abstinence from heavy alcohol or drinking in 5% ***Characteristics:*** Clouding of consciousness Poor attention span Visual and auditory hallucination and illusion Marked autonomic disturbance Psychomotor agitation Insomnia **Alcoholic seizures** Generalized tonic clonic seizures occur in about 10% of alcohol dependence patients, usually 12-48 hours after a heavy bout of drinking. Usually these patients have been drinking alcohol in large amounts for a regular basis for many years. **Alcoholic hallucinosis:** This is characterized by the presence of hallucinations (usually auditory) during abstinence, following regular alcohol intake. These hallucination persists after the withdrawal syndrome is over and classically occur in clear consciousness. Usually recovery within one month and the duration is very rarely more than 6 months. **Neuropsychiatry Complications of chronic Alcohol use**			

			Wernick's Encephalopathy: This is an acute reaction to severe thiamine deficiency, the commonest cause being chronic alcoholic use. The important clinical signs are Ocular signs: Coarse nystagmus and ophthalmoplegia with bilateral external rectus paralysis occur early papillary irregularities, retinal hemorrhage and papilledema can occur causing impairment of version. ***Higher mental function disturbance:*** Disorientation, confusion, recent memory disturbances, poor attention span and distractability are common. Apathy and ataxia are early symptoms. ***Korsakoff's psychosis:*** Korsakoff's psychosis presents as an amnestic syndrome, characterized by gross memory disturbances with confabulation. Insight is often impaired. The cause is severe untreated, thiamine deficiency secondary to chronic alcohol use. ***Marchiafava Bignami Disease:*** This is a rare disorder characterized by disorientation epilepsy, ataxia, dysarthria, hallucinations, spastic, limb paralysis and personality and intellectual deterioration. There is a widespread demyelination of corpus callosum, optic tracts and cerebellar peduncles. The cause is probably some alcohol related nutritional deficiency. ***Others*** These include • Alcoholic dementia • Cerebellar degeneration • Peripheral neuropathy • Central pontine meiosis			

Treatment:

Before starting any method of treatment, it is important to follow these steps

- Ruling out or diagnosing any physical disorder
- Ruling out or diagnosing any psychiatric disorder
- Assessment of motivation for treatment
- Assessment of social support system
- Assessment of personality characteristic of the patient.

Current and past social, interpersonal and occupational functioning.

The treatment can be broadly divided in to two types which are often inter linked. These are detoxification and treatment of alcohol dependence.

Detoxification&ALCOHOL WITHDRAWAL SYNDROME

This is the treatment of alcohol withdrawal symptoms ie symptoms produced by the removal of the toxin.
The best way to stop alcohol is to stop it suddenly.
The usual duration of uncomplicated withdrawal syndrome is 7-14 days.
The aim of detoxification is the symptomatic management of the emergent withdrawal symptoms.
The drugs of choice are benzodiazepines

- Chlordiazepoxide 80-200mg/day
- Diazepam 40-80mg/day

In addition vitamins should be administered,.
Vitamin B containing 100mg of thiamine administered parenterally bid for 3-5 days.
This is followed by oral administration of vitamin B1 for atleast 6 months.
Care of hydration is another important step. It is extremely important not to give 5% dextrose in delirium tremens without thiamine.
Detoxification can be achieved in an outpatient setting but some may require

			hospitalization. They are patients who present with • signs of impending delirium tremens. • Psychiatric symptoms or disorders • Physical illness • Inability to stop alcohol Detoxification is the first step in treatment of alcohol dependence. ***Treatment of Alcohol Dependence:*** The important methods include <u>Behaviour Therapy:</u> The most commonly used behaviour therapy is aversion therapy, using either a sub threshold electric shock or an emetic apomorphine. Other methods have also been used in combination with aversion therapy. They are the following o Covert sensitsation o Relaxation techniques o Assertiveness training o Self control skills o Positive reinforcement <u>Psychotherapy</u> Supportive psychotherapy and individual psychotherapy have also been used. The patient should be educated about the risks of continuing alcohol use, asked to resume personal responsibility for change and given a choice of options for change. <u>Group therapy:</u>			

			Of particular importance is a voluntary self help group – AA (Alcoholic Anonymous) with branches all over the world. <u>Deterrent Agents:</u> The deterrent agents are also called alcohol sensitizing agents. When alcohol is ingested by a person who is on disulfiram, alcohol-derived acetaldehyde cannot be oxidized to acetate and this leads to an accumulation of acetaldehyde in blood. This causes the disulfiram ethanol reaction characterized by flushing, tachycardia, hypotension, tachypnoea, palpitations, headache, sweating, nausea, vomiting, giddiness and a sense of impending doom. <u>Anticraving Agents:</u> Acamprosate, naltrexone and SSRI (e.g. Fluxetine) are among medications tried as anticraving agents in alcohol dependence. <u>Other Medications:</u> A variety of other medication like benzodiazepines, antidepressants, antipsychotic, lithium, carbamazepine narcotics have been tried. <u>Aversive Drugs:-- Disulfiram</u> It act as a helpful adjunct to therapy and allow the patient's relatives /employers to regain confidence in their ability to remain abstinent. Action; Irreversible inhibition of acetaldehyde 9ALDH) which converts alcohol to carbon dioxide and water. If alcohol is taken there is a build up of acetaldehyde in the bloodstream causing unpleasant symptoms of flushing, headache, tachycardia. **Nursing Interventions:** Continuously monitor patient's vital signs and urine output. Watch for complications of overdose and withdrawal			

Maintain quiet, safe environment
Take appropriate measures to prevent suicide attempts and assaults.
Approach patient in a non threatening way; limit sustained eye contact.
Institute seizure precautions
Administer IV fluids to increase circulatory volume
Give medications as ordered, monitor and record their effectiveness.

PREVENTION OF SUBSTANCE ABUSE DISORDER

Primary prevention

- Reduction of over prescribing by doctors (especially with benzodiazepines and other anxiolytic drugs).
- Identification and treatment of family members who may be contributing to the drug abuse.
- Introduction of social changes is likely to affect drinking patterns in the population as a whole. This is made possible by
  - Putting up the price of alcohol and alcoholic beverages
  - Controlling or abolishing the advertising of alcoholic drinks.
  - Controls on sales (by limiting hours or banning sales in supermarkets).
  - Restricting availability and lessening social deprivation.
- Other approaches are to strengthen the individual's personal and social skills to increase self-esteem and resistance to peer pressure.
- Health education to college students and the oath about the dangers of drug abuse through the curriculum and mass media.

Secondary Prevention

- Early detection and counseling
- Brief intervention in primary care (dimple advice by a general practitioner plus an educational leaflet).
- Motivational interviewing which involves providing feedback to the patient on the personal risks that alcohol poses, together with a number of options for change.
- A full assessment including an appraisal of current medical, psychological and

			social problems • Detoxification with benzodiazepines (diazepam, chlordiazepoxide) **Tertiary Prevention:** • Specific measures include: • Alcohol deterrent therapy (Disulfiram or Antabuse). • Other therapies include assertiveness training to prevent yielding to peer pressure, teaching coping skills, behavior counseling, supportive psychotherapy and individual psychotherapy. • Agencies concerned with alcohol-related problem: Alcoholics Anonymous (AA), • Restricting availability and lessening social deprivation. **Rehabilitation:** • The aim of rehabilitation of an individual deaddicted from the effects o alcohol/ drugs is to enable him to leave the drug sub-culture and to develop new social contacts in this patients first engage in work and social activities in sheltered surroundings and then take greater responsibilities for themselves • Continuing social support is usually required when the person makes the transition to normal work and living. **Geriatric Considerations.** • . Risk factors for late onset substance abuse in elders include chronic illness, life stress, social isolation, grief, depression, etc. some elders with alcohol use problems are those who had a drinking problems early in life, had a significant period of abstinence and then resumed drinking again in later life. • Elders may experience physical problems associated with substance abuse rather quickly, especially if their overall medical health is compromised by other illnesses. **Follow Up and Home Care:** • Some patients with drug problems complete treatment the first time and remain sober, while other patients have to repeat treatment several times. Some patients do not succeed in staying sober. Nurses remain hopeful and appropriately supportive but realistic when treating patients.			

			Patient and Family Teaching: • Teach the patient/family about the physical, psychological and social complications of drug and alcohol use. • Inform the patient/family that psychoactive substances may alter a person's mood, perceptions, consciousness or behavior. • Explain to the family that the patient may use lies, denial or manipulation to continue drug or alcohol use and to avoid treatment. • Teach the patient/family that drug overdose or withdrawal can result in a medical emergency and even death give the family emergency resources for help. • Caution the patient that sharing dirty or used needles can result in a life threatening disease such as AIDS, hepatitis B. • Teach the family to establish trust with the patient and to use firm limit setting when necessary to help the patient confront drug abuse issues. • Provide the patient with a full range of treatment during hospitalization such as medication, individual therapy, group therapy, 12- step program (AA) and behavior modification to strengthen the recovery process. • Teach the patient/family how to recognize psychosocial stressors that may exacerbate substance abuse problem and how to avoid or prevent them. • Emphasize to the patient the importance of changing lifestyle, friendships and habits that promote drug use to remain sober. • Teach the patient/family about the availability of local self-help programs to strengthen the patient's recovery and support the family's assistance. **Nursing Care Plan** • Ineffective denial related to underdeveloped ego as evidenced by statements indicating no problem with substance use. • Risk for injury as a result of environmental conditions interacting with the individual's adaptive and defensive resources • Ineffective coping related to inadequate coping skills and weak ego as evidenced by use of substances as coping mechanisms Imbalanced nutrition, less than body requirements related to use of substances instead of eating as evidences by			

			loss of weight, pale conjunctiva and mucous membrane, poor skin turgor, electrolyte imbalance and anemia.			

EVALUATION:

- define substance abuse
- causes of substance abuse
- enlist the causes of substance abuse
- list the classification of substance abuse
- define alcohol abuse
- enumerate the species of alcoholism
- evaluate the diagnostic evaluation
- describe the complications
- management of alcohol abuse

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