SUBSTANCE USE DISORDERS

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INTRODUCTION:

Substance related disorders are a significant health problem in today's society. Problems associated with abuse of alcohol, tobacco and other drugs continue to consume major proportions of health care dollar. Substance abuse is especially prevalent among individuals between the ages of 18 and 24.Substance-related disorders are diagnosed more commonly in men than in women, but the gender ratios vary with the class of the substance.

DEFINITION:

SUBSTANCE :

It refers to any Drugs, Medication, or Toxins that shares the potential of abuse.

ADDICTION:

It is a Physiological & Psychological dependence on Alcohol or other drugs of Abuse that affects the Central Nervous System in such a way that withdrawal symptoms are experienced when the substance is Discontinued.

ABUSE :

It refers to Maladaptive pattern of Substance use that impairs health in aboard sense.

DEPENDENCE:

It refers to certain Physiological & Psychological phenomena induced by the repeated taking of a Substance.

TOLERANCE:

It is a state in which after repeated administration, a drug produced a decreased effect, or increasing doses are required to produce the same effect.

WITHDRAWAL STATE:

It is a group of signs & symptoms recurring when a drug is reduced in amount or withdrawn, which last for a limited time.

SUBSTANCE RELATED DISORDER:

Substance related disorder are the disorders of intoxication, dependence, abuse and substance withdrawal caused by various substance, both legal and illegal.

SUBSTANCE-INDUCED DISORDERS:

Substance Induced Disorders include,

1. SUBSTANCE INTOXICATION
2. SUBSTANCE WITHDRAWAL

SUBSTANCE INTOXICATION:

It defined as the development of reversible substance specific syndrome caused by the recent ingestion of a substance. The behaviour changes can be attributed to the physiological effects of the substance on the CNS and develop during or shortly after use of the substance. Judgement is disturbed; resulting in inappropriate and maladaptive behaviour and social and occupational functioning are impaired.

SUBSTANCE WITHDRAWAL:

Substance withdrawal occurs upon abrupt reduction or discontinuation of a substance that has been used regularly over a prolonged period of time. The substance specific syndrome includes clinically significant physical signs and symptoms as well as psychological changes such as disturbance in thinking, feeling and behaviour.

ICD – 10 CLASSIFICATION:

F10 – F19 -Mental & Behavior Disorders due to Psychoactive Substance Use.
F10 - Mental & Behaviour Disorders due to use of Alcohol.
F11 - Mental & Behaviour Disorders due to use of Opioids.
F12 - Mental & Behaviour Disorders due to use of Cannabinoids.
F13 - Mental & Behaviour Disorders due to use of Sedatives & Hypnotics.
F14 - Mental & Behaviour Disorders due to use of Cocaine.
F16 - Mental & Behaviour Disorders due to use of Hallucinogens.

THE PATTERNS OF SUBSTANCE RELATED DISORDER:

1. Acute intoxication
2. Withdrawal state
3. Dependency state
4. Harmful use

Harmful use is characterized by:

- Continued drug use despite awareness of harmful medical and/or social effect of the drug being used.
- A pattern of physically hazardous use of drug (e.g. driving during intoxication).
- The diagnosis requires that actual damage should have been caused to the mental or physical health of the user.

CLASSES OF PSYCHOACTIVE SUBSTANCES:

- Alcohol
- Opioids
- Cannabis
- Cocaine
- Amphetamines and other sympathomimetics
- Hallucinogens, e.g.LSD, phencyclidine
- Sedatives and hypnotics,e.g. barbiturates

- Inhalants, e.g. volatile solvents
- Nicotine
- Other stimulants, e.g. caffeine

PREDISPOSING FACTORS:

1. GENETICS:

An apparent hereditary factor is involved in the development of substance-use disorders. This is especially evident with alcoholism, but less so with other substances. Children of alcoholics are three times more likely than other children to become alcoholics. Monozygotic (one egg, genetically identical) twins have a higher rate for concordance of alcoholism than di-zygotic (two eggs, genetically non-identical) twins.

2. BIOCHEMICAL:

A second biological hypothesis relates to the possibility that alcohol may produce morphine-like substances in the brain that are responsible for alcohol addiction. These substances are formed by the reaction of biologically active amines (e.g., dopamine, serotonin) with products of alcohol metabolism, such as acetaldehyde.

3. PSYCHOLOGICAL FACTORS:

- **Developmental Influences:**

The psychodynamic approach to the aetiology of substance abuse focuses on a Punitive superego and fixation at the oral stage of psychosexual development. Individuals with punitive superegos turn to alcohol to diminish unconscious anxiety and increase feelings of power and self-worth.

- **Conditioning.**

Many substances create a pleasurable experience that encourages the user to repeat it. The environment in which the substance is taken also contributes to the reinforcement. If the environment is pleasurable, substance use is usually increased.

4. PERSONALITY FACTORS:

Low self-esteem, frequent depression, passivity, the inability to relax or to defer gratification, and the inability to communicate effectively are common in individuals who abuse substances

5. SOCIOCULTURAL FACTORS:

- **Social Learning:**

Studies have shown that children and adolescents are more likely to use substances if they have parents who provide a model for substance use. Peers often exert a great deal of influence in the life of the child or adolescent who is being encouraged to use substances for the first time.

❖ **Cultural and Ethnic Influences:**

Factors within an individual's culture help to establish patterns of substance use by moulding attitudes, influencing patterns of consumption based on culturalacceptance, and determining the availability of the substance.

6. PSYCHIATRIC DISORDERS:

Substance use disorders are more common in depression, anxiety disorders(particularly social phobias), personality disorder (especially antisocial personality) and occasionally in organic brain disease and schizophrenia.

THE DYNAMICS OF SUBSTANCE RELATED DISORDERS:

I.OPIOID USE DISORDERS

Dried exudates obtained from unripe seed capsules of papaver somniferum has been used and abused for centuries. The most important dependence producing derivatives are **morphine and heroine**.

Acute intoxication:

This is characterized by apathy, bradycardia, hypotension, respiratory depression subnormal core body temperature and pinpoint pupils. In severe intoxication, mydriasis may occur due to hypoxia.

Withdrawal syndrome:

The onset of withdrawal symptoms occurs typically within 12-24 hours, has a peak within 24-72 hours and symptoms subside within 7-10 days of the last dose of opioid. The characteristic symptoms include lacrimation, rhinorrhea, pupillary dilation, sweating, diarrhoea, tachycardia, mild hypertension, insomnia, raised body temperature, muscle cramps, body ache, severe anxiety, nausea, vomiting and anorexia. The heroine withdrawal syndrome is more severe than the withdrawal syndrome of morphine.

Complications:

Complications due to Illicit drug Use:

- Parkinsonisum,
- Peripheral Neuropathy
- Transverse myelitis

Complications due to intravenous use:

- Skin infection
- Thrombophebitis
- Pulmonary Embolism
- Endocarditis
- Septicemia
- AIDS
- Viral hepatitis and tetanus

Treatment:

Before treatment, a correct diagnosis must be made on the basis of history, examination and laboratory tests.

These tests are:

1) Naloxone challenge test to precipitate the withdrawal symptoms).
2) Urinary opioids testing: With radio immune assay (RIA)

The treatment can be divided into 3 main types:

- Treatment of overdose
- Detoxification
- Maintenance therapy

Treatment of overdose

Opioid overdose can be treated with narcotic antagonists e.g.naloxone, naltrexone

Detoxification:

Withdrawal symptoms can be managed by methadone, clonidine, naltrexone, buprenorphine, etc.

Maintenance therapy:

After the detoxification phase is over, the patient is maintained on one of the following regimens:

- Methadone maintenance
- Opioid antagonists
- Psychological methods like individual psychotherapy, behavior therapy, group therapy and family therapy

II. CANNABIS USE DISORDER

Cannabis is derived from hemp plant, Cannabis sativa. The dried leaves and flowering tops are often referred to as ganja or marijuana. The resin of the plant is referred to as hashish. Bhang is a drink made from cannabis.Cannabis is either smoked or taken in liquid form.

Acute Intoxication:

Mild intoxication is characterized by mild impairment of consciousness and orientation, tachycardia, a sense of floating in the air, euphoria, dream-like states, 'flashback' phenomena, alteration in psychomotor activity, tremors, photophobia, lacrimation, dry mouth and increased appetite. Severe intoxication causes perceptual disturbances like depersonalization, derealization, synesthesias
and hallucinations.

Withdrawal Symptoms:

They are mostly found in the first 72-96 hours and include increased salivation,hyperthermia, decreased appetite, loss of weight and insomnia.

Complications:

- Transient or short-lasting psychiatric disorders such as acute anxiety, paranoid psychosis, hysterical fugue-like states, hypomania, schizophrenia-like state.
- Memory impairment.

Treatment:

- Supportive and symptomatic treatment

III. NICOTINE ABUSE DISORDER:

Nicotine is obtained from "NICOTIANA TABACUM". It is one of the most Highly Addictive & Heavily Used Drug.

Tobacco Products

- Bidis
- Roll-your own(RYO) cigarettes
- Manufactured cigarettes
- Cigars
- Water pipes
- Moist snuff
- Dry snuff
- Chewing Tobacco
- Dissolvable smokeless tobacco products

Chemical Components in Cigarettes

- Nicotine
- Hydrogen Cyanide
- Sulfuric Acid
- Methoprene
- Arsenic
- Vinyl chloride
- DDT
- Carbon monoxide
- Formaldehyde
- Tar
- Butane
- Ammonia
- Acetone

RISK FROM SMOKING:

- Cancer
- Stroke
- Blindness
- Gum infection
- Aortic rupture
- Heart disease
- Pneumonia
- Hardening of the arteries
- Chronic lung disease & asthma
- Reduced fertility

NICOTINE DEPENDENCE SYMPTOMS:

- Impaired - Attention, Learning, Reaction Time, Problem Solving abilities.
- Lifts One's Mood, Decreases Tension, Depressive Feeling,
- Decreased Cerebral Blood Blow
- Relaxes the Skeletal Muscles.

ADVERSE EFFECTS OF NICOTINE:

Respiratory paralysis, salivation, pallor, weakness, abdominal pain, diahorrea, increased blood pressure, tachycardia, tremor.

NICOTINE TOXICITY:

Inability to concentrate, confusion, sensory disturbances, decreases the rapid eye movement while sleep, during pregnancy increased incidence of low birth weight babies, increased incidence of newborns with persistent pulmonary hypertension.

TREATMENT: **PSYCHOPHARMACOLOGICAL THERAPY:**

Nicotine replacement therapy: Nicotine polacrilex gum (nicorette), Nicotine lozenges (commit), Nicotine patches (nicotrol, nicoderm), Nicotine nasal spray, (nicotrol) nicotine inhaler.

Non – Nicotine medications: bupiropian (zyban) – started with 150mg , bd for 3 days ; after that increase the dose to 300mg, bd.

THERAPIES :

Smoking cessation, behavior therapy, aversive therapy, hypnosis

IV. COCAINE USE DISORDER:

Cocaine is an alkaloid derived from the coca bush, Erythroxylum coca, found in Bolivia and Peru. Cocaine is a central stimulant which inhibits the reuptake of dopamine along with that of nor epinephrine and serotonin.

Acute intoxication:

Acute cocaine intoxication is characterised by pupil dilatation, tachycardia, hypertension, sweating, and nausea or vomiting. later judgement is impaired and there is impairment of social and occupational functioning.

Withdrawal Syndrome:

Agitation, depression, anorexia, fatigue and sleepiness.

Complications:

Acute anxiety reaction, uncontrolled compulsive behavior, seizures, respiratory depression, cardiac arrhythmias.

Treatment:

***Management of intoxication*:** Amyl nitrite is an antidote; diazepam or propranolol are also used.

For withdrawal symptom: Antidepressants (imipramine or amitriptyline) and psychotherapy.

V.AMPHETAMINE USE DISORDER:

Amphetamines are powerful CNS stimulants with peripheral sympathomimetic effects. Commonly used amphetamines are pemoline and methylphenidate.

Acute Intoxication:

Characterized by tachycardia, hypertension, cardiac failure, seizures, tremors, hyperpyrexia, pupillary dilation, panic, insomnia, restlessness, irritability, paranoid hallucinatory syndrome and amphetamine-induced psychosis .

Withdrawal Syndrome:

Characterized by depression, apathy, fatigue, hypersomnia or insomnia, agitation and hyperphagia.

Complications:

Seizures, delirium, arrhythmias, aggressive behaviour, coma.

VI. LSD USE DISORDER (LYSERGIC ACID DIETHYLAMIDE):

LSD is a powerful hallucinogen, and was first synthesized in 1938. It produces its effects by acting on 5-HT levels in brain. A common pattern of LSD use is 'trip' (occasional use followed by a long period of abstinence).

Intoxication:

Characterized by perceptual changes occurring in clear consciousness, e.g. depersonalization, derealisation, illusions, synaesthesia's (colours are heard, sounds are felt), autonomic hyperactivity, marked anxiety, paranoid ideation and impairment of judgment.

Withdrawal Syndrome:

Flashbacks (brief experiences of the hallucinogenic state).

Complications:

Anxiety, depression, psychosis or visual hallucinosis.

Treatment:

Symptomatic treatment with anti anxiety, antidepressant or antipsychotic medications.

VII. BARBITURATE USE DISORDER

The commonly abused barbiturates are secobarbital, pentobarbital and amobarbital.

Intoxication:

Acute intoxication characterized by irritability, lability of mood, disinhibited behavior, slurring of speech, in coordination, attention and memory impairment.

Complications:

Intravenous use can lead to skin abscesses, cellulites, infections, embolism and hypersensitivity reactions.

Withdrawal Syndrome

It is characterized by marked restlessness, tremors, and seizures in severe cases resembling delirium tremens.

Treatment:

If the patient is conscious, induction of vomiting and use of activated charcoal can reduce the absorption. Treatment is symptomatic.

VIII. INHALANTS OR VOLATILE SOLVENT USE DISORDER:

Commonly used volatile solvents include petrol, aerosols, thinners, varnish remover and industrial solvents.

Intoxication:

Inhalation of a volatile solvent leads to euphoria, excitement, belligerence, slurring of speech, apathy, impaired judgement and neurological signs.

Withdrawal symptoms:

Anxiety, depression

Complications:

Irreversible damage to the liver and kidneys, peripheral neuropathy, perceptual disturbances and brain damage.

Treatment:

Reassurance and diazepam for intoxication.

NURSING INTERVENTION:

Acute Intoxication

Care for a substance abuse patient starts with anassessment to determine which substance he is abusing, assess the signsand symptoms. Maintain the patient's vital functions, ensuring his safety,and easing discomfort.

During Rehabilitation

Caregiver help the patient acknowledge his substance abuse problem and find alternative ways to cope with stress & help the patient to achieve recovery and stay drug-free.

During Acute Episodes:

- Continuously monitor the patient's vital signs and urine output. Watch for complications of overdose & withdrawal.
- Maintain a safe and quiet environment.
- Take appropriate measures to prevent suicide attempts and assaults.
- Remove harmful objects from the room, and use restrains only if you suspect the patient might harm himself or others.
- Approach the patient in a non - threatening way; limit sustained eye contact, which he may perceive as threatening.
- Institute seizure precautions.
- Administer IV fluids to Increase circulatory volume.
- Give medications as ordered.
- Monitor & Record the Patients effectiveness.

During drug withdrawal state:

- Administer medications as ordered, to decrease withdrawal symptoms, monitor & record their effectiveness.
- Maintain a quiet & safe environment, because excessive noise mayagitate the patient.

When the Acute Episode has Resolved:

- Carefully monitor & promote adequate nutrition.
- Administer drugs carefully to prevent hoarding.
- Check the patient's mouth to ensure that he has swallowed oral medication.
- Closely monitor visitors who might supply him with drugs.
- Refer the patient for rehabilitation as appropriate; give him a list of available resources.
- Encourage family members to seek help regardless of whether the abuser seeks it.
- Suggest private therapy or community mental health clinics.
- Use the particular episode to develop personal self awareness and an understanding and positive attitude towards the patient.
- Control reactions to the undesirable behaviours, commonly during Psychological dependence, manipulation, anger, frustration, and alienation.
- Set limits when dealing with demanding manipulative behaviour.

PREVENTION OF SUBSTANCE USE DISORDER

- **Primary Prevention**
- **Secondary Prevention**
- **Tertiary Prevention**

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 (Governmentalmeasures)

• 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 youth about the dangers of drug abuse through the curriculum and mass media. Some communities use it in the postnatal period, as alcohol is believed to strengthen the pelvic muscles and also speed up retroversion of the uterus. Such attitudes should be addressed and corrected.

• An overall improvement in the socioeconomic condition of the population.

Secondary Prevention:

• Early detection and counselling.

• Brief intervention in primary care (simple 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 appraisal ofcurrent medical, psychological and social problems. Assessment also includes ascertaining whether alcoholism is the primary or secondary problem. For example, a patient with diabetic neuropathy may be using alcohol to numb pain. Alcohol is also used by some to relieve asthmatic symptoms. In such instances, treatment of the medical problem can help to control alcoholism.

• Detoxification with benzodiazepines (diazepam, chlordiazepoxide).

Tertiary Prevention:

Specific measures include:

• Alcohol deterrent therapy (Disulfiram or Antabuse).

• Other therapies include assertiveness training (toprevent yielding to peer pressure), teaching coping skills (some take drugs to combat stress), behaviour counselling, supportive psychotherapy and individual psychotherapy.

• Agencies concerned with alcohol-related problems: Alcoholics Anonymous (AA), AlAnon, Al-Ateen, etc.

Some practical issues under relapse prevention include:

- Motivation enhancement, including education about health consequences of alcohol use
- Identifying high-risk situations and developing strategies to deal with them (craving management)
- Drink refusal skills (assertiveness training)
- Handling negative mood states
- Time management
- Anger control
- Financial management
- Stress management
- Sleep hygiene
- Recreation and spirituality
- Family counselling, to reduce interpersonal conflicts, which may otherwise trigger relapse

REHABILITATION:

The aim of rehabilitation of an individual deaddicted from the effects of alcohol/ drugs, is to enable him to leave the drug sub-culture and to develop new social contacts. In this, clients first engage in work and social activities in sheltered surroundings and then take greater responsibilities for themselves in conditions increasingly like those of everyday life. Continuing social support is usually required when the person makes the transition to normal work and living.

SUMMARY

So far we have seen definition of substance, addiction, abuse, dependence, tolerance, withdrawal state. We discussed ICD 10 classification, substance – use disorders, substance-induced disorders, classes of psychoactive substances and predisposing factors to substance related disorders. We also discussed the dynamics of substance related disorders like opioid use disorders, cannabis use disorder, nicotine abuse disorder, cocaine use disorder, amphetamine use disorder, LSD use disorder (lysergic acid diethylamide), barbiturate use disorder, inhalants or volatile solvent use disorder. We learned the nursing interventions for a patient with acute intoxication, prevention of substance use disorder and rehabilitation.

CONCLUSION:

We discussed the physical and behavioural manifestations and personal and social consequences related to the abuse of or dependency on other CNS depressants, CNS stimulants, opioids, hallucinogens, and cannabinols. Wide cultural variations in attitudes exist regarding substance consumption and patterns of use. Substance abuse is especially prevalent among individuals between the ages of 18 and 24. Substance related disorders are diagnosed more commonly in men than in women, but the gender ratios vary with the class of the substance With proper nursing care for substance abuse, dependence, intoxication, and withdrawal and with various medical and other treatment modalities we can improve the care for patients with substance related disorders.

Important Questions:

1. Define substance, addiction, abuse, dependence, tolerance, withdrawal state.
2. List ICD 10 classification of substance – use disorders.
3. What are the classes of psychoactive drug?
4. Describe about the predisposing factors of substance related disorder?
5. What are the other substance use disorders?
6. Explain Nursing Interventions for a patient with intoxication and withdrawal?
7. What are the preventive measures of substance related disorder?
8. Explain Rehabilitation for substance Use Disorder?

ASSIGNMENT:

"Frame nursing diagnosis for substance related disorder"

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