MODULE

Substance Abuse

For the Ethiopian Health Center Team

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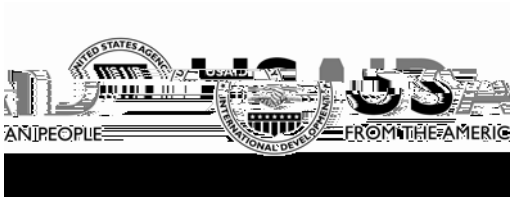
In collaboration with the Ethiopia Public Health Training Initiative, The Carter Center, the Ethiopia Ministry of Health, and the Ethiopia Ministry of Education

April 2005



Funded under USAID Cooperative Agreement No. 663-A-00-00-0358-00.

Produced in collaboration with the Ethiopia Public Health Training Initiative, The Carter Center, the Ethiopia Ministry of Health, and the Ethiopia Ministry of Education.

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TABLE OF CONTENTS

ABBREVIATIONS

AA	Alcoholic Anonymous
BID	Twice per day
CAGE-AID	Cut down, Annoyed, Guilty, Eye-opener, Adapted to include drugs
CBC	Complete Blood Cells Count
CHAs	Community Health Agents
CNS	Central Nervous System
C.sativa	Cannabis sativa
dl	decilitre
DSM-IV	The fourth diagnostic and statistical manual
EMIT	Enzyme-multiplied immunoassay technique
ETS	Environmental Tobacco Smokers
FRAMES	Feedback, Responsibility, Advice, Menu of Options, Empathy, Self-efficacy
FRAT	Free Radical Assay Technique
GC	Gas Chromatography
GGT	Gamma-Glutamyl-Transpeptidase
GI	Gastrointestinal
HI	Hemagglutination Inhibition
ICD	Clinical guidelines
IM	Intramuscularly
IV	Intravenously
LSD	Lysergic Acid Diethylamide
MA.DD	Mothers Against Drunk Driving
MCV	Mean Corpuscular Volume
MOH	Ministry of Health
NRT	Nicotine Replacement Therapy
PHC	Primary Health Care
PO	Per Os (per mouth)
RBC	Red blood cell count
RIA	Radio Immunoassay

SADD	Students Against Drunk Driving
TID	Three times per day
TLC	Thin-Layer Chromatography
USA	United States of America
WHO	World Health Organization

This module contains two major sections. The first section is the core module, which focuses on the general aspects of substance abuse that each professional category of the health center team should be acquainted with. The second part is the satellite module, which deals with specific tasks that each category of the health center team should know and practice. However, it should be noted that this module is not intended to replace the standard textbooks or reference materials.

1. 2 DIRECTIONS FOR USING THE MODULE

1. Read the purposes and uses of the module

UNIT TWO

CORE MODULE

2. 1. PRETEST

1. Which of the following is not true about substance abuse?
   a) It results in decreased work and school performance, accidents, violent crime and theft.
   b) The elderly are the most vulnerable age group for developing substance abuse problems.
   c) Men are more at risk than women.
   d) It frequently coexists with other psychiatric conditions, such as depressive or anxiety disorders.
2. Which of the following is not a risk factor for alcoholism?
   a) Family history
   b) Ethnic background
   c) Occupation
   d) None of the above
3. Which of the following is true about the habit of Khat Chewing in Ethiopia?
   a) It is believed to affect a large segment of the productive age group.
   b) It has a negative impact on health.
   c) It reinforces the development of other habits, such as cigarette smoking and alcohol intake.
   d) All of the above
4. Which comes first in the prevention of substance abuse in the community?
   a) Identify and manage patients with substance abuse.
   b) Helping the victims with counselling.
   c) Promoting on health through information and education
   d) Identify harmful use and high –risk group.

5. Limiting the number of narcotic drugs and psychotropic substances to be used at the national level could be one of the control mechanisms of substance abuse.
   True_____ False_____
6. Which of the following is/are the ill effects of substance abuse?
   a) Suicide
   b) Accidents
   c) Delinquency
   d) All of the above
7. Which of the substances listed is more abused in the world?
   a) Khat
   b) Cannabis
   c) Alcohol
   d) Heroin
8. Which of the following substances of abuse is a stimulant?
   a) Alcohol
   b) Barbiturates
   c) Diazepam
   d) Khat
9. The most commonly abused inhalant in Ethiopia is:
   a) Tobacco
   b) Benzene/ Gasoline
   c) Glue
   d) Butane
10. Some substances of abuse has medicinal use
    True_____ False_____
11. An increase in the amount of a drug to produce desired effect is known as:
    a) Psychological dependence
    b) Tolerance
    c) Resistance
    e) b and c

12. Which of the following is the duty of a health worker to help the victims of substance abuse or dependence?
    a) Improving social relations
    b) Developing confidence in ability to change
    c) Developing alternative activities
    d) All of the above

2. 2. LEARNING OBJECTIVES

At the end of this module, the user will be able to:

1. Define substance abuse and dependence.
2. Describe the magnitude, distribution and risk factors of substance abuse.
3. Identify common substances of abuse and dependence.
4. Understand the dangers of substance abuse and dependence.
5. Manage substance abusers and dependents
6. List and implement the prevention and control strategies of substance abuse.

2. 3. DEFINITION

Substance Abuse is a maladaptive pattern of substance use resulting in repeated problems and adverse consequences

Drug abuse is defined by the WHO Expert Committee on Drug Dependence as "persistent or sporadic excessive drug use inconsistent with or unrelated to acceptable medical practice. From this definition, it is clear that medical use of drugs, whether long term or not, and whether drug reactions occur or not, is not "drug abuse".

2. 4. EPIDEMIOLOGY OF SUBSTANCE ABUSE

Substance Abuse occurs in all segments of all societies, which results in decreased work and school performance, accidents, intoxication while working, absenteeism, violent crime, and theft. Adolescents are the most vulnerable age group for developing substance abuse problems. Men are more at risk than women.

Since 1990, Federal spending on drug law enforcement and treatment in the United States has increased by over 65%. In 1993, the US Government planned to spend $12.7 Billion to fight drug abuse, 44% on domestic law enforcement, 32% on drug demand reduction and 24% on interdiction and international efforts.

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- Prior experience or expectation.
- Propensity for risk-taking behaviour

2. Environmental Variables

- Social setting and community attitude
- Peer influence
- Paucity of other options for pleasure and diversion
- Low employment or educational opportunities.

2. 4. 2 Epidemiology of Sp

dependence, whereas others, such as Native Americans, Eskimos, and some groups of Hispanic men, show high rates.

The Risk factors for alcoholism fall into three categories: family history, ethnic background, and occupation or social milieu

In summary, obtaining information on family history, cultural background, and occupation will enable the health worker to offer advice about the risk of developing alcoholism and may help patients modify some of those risks.

It is true that alcoholic beverages are widely taken both among urban and rural dwellers in Ethiopia. Prevalence rates of 23 % and 34 % among adolescents were reported in Butajira and Addis Ababa, respectively.

2. Khat

Khat is a plant whose leaves and stem tips are used as stimulant. It is widely used in East Africa and the Arabian Peninsula for its euphoric effect. The use is deeply rooted in the regional customs and traditions. College and university students consume khat to get mental alertness and to work hard in their academic endeavours.

Many historians believe that khat is a plant indigenous to Ethiopia. It seems that as in the case of coffee the people who cultivated Khat started its consumption and then introduced the habit to neighbours, travellers, merchants, etc. Compared to coffee production the labour requirement for khat cultivation and harvest is very low. On the other hand, the yield is quite the opposite. This is the most probable reason that farmers uprooted coffee plant and planted khat instead in some parts of the country.
Regular khat chewing is thought to be a predisposing factor for gastritis and peptic ulcer disease, mental illness, cardiac arrhythmia, tooth decay and constipation.

Traditionally khat was used mainly among the muslim populations. However, nowadays, many Christians especially the young also use it.

The prevalence rates of khat are different from place to place in Ethiopia. In a study conducted in Jimma Town in 2000, the prevalence of khat chewing was 30.6% out of which Muslims constituted 77.1%. About two-thirds of the khat chewers were males.

In other similar studies, the prevalence rates of khat chewing in Butajira and Adamitulu were 50% and 31.7% respectively. In a study conducted in 2001 among college

Tobacco attributable mortality is expected to increase from 14% of total mortality worldwide in 1990 to 23% in 2020. In Ethiopia in 1983, lifetime prevalence rate of cigarette smoking among college students was reported to be 31.9%.

In 2001, the lifetime prevalence among college students decreased to 13.1%. A study done among Ethiopian university instructors in 2001 revealed a lifetime prevalence of 28.2% and current prevalence of 13.3%.

Studies have shown that the probability of dying from all causes is 2.3 times higher for current male smokers of cigarettes than males who are non-smokers. These same studies indicate that the risk of dying from all causes is about two times higher for current female smokers compared to those females who do not smoke cigarettes. Approximately 90% of individuals who become cigarette smokers initiate the behaviour during adolescence.

Factors that promote adolescent initiation are parental or older generation cigarette smoking, tobacco advertising and promotional activities, the availability of cigarettes, and the social acceptability of smoking. The level of acceptance of smoking in the home, peer group, workplace, and community norms influence smoking behaviour.

A number of studies have shown that non smoking women living with smoking spouses have a 1.2 to 2 times the risk of developing lung cancer during their lives than non-smoking women in smoke-free homes.

(4) Opioids

Opioids are substances that produce similar actions to morphine, which is obtained from the opium poppy. This includes morphine, pethidine, heroin, codeine etc…

A high rate of abuse of raw opium was found in the Eastern Mediterranean area, Southeast Asia and the Western Pacific, with a total of about 1.76 million opium users. The risk of dependence was greatest in adult or elderly males.

E.g. **Heroin**

- Heroin abusers globally were estimated to be about 750,000.

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8) Miscellaneous substances

a) Cocaine

- Cocaine abusers are found primarily in the Americas, especially in Argentina, Bolivia, Chile, Colombia, Ecuador, Peru and parts of Brazil. Sniffing of cocaine powder has increased, especially in North America and in various European countries.
- Inhaling of the free base is reported mainly from USA. The number of coca-leaf abusers is put at 1.6 million, while cocaine abusers are estimated to number 4.8million.
- The target groups for coca-leaf chewing are all age groups in the indigenous population, for coca-paste smoking, adolescents and young adults, and for cocaine, middle-and upper-class urban males.
- Several countries in Africa have reported an increase in cocaine abuse, which had previously been sporadic.
- Countries in the Western and Northern sub regions of Africa are increasingly being used as transit states for cocaine from South America, as indicated by recent seizures for Europe.
- Nigeria Customs Authorities seized 555kg of cocaine in 1991, compared with 606kg of cocaine reported seized in the entire region that year.
- In Africa as a whole, the total quantity of cocaine seized in 1991 represents arouix-fold

friends. Gradually, his khat chewing habit became more frequent with a concomitant smoking of cigarettes and consumption of alcoholic beverages to break the effect of khat.

As the expenditure for his habit increased, the family income declined, which became the reason for quarrels with his wife, sometimes the shouting awakening the neighbours from their sleep.

Ato Assefa was not able to quit his bad habit despite advice from relatives; and eventually his wife left the house with the two children.

Finally, his salary failed to cover all his expenses and this led him to be involved in a robbery of workplace materials for which he ended up in prison.

1. List the possible substances of abuse taken by Ato Assefa?
2. Write down at least three criteria of substance dependence?
3. What are the harmful effects of substance abuse?

uses, some such as narcotics and sedatives have also been used for non-medical purposes and are rampantly abused.

2. 6. 1 Substances of Abuse

Some of the substances that are commonly abused are described in the following table.

Type of Substance	Examples	Effect
Depressants	Alcohol, barbiturates sedative-hypnotics	Drowsiness, pleasant relaxation, disinhibition
Opiates	Morphine, methadone, pethidine	Relief of pain, pleasant, detached, dreamy, euphoria
Stimulants	Cocaine, khat, amphetamines	Exhilaration, reduced fatigue & hunger.
Hallucinogens	LSD, mescaline, peyote	Other-worldliness, perceptual distortions
Cannabis	Marijuana, hashish	Relaxation & Hallucinogenic effects
Nicotine	Tobacco	Sedation & stimulation
Volatile inhalants	Benzene, glues, lacquer, paint thinners, gasoline	Drowsiness, relaxation, perceptual disturbances

Substances that are commonly abused in Ethiopia are:

- Alcohol
- Khat
- Tobacco
- Hashish (Itse-fars)
- Benzene sniffing/Inhalation
- Pethidine
- Benzodiazepines

2. 6. 2 Criteria for Substance Abuse and Dependence

The fourth diagnostic and statistical manual (DSM-IV) of the American Psychiatric Association uses the following criteria for substance abuse. If any individual has experienced one or more of the following at any time for at least in the same one-month period:

1. Recurrent drug use resulting in failure to fulfil major responsibilities.
2. Recurrent drug use in physically hazardous situations.
3. Recurrent drug –related legal problems.
4. Continued use despite drug related social or interpersonal problems.

Substance abuse may lead to dependence. The current definition of **"dependence"** given by the WHO Expert Committee on Drug Dependence is "a cluster of physiological, behavioural and cognitive phenomena of variable intensity, in which the use of a psychoactive drug (or drugs) takes on a high priority. The necessary descriptive characteristics are preoccupation with a desire to obtain and take the drug and persistent drug-seeking behaviour. Determinants and problematic consequences of drug dependence may be biological, psychological or social, and usually interact".

The core concept of the WHO definition of "drug dependence" requires the presence of a strong desire or a sense of compulsion to take the drug.

Clinical guidelines (ICD- 10) for a definite diagnosis of

(d) Evidence of tolerance, such that increased doses of the psychoactive substance are required in order to achieve effects originally produced by lower doses;

(e) Progressive neglect of alternative pleasures or interests because of psychoactive substance use, increased amount of time necessary to obtain or take the substance or to recover from its effects

(f) Persisting with substance use despite clear evidence of overtly harmful consequences, such as harm to the liver through excessive drinking, depressive mood states consequent to periods of heavy substance use, or drug related impairment of cognitive functioning; efforts should be made to determine that the user was actually, or could be expected to be, aware of the nature and extent of the harm.

Dependence can be categorized into psychological and physical dependence.

Psychological dependence is a compulsion that requires periodic or continuous exposure to a substance to produce pleasure or avoid discomfort.

Physical (physiological) dependence is an adaptive state that develops through resetting of homeostatic mechanism to permit normal function despite the continued presence of a substance.

Physiological dependence is evidenced by either tolerance or withdrawal syndrome.

Tolerance is defined as the requirement for an increased amount of the substance to achieve a desired effect or there is a markedly diminished effect with regular use of the same dose.

Withdrawal syndrome is a substance specific syndrome that follows cessation of or reduction in intake of the substance that was previously regularly used by the individual.

2. 6. 3. Problems Associated with Substance Abuse and Dependence

The abuse liability and dependence potential as well as the ill effects of a substance form an important scientific basis for

The harm that results as a consequence of abuse is primarily attributable to the pharmacological, toxicological, and dependence producing properties of a substance including its impurities.

The dependence producing properties of substances that reinforce the user for continuation of the substance-taking behaviour are responsible for ill effects of a substance on the abuser and the society.

Virtually, all substances that produce dependence can cause varying degree of health, social and economic problems.

The degree of harm produced in general depends on:

- The quantity of a substance consumed per occasion.
- The frequency with which it is consumed at that quantity and
- The duration of consumption in months or years.

1. Health related problems categorized as: -

a. Acute Toxicities

Acute toxicity of substances of abuse often becomes the cause of death and/or ill health. For example, respiratory and cardiac failure may occur due to the acute toxic effects of barbiturates, opioid analgesics, alcohol, and stimulants and frequently become the cause of sudden death.

b. Chronic Toxicities

Expectedly, substances of abuse produce chronic toxicity on various organ systems with CNS being among the most vulnerable systems. For example, chronic abuse of alcohol causes liver damage; and chronic use of tobacco (nicotine) is associated with coronary heart disease, chronic obstructive lung disease and lung cancer.

c. Withdrawal Effects

The withdrawal of some substances of abuse such as barbiturates and ethanol can by itself cause a life threatening condition characterized by fever, increased heart rate,

increased blood pressure and occasionally seizures that may prove fatal with abrupt cessation of the use of the abused substance.

2. The negative economic consequences

2.7.1. Recognizing the Drug Abuser and Dependent

- Specific diagnostic criteria for substance abuse and dependence have been developed
- Drug abuse is easy to recognize in individuals who present with a request to discontinue using drug.
- Screening for abuse and dependence should take place as part of the routine examination.

A. Screening tools

- **CAGE-AID** questionnaire (AID-Adapted to Include Drugs) - simple screening tool.
  - **C**: Have you ever tried to **C**ut down on your alcohol or drug use?
  - **A**: Do you get **A**nnoyed when people comment about your drinking or drug use?
  - **G**: Do you feel **G**uilty about things you have done while drinking or using drug?
  - **E**: Do you need an **E**ye-opener to get started in the morning?
- The more affirmative responses, the more likely that the person answering is chemically dependent, and further investigation by the health personnel is warranted. One positive answer is consistent with a substance abuse problem.

B. Behavioural changes

- A sudden change in a patient's behaviour evidenced from meeting, with the patient or reported by family members or employers.
- These are:
  - Sudden loss of job
  - Frequent job change for no apparent reason, and
  - Unexplained financial or family problems

C. Physical changes

- Sexual dysfunction
- Needle marks
- Medical sequelae of drug abuse.

D. Laboratory findings

- Base line investigations; e.g., elevated mean corpuscular volume, low serum magnesium level
- Elevated liver enzymes

- Urine tests; e.g. toxicology screen

N.B The best evidence for long-term drug use is the combination of a good history and urine test; e.g., toxicology screen.

E. Prescription drug abusers

- Patient who is prescribed an addictive drug on a long-term basis for the treatment of a disease (e.g. chronic pain syndrome) will develop neuroadaptation (physical dependence).

2. 7. 2. Management of Substance Abuse and Dependence

Acute and long-term treatment is necessary once the diagnosis of substance abuse is made.

Many substance-abusing patients are known by their dependent personalities, denial and ambivalence.

A patient-centered interpersonal relationship between the treatment provider and the patient provides an ideal atmosphere for change.

The purpose and goal of treatment is to prevent or reduce the incidence and severity of problems associated with the use of the substance in question. As a rule of thumb, if treatment is to be successful as a prevention program it must be supported by proper

- Pharmacotherapy is only useful when combined with counselling.
- Medications are sometimes used to prevent relapse once an initial remission is secured.

c) Psychotherapy and counselling

The first step of psychotherapy and counselling is brief intervention.

Brief intervention

- When well planned and consistently administered, it can have an over all impact comparable to more extensive counselling.
- It should not be viewed as sufficient in it self, but as a way to provide preparation and motivation for further needed substance abuse services.
- It has been shown to reduce excessive alcohol consumption by up to 25%.
- It is usually conducted on multiple brief sessions (5 minutes or less) and can be incorporated into the course of a routine office visits.
- The acronym **FRAMES** has been used to define the elements of an effective brief intervention that help trigger patient motivation to change:
  - Giving **F**eedback based upon a thorough assessment.
  - Helping the patient take **R**esponsibility for changing.
  - Giving clear **A**dvice on what behaviour must change.
  - Offering a **M**enu of options for making the change.
  - Expressing **F**

III. Partial hospital or int

1. What do you think are the reasons for behavioural change and decreasing school performance of Kebede?
2. How do you help kebede to come out of his problem?
3. What measures do you take in order to avoid similar problems?

2. 9. PREVENTION and CONTROL

Prevention and control of substance abuse should be a concern of all segments of the population including health workers, policy makers, mass media people etc.

2.9.1. Prevention

There are three levels of prevention

1. Primary prevention aims to avoid the appearance of the new case of drug and alcohol through health promotion
2. Secondary prevention attempts to detect cases early, and to react to them before serious complications cause disability.
3. Tertiary prevention aims to avoid further disabilities, and to reintegrate in to society, individuals who have been harmed by severe drug and alcohol problems.

The PHC worker will be involved at all of these levels.

Primary Prevention

The primary health care service is in a position to meet people's needs and to deliver health care to individuals or families at their homes or workplaces.

In order to develop primary health care services directed towards drug and alcohol problems, PHC workers will have to undertake the inter related activities described below:

- Identify drugs currently used in the community. The PHC worker should learn about the drugs in use locally, as well as the consequences of excessive use.
- Identify the ways in which drugs and alcohols are used in the community. For example, certain drugs may be used secretly by certain groups, who buy them from a friendly pharmacist or other.

- Information and education to promote health. PHC workers are in a position to disseminate relevant information on drugs and alcohol to the community. The workers can disseminate information using posters, reading matter, conducting education program in schools, sporting associations etc.
- Integrating primary health care work with that of other groups. The PHC worker should work with groups, such as school teachers, police, churches, clubs, volunteers, and traditional healers.

Secondary Prevention

- Identify the immediate effects of drug and alcohol abuse. As the ways of taking drugs changes i.e. their route of administration, so do their effects.
- Identify harmful use and high-risk groups.

Some people present a very high risk of harming themselves, or others, if they use drugs or alcohol: for example, pregnant women, car drivers, people operating machinery, and those who already have a serious drug – or alcohol –related problem. Others at risk include those with a mental illness or taking prescribed medication.

Tertiary Prevention

- Identify and manage patients with acute conditions that must be treated without delay.
- Identify and manage patients with drug and alcohol problems who must be referred to other services.
- Identify and alleviate family problems related to drugs and alcohol
- Help social rehabilitation.

  The PHC worker should attempt to improve the social relationships of former drug and alcohol abusers, and perhaps introduce them to the community self help and voluntary group.

2.9.2. Control Methods

A. Control of substance abuse in general includes:

1. Control of production, supply and availability
   - Á Stopping the supply process at its source.

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The world wide control of drugs is based on the international treaties concluded between 1912 and 1988 with the aim of ensuring that the controlled drugs are used exclusively for medical and scientific purposes.

The convention on psychotropic substances of 1971 extends the international drug control system into the new area of psychoactive substances, such as central nervous system stimulants (e.g. amphetamines) sedative –hypnotics (e.g. barbiturates) and hallucinogens (e.g. LSD and mescaline).

Ethiopia is a party to the Single Convention on Narcotic drugs of 1961 and the 1971 convention on psychotropic substances. In accordance with the stipulations of the conventions, the Ministry of Health, Pharmacy Department is the central body to exercise all control measures to reduce the supply and demand for drugs and thereby limit the use of drugs to exclusively medical and scientific purposes.

The principal laws under which Narcotic drugs and psychotropic substances are regulated in Ethiopia are:-

a) The Penal code of 1956
b) The Pharmacy Regulation of 1964.

The basis of drug control legislation is the pharmacy regulation of 1964, which regulates the supply of pharmaceutical products at all stages, including registration, manufacture, import, export, store, quality control and distribution.

Drugs under National Control

It is important to limit the numbers of narcotic drugs and psychotropic substances to be used nationally. This would ensure that only narcotic drugs and psychotropic substances, which are necessary for the medical care of the population and research are put on the market. Accordingly, Ethiopia has included the very important and essential narcotic drugs and psychotropic substances in the national list of drugs for Ethiopia.

Internationally controlled narcotic drugs and psychotropic substances that are approved for use and included in the national list of drugs for Ethiopia are:

a) Narcotics

1. Codeine
2. Fentanyl
3. Methadone
4. Morphine
5. Pethidine

b)Psychotropic substance

1. Bromazepam
2. Chlorodiazepoxide
3. Clonazepam
4. Diazepam
5. Medazepam
6. Oxazepam
7. Pentazocine
8. Pentobarbital
9. Phenobarbital
10. Temazepam

Inspection

All people carrying on or engaged in these activities must be controlled under license; state enterprises like hospitals, health centre etc… are exempted from such licensing. However, the prescribing, dispensing, and use of these drugs should be done rationally

Both conventions and the pharmacy regulation of 1964 require that all persons who obtain licenses or are otherwise authorized in accordance with the control measures that they impose "shall have adequate qualifications for the effective and faithful execution of such (relevant) law and regulation."

Rational prescribing, dispensing and use of narcotic and psychotropic drugs

- Narcotic and psychotropic drugs although they are substances of abuse have wide therapeutic application. To avoid abuse liability, their prescription, dispensing and use should be controlled.
- Commonly encountered problems on rational use of narcotic and psychotropic drugs are:

1. Prescribing pattern

a. Difficulty in pain assessment.
b. Indiscriminate prescribing
c. Inappropriate treatment strategy
d. Unnecessary concern for dependence

2. Dispensing pattern

a. Inadequate control of prescriptions
b. Lack of adequate information

c. Cumbersome handling and report procedures

d. Dispensing without prescription.

3. Use

a. Ignorance of patients about these drugs.

b. Cheating by abusers

c. Attitude influences the prescriber-patient relationship

Therefore the following responsibilities are vested on the prescriber and dispenser.

The prescriber should*:*

- properly diagnose and decide on the use of drugs
- use the correct pad of prescription
- make the prescription clear, legible, complete and signed
- properly store the prescription pads

The dispenser should:

- not dispense illegible, incomplete, and unsigned prescriptions.
- keep records, complete and report to the pharmacy department, MOH
- store prescription paper for at least 5 years

The Users should*:*

- take as prescribed
- not share with others
- not influence the prescriber or dispenser
- not use for non-medical purposes.

2.10 Post test

1. Which of the following is not true about substance abuse?
   a) It results in decreased work and school performance, accidents, violent crime and theft.
   b) The elderly are the most vulnerable age group for developing substance abuse problems.
   c) Men are more at risk than women.
   d) It frequently coexists with other psychiatric conditions, such as depressive or anxiety disorders.
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   c) Occupation
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   c) It reinforces the development of other habits, such as cigarette smoking and alcohol intake.
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    True_____ False_____
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    a) Improving social relations
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UNIT THREE

SATELLITE MODULES

3.1. SATELLITE MODULE FOR HEALTH OFFICER STUDENTS

3.1. INTRODUCTION

3.1.1. Purpose

This satellite module is prepared for health officer students. It emphasizes on specific areas that were not covered by the core module.

3.1.2. Instruction for Using the Satellite Module

1. Students must study the core module before going to the satellite module.
2. It is also advisable to refer to the core module whenever indicated.

3.1.3. Learning Objectives

At the end of this satellite module, the user will be able to:

1. Describe the pharmacology of common substances of abuse
2. Understand the disease manifestations of commonly abused substances
3. Will be able to diagnose and manage cases of substance abuse and dependence

3.1.4. Learning Activity: Case Study

Ato Bewketu, a 28 years old nurse, who has been working in Kolla Diba as dispensary for the last five years. He is single and living alone. He used to chew khat since he was a college student. He continued chewing khat in Kolla Diba occasionally.

Subsequently he experienced restlessness and insomnia for which he used to take pethidine injection at bedtime whenever he chewed khat.

However, he developed tolerance to the usual dose. Thus he took the drug on daily basis and increased the dose progressively. Besides, he preferred to be alone and was hardly found in his work place.

One day his neighbor looked for him and when he knocked the door he was not responding. Finally, he was found on his bed and they tried to wake him up but he was unconscious. There were lots of empty ampoules of pethidine with syringe by his bedside.

1. What are the withdrawal symptoms of pethidine abuse?
2. What are the differential diagnoses and how do you arrive at a diagnosis?
3. What possible complications do you anticipate in the above case?
4. How do you manage the above case?
5. Discuss the preventive and control mechanisms of pethidine abuse.

3.1.5. Pharmacology, Effects, Diagnosis and Management of Commonly Abused Substances.

A. Alcohol (Ethanol, Ethyl Alcohol)

- Ethanol is prepared from fermentation of sugars, starches or other carbohydrates.
- Ethanol is classed as a depressant because it produces sedation and sleep however the initial effects of alcohol particularly at low doses often perceived as stimulation due to a suppression of inhibitory systems.
- As the blood level increases the sedating effect increases with eventual coma and death at high alcohol level.

I. Effects of Alcohol

1. Organ system effects

a. Nervous System:

- Euphoria, relaxation, decreased alertness, even coma
- Break down of inhibition, hang over, loss of balance and dementia
- Peripheral neuropathy
- Wernike-Korsakoff's syndrome (Ophthalmoparesis, ataxia, encephalopathy and alcohol-induced persisting amnestic disorder)
- Psychiatric manifestations: -anxiety, hallucinations, and delusions.

b. Gastrointestinal System:

- Reflux esophagitis, erosive gastritis, pancreatitis, hepatitis

- Cirrhosis, haemorrhoid

c. Cardiovascular system:

- Cardiomyopathy, arrhythmia, congestive heart failure
- Mild to moderate hypertension

d. Pregnancy and alcohol abuse

There is no exact dose-response relationship between the amount of alcohol consumption during the prenatal period and the extent of damage caused by alcohol in the infant.

- Out comes: - Alcohol foetal syndrome
  - Alcohol related birth defect
  - Alcohol foetal effect

e. Other effects

- Aspiration pneumonia, hypoglycaemia, malnutrition
- Decreased libido
- Increased incidence of cancer.
- Interference with expected or normal actions of many medications.

2. Behavioural effects, tolerance and dependence

- The effects of any substance/drug depend on the dose, the rate of increase in plasma, the concomitant presence of other substances/drugs and the past experience with the agent. The effects are more intense with high blood alcohol level. Even though “Legal intoxication” requires a blood alcohol concentration of at least 80–100mg/dl; behavioural, psychomotor and cognitive changes are seen at levels as low as 20-30mg/dl. Alcohol produces cross-tolerance to other sedatives such as benzodiazepines.
- Heavy consumers of alcohol not only acquire tolerance but also inevitably develop a state of physical dependence. This often leads to drinking in the morning to restore blood alcohol levels diminished during the night.
- The alcohol withdrawal syndrome generally depends on the size of the average daily dose and usually is, “treated” by resumption of alcohol ingestion. Withdrawal symptoms are not severe or life threatening until they occur in conjunction with other

problems, such as infections, trauma, malnutrition or electrolyte imbalance. Also in about 5% of individuals experiencing alcohol withdrawal, the syndrome of delirium tremens can emerge and it is associated with significant morbidity and mortality.

3. **Alcohol withdrawal syndrome includes**:

- Minor withdrawal symptoms
- Withdrawal seizure
- Alcohol hallucinosis
- Delirium tremens

Timing of Alcohol Withdrawal syndromes

Syndrome	Clinical findings	Onset after last drink
Minor withdrawal	Tremulousness, mild anxiety headache, diaphoresis, palpitations, anorexia, GI upset	6 to 36 hours
Withdrawal Seizures	Generalized tonic-clonic seizure, status epilepticus (rare)	6 to 48 hours
Alcohol hallucinosis	Visual (occasionally auditory or tactile) hallucination	12 to 48 hours
Delirium tremens	Delirium, tachycardia, hypertension, agitation, fever, diaphoresis	48 to 96 hours

II. Patient Evaluation & Diagnosis of Alcoholism

1. Use the DSM–IV criteria (refer to the core module).
2. Use the screening tool questionnaire (refer to the core module).
3. Thorough clinical evaluation of the patient.
4. Do base line investigations

- Identify life threatening conditions such as aspiration, hypoglycaemia, seizure, trauma, UGI bleeding and manage accordingly.
- Allow them to lie on their side to minimize risk of aspiration.
- Give short acting benzodiazepines for aggressive patients. E.g. temazepam
- Once you stabilize the patient apply principles of detoxification to avoid withdrawal syndrome.
- Arrange rehabilitation and long-term follow up.

B. Management Withdrawal Syndrome

Early aggressive treatment is important to prevent severe form of withdrawal.

1. Detoxification

Á Decrease alcohol intake by tapering.

Á Replace with benzodiazepines, the drug of choice is chlondiazepoxide at a dose of 25-100mg PO, every 4-6 hours tapering every day by 20% of the initial dose.

Á Diazepam is the alternative at a dose of 10 mg PO, TID

2. Supplementation of vitamins that contain thiamine and folic acid.
3. Phenytoin at a dose of 100mg PO, TID if the withdrawal seizures are not controlled by benzodiazepines.
4. Give Haloperidol to treat hallucinosis and agitation (2-8mg PO, BID)
5. Maintain his hydration and nutritional status adequately.
6. Identify and treat complications and co-morbidities aggressively.

C. Alcohol Abuse and Dependence Management

1) For alcohol abuse

- Apply brief intervention. (Refer the core module)
- Follow-up to prevent relapse.

2) Alcohol dependence –brief intervention is not helpful.

- Once diagnosis settled you may consider the following:

i) Out patient treatment.

- Safe for mild to moderate alcohol withdrawal.

ii) Inpatient treatment:

Indications:

- Severe withdrawal symptoms.
- Depression with suicidal ideation.
- The presence of severe co existing medical or psychiatric conditions.
- Extremely unstable home institution.
- Failure to respond to out patient treatment.

iii) Referral to alcoholic anonymous (AA) self-help group

- Cost effective for alcohol dependent patients.

iv) Pharmacotherapy

- used to reduce relapse in in-patient with alcohol dependence.
- Substitute with other drugs, which have same effect.
- E.g.- short acting benzodiazepines

v) Management of co-morbidities

- Medical co-morbidities.
- Malnutrition and Vitamin deficiency, especially thiamine, B_{12} and folate.
- Psychiatric disorders.

3) Long term Treatment and Follow-up

- Continue with the psychotherapy and counselling.

Á Explain the diagnosis and its dangers

Á Repair medical & social damage

Á Restore self-esteem.

Á Encourage participation.

B. Khat (*Catha edulis* Forsk)

The principal psychoactive substance found in khat, cathinone is responsible for the CNS stimulatory effect of khat chewing.

Cathinone resembles amphetamine both chemically and pharmacologically.

Khat has been found causing a moderate but often-persistent psychic dependence, but no physical dependence or tolerance in contrast to the marked tolerance observed with amphetamine abuse.

Heavy khat chewers experience true withdrawal symptoms, albeit relatively weak, of profound lassitude, anergia, difficulty in initiating their normal activities and slight trembling several days after ceasing to chew; also unpleasant dreams often of a paranoid nature.

I. Effects of khat:

1. Unwanted organ system effects

- CNS: - Sleeplessness, nervousness and nightmare
- GI: - anorexia, constipation, malnutrition
- Respiratory system:
  - Increased susceptibility to infectious diseases, especially tuberculosis.
  - Increased risk of cigarette smoking and its sequelae.
- **Other effects**
  - Hyperglycaemia in diabetes patients
  - Low birth weight
  - Inhibition of lactation
  - Tooth decay and brownish discoloration.
  - Impotence

2. Psychiatric disorders in khat chewing

The following are some of the identified disorders:

a. Paranoid delusion of persecution often associated with auditory hallucinations, thought broadcast and passivity experienc

II. Management

1. For those severe psychotic reactions treat them with antipsychotic. But they are usually self-limiting.
2. Detoxification (Refer to the core module)
   - Replace with less potent stimulant like tea, caffeine, cola drink, etc.
3. Psychotherapy
   - Advice on the diagnosis and its consequence
   - Apply brief intervention (Refer the core module)
4. Follow up and long-term treatment
   - Continue counselling
   - Create self-help groups and allow them to discuss in depth on the problem.

C. Tobacco

Nicotine, the main constituent of tobacco, can act as a stimulant, depressant or tranquillizer. Nicotine is of considerable medical significance because of its toxicity, and propensity for conferring dependence on its users.

Tobacco smoke also contains other noxious and carcinogenic ingredients such as carbon monoxide, ammonia, and a variety of harmful tars. Carcinogenic effects of tobacco smoking probably come from those harmful tars and most are present in chewing tobacco and snuff as well as smoke from cigarettes, cigars and pipes. Tobacco smoke interferes with the immune mechanisms of the body and predisposes to the development of infections particularly respiratory infections.

I. Disorders of Tobacco Smoking

- Cancer-: greatly enhanced chances of developing lung cancer and also cancer of the throat, larynx, oesophagus, oral cavity, pancreas, kidney, urinary bladder, etc.
- Respiratory disease: - responsible for >90% of chronic obstructive lung disease (emphysema, chronic bronchitis)
- Increases risk of pulmonary infections.
- Cardiovascular diseases:
- Myocardial infarction, coronary artery disease, arrhythmia,

- Generalized arteriosclerosis making brain, heart and kidney vulnerable to disease.
- Peripheral vascular disease.

the known constituents of ETS have been measured in exposed non-smokers and vary, in part, with:

- Size of the room
- Ventilation of room
- Number of smokers
- Rate of smoking

III. Management of Cigarette Smokers

Behavioural and pharmacological (medical) approaches are the two main methods of quitting smoking. You can use one or a combination of methods.

1. Behavioural methods

a. Problem solving/skill training

- Identify danger situations that may increase your risk of smoking or relapse.
- Change life style to reduce stress and improve quality of life to cope them.
- Be engaged in vigorous exercise to avoid relapse and excess weight gain.
- Try to minimize your contact with smokers
- Keep oral substitute (such as sugarless gum, carrots, sunflower seeds, etc).

b. Social support

- Have contact and discuss with social support system including family, and friends, your health care provider, counselor, and support group.

c. Group counseling

- Group progress includes lecture, group interactions, exercises on self recognition of your habit, some form of tapering methods leading to a "quit day", developing of coping skills and suggestion for relapse prevention.

2. Pharmacologic methods

a. Nicotine replacement therapy (NRT)

- Nicotine is available in several forms
  - Gum (nicotine polacrilex)
  - Patch

- Nasal spray
- Inhaler
- Indicated for those who have developed withdrawal symptoms
- NRT along with smoking is not recommended.

b. Buproprion–an antidepressant can help with nicotine withdrawal when it is available for use.

D. Opioids

The principal effects of opioids are dampening of pain perception along with modest levels of sedation and euphoria. They are widely used in medical practice, and thus, dependence and abuse are not limited to the classic opioid–dependent person on the street. Cross-tolerance is likely between opiates. Drugs in this category include pethidine, morphine, heroin, codeine as well as many prescription analgesics and antitussive agents. Dependence on or abuse of opioids can be seen in at least three types of patients.

1. Those with nonfatal chronic pain syndrome.
2. Those who have easy access: physicians, nurses and pharmacists.
3. Those who buy street drugs to get high.

I. Effects of Opioids

A. Acute and Chronic Organ System Effects.

CNS- Intoxication-induced nausea and vomiting.
- Analgesia, euphoria, sedation.
- Rarely, in chronic use, neuropathy.
- Endocrine abnormalities.

GI - Constipation, anorexia.
- Hepatitis in injection drug abusers.

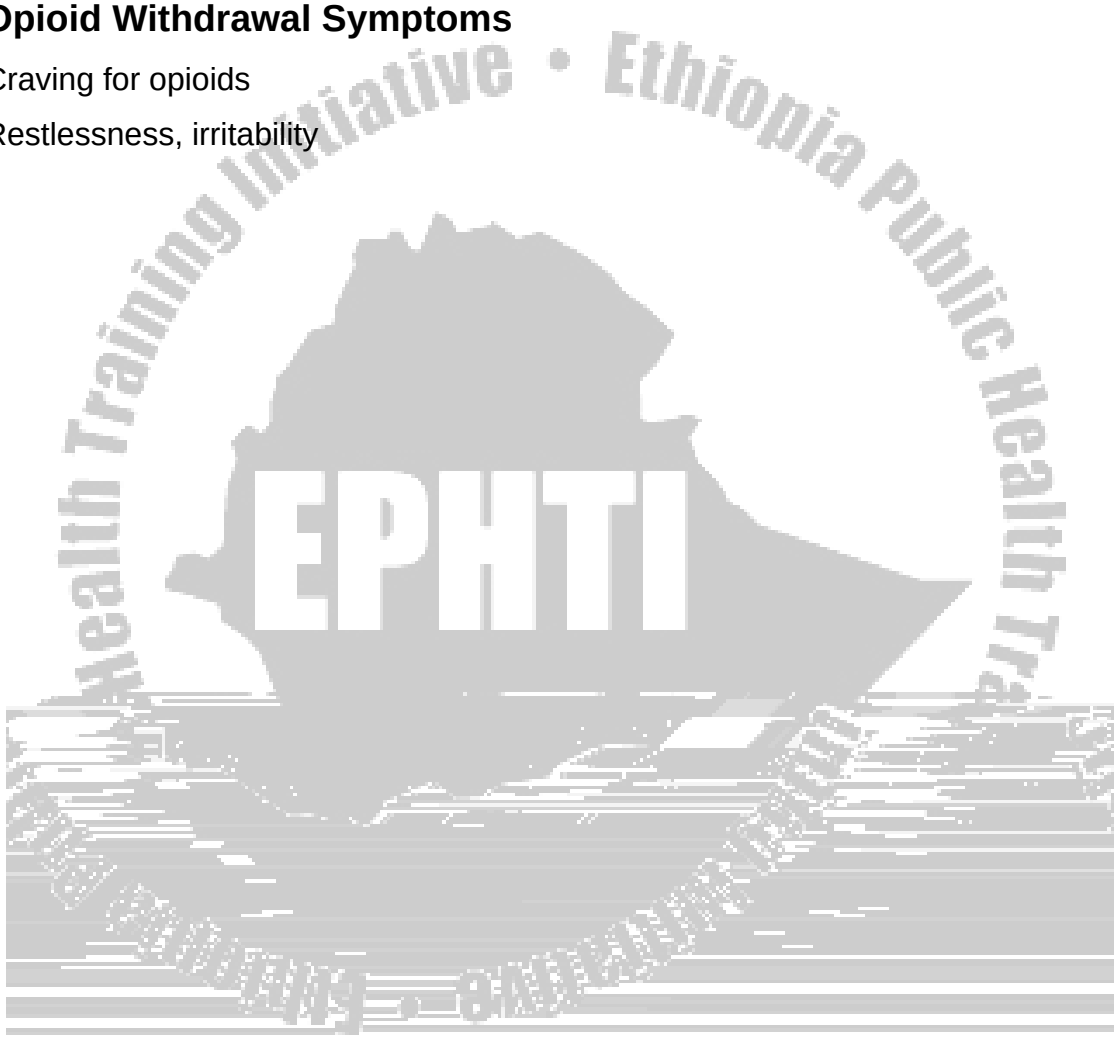
Cardiopulmonary - respiratory depression
- Orthostatic hypotension
- Infective endocarditis, pneumonia, etc.

Management

1. Maintain the respiratory and cardiovascular functions.
2. Administer antagonist such as naloxone
3. After stabilizing the patient's vital signs, detoxify the patient using long acting opioids such as methadone
4. Psychotherapy and rehabilitation.

B. Opioid Withdrawal Symptoms

- Craving for opioids
- Restlessness, irritability
-



E. Benzodiazepines

These are the most frequently abused drugs of the sedative-hypnotic group of anxiolytics. Dependence and tolerance on benzodiazepines often results from prolonged medical use but may also result from the availability of benzodiazepines as street drugs because of their euphoriant effects. When taken in overdose they produce drowsiness, dizziness, ataxia, dysarthria and nystagmus, and less commonly, coma, and hypotension. Respiratory depression is a potential complication, particularly when ethanol and other CNS depressants were taken together or when the patient has pre-existing chronic obstructive pulmonary disease. The withdrawal syndrome includes irritability, anxiety, sleep disturbance increased perceptual sensitivity and somatic symptoms (tremor, sweating, palpitation, headache, muscle pain), and occasionally seizure activity.

Management

- Nursing and supportive care.
- Antidote for intoxicated patients e.g. flumazenil, but must be wary of precipitating seizures.
- For dependent patients detoxify with long acting benzodiazepines.

F. Marijuana (Cannabis, Hashish)

Cannabis is derived from the plant *Cannabis sativa*. *C.sativa* contains many active chemicals; the most important of these are the tetrahydrocannabinols, which are responsible for the psychological effects seen with cannabis use. It acts as a stimulant or depressant and is often considered to be a mild hallucinogen with some sedative properties. Smoking is the usual route of abuse, but cannabis is occasionally ingested (in the form of capsules, tablets, on sugar cubes, or in food) or made into a "tea" and injected intravenously. Cannabis is often a group activity.

Hashish acts quickly and affects the person’s mood, thinking, behaviour and judgment in different ways. It heightens perception, causes mood swings, and relaxes mind and body. The long-term effects include decreased motivation, possible brain, heart, lung

and reproduction system damage. High doses may initiate symptoms of previously latent schizophrenia.

Although marijuana is not physically addicting, it may lead to psychological dependence, thereby retarding personality growth and adjustment to adulthood. But it is not certain whether it causes psychosis or not. Withdrawal from high doses may give rise to a syndrome of irritability, nausea, insomnia, and anorexia.

3.2. SATELLITE MODULE FOR ENVIRONMENTAL HEALTH TECHNICIAN STUDENTS

3.2. Introduction

3.2.1. Purpose and use of the Satellite Module

This module can be used in training of environmental health students or those in the service area for prevention of substance abuse.

The main activity of envir

3.2.3. Pre test

1. How do you control prevalence of khat in Ethiopia?

What measure can be taken on the host to prevent substance abuse?

For which substance in Ethiopia can religion be considered a risk factor for such substance abuse and what is the association?

Give one example of substance abuse in Ethiopia and list prevention measures on the agent, environment and host?

Which age group should be given special attention to educate against substance abuse?

3.2.4. Learning Objectives

After going through this module the environmental health student/ professional will be able to: -

1. List risk factors for substance abuse
2. List different prevention strategies for substance abuse
3. Out line prevention and control method.
4. Plan appropriate action for intervention on prevention and control of substance abuse.

3.2.5 Learning Activity: Case study

Ato Kebede Alemu is living in Sambiko district. He cultivates khat as means of income. First he started to sell khat leaves in a town located 50 km away from his residence and generated good amount of money. His neighbors share his experience and start to cultivate khat in order to get additional income. Besides khat chewing became part of routine group activities and in some localities it was used for religious purposes. And there was a report of excessive khat chewing by the youngsters in the same community.

Based on the above case study answer the following questions.

1. Which risk factor contributed more at this stage in Sambiko district?
2. What are the possible measures to control cultivation of khat in Sambiko district?

3. What prevention and control measures can be taken to decrease the number of abusers in Sambiko district?
4. Probably people might take other substances together with khat in Sambiko district. Outline the necessary action plan to prevent such problems.

3.2.6 Prevention and Control of Substance Abuse

The reader is advised to go through first the prevention and control method written in the core module.

The ultimate goal of prevention is to ensure that the members of a given population do not abuse substances and consequently do not put themselves at risk of suffering damage or causing social harm.

Primary prevention can be effected by means of the following three approaches:

- Elimination of abused substance:
- Control of contributing environmental conditions;
- Increase in the awareness of individuals through health education.

All three are relevant to substance abuse problems but the choice of approach will be greatly influenced by social perceptions and attitudes, as well by the type of public agency in charge of particular programme.

Education and Information

A Varity of approaches and techniques have been used in drug education and information. These may be based on various models. And these models may also serve for other substance abuse problems.

A. Moral Principles Model

This approach stresses that the use of psychoactive drugs is morally evil and ethically wrong. It usually takes the form of public exhortation campaigns, often led by religious groups, but has also been adopted by political and social movements that embrace principles such as patriotism, self-sacrifice for the common good and individual productivity. The moral approach seems to be most effective at times of widespread

religious revival, as well as during the most active phase of social movements, when most of the population is involved in altruistic common pursuits and social control on individual behavior is strongest. Its impact may be ephemeral, for it tends to share the relatively short-lasting appeal of the intense social experiences that support it.

B. The Scare Model

It is also believed that the population can be persuaded not to abuse drugs through information campaigns that emphasize the dangers of such behaviour. The effectiveness of this approach is often some what limited, particularly with young audiences. How ever, there may be situations in which campaigns that emphasize the adverse effects of drug taking can deter people from starting to use drugs.

C. The Factual Knowledge Model

It attempts to improve the manner in which information on drugs is communicated and received.

It generally involves providing objective and relevant information on the substances and their effects, as well as on their risks and the long term damage that they may cause.

D. The "affective-education" Model

"Affective" approaches are educational techniques that focus more on the correction of some predisposing personal deficiencies than on the problem of drug use it self. The guiding principle is that the tendency to use drugs should diminish or disappear if such deficiencies can be overcome.

E. The Health Promotion Model

- Programs aimed at preventing heart disease have proved effective in decreasing smoking and improving dietary habits in a substantial proportion of the target population.

- Prevention of behaviour liable to have an adverse effect on health is another major component of health promotion program.

  The health promotion approach is particularly useful with individuals who are receptive to it and capable of caring for their own health.

- Health education programmes encourage the development of alternative habits (e.g. physical exercise, recreational activities, healthy life styles, sound work patterns), which compute for the time and energy devoted to substance abuse and may serve as satisfactory substitutes.

As with any health education campaign, it is necessary to adapt the style and content of message to take account of the needs and expectations of the audience at which it is aimed.

Settings

Schools

A adolescents and young adults constitute one of the group sat greatest risk of becoming of entangled in drug taking, as well as the age group for which early preventive intervention is most appropriate.

Work-Places

Just as schools are a useful place to find young people, the work-place is a convenient setting in which to make contact with sizeable number of adults.

Home and Community

The development of a continuum of prevention activities, with out any sharp separation between home and community, and the smooth integration of such activities are very important.

Use of the Mass Media

The delivery of health education materials through the mass media has a number of advantages. It makes it possible to reach groups that can not other wise be contacted, and it may also be the most cost-efficient method.

Prevention Strategies

There are three major approaches frequently used to prevent adolescent substance use and abuse, including the following.

- **School-based prevention programs**

  School based prevention programs usually provide drug and alcohol education and interpersonal and behaviour skills training.

- **Community-based prevention programs**

  Community- based prevention programs usually involve the media and are aimed for parents and community groups programs such as mothers against Drunk driving (MA.DD) and Students Against Drunk Driving (SADD) are the most well know community-based programs.

- **Family- focused prevention programs**

  Family, family skills training, children's social skill training and family self help groups. Research literature available suggests that components family-focused prevention programs have decreased the use of alcohol and drugs in older children and improved effectiveness of parenting skills that favorably affected their children's risk factors.

Legislation on smoke–free public places and public transport.

The objective is to decrease risk of passive smokers.

Study shows that a 30% increase in lung cancer among non- smoking wives of smokers as compared to non- smoking wives of non smokers. This shows that passive smokers have risk to develop cancer.

Community has the right to breathe clean air

- Public transport.

Alcohol and Drug Policies for Organization

- If alcohol is served on the premises there should also be cheap non-alcoholic beverages, so that a choice is offered.
- Employees using complex machinery should not drink or use drugs while at work.
- Employees with poor work records resulting from a drug or alcohol problem, should be offered counselling as first step.
- Smoking should be allowed only in certain designated places since non-smokers have the right to work in a smoke free atmosphere.

Control of Substance Abuse in Ethiopia

Alcohol and khat use are widely known in many parts of Ethiopia. The absence of legal provisions to control the spread of alcohol and khat production and sale aggravate the use in the country. In addition to the absence of legal discouragements to the cultivation, trade and use of khat, khat is becoming one of

3.3 SATELLITE MODULE FOR MEDICAL LABORATORY TECHNICIAN STUDENTS

3.3 Introduction

3.3.1 Purpose and use of the Satellite Module

This satellite module is prepared for students of medical laboratory technology. It emphasizes on areas of laboratory diagnosis that were not touched in the core module.

3.3.2 Directions for using the Satellite Module

- Á Students are advised to go through the core module before studying the satellite module
- Á After completing the satellite module students should try to answer all questions of the post-test.
- Á Compare your answers of both the pre and post-tests with the key given as Annex 1.

3.3.3 Learning Objectives

After going through this satellite module, the student will be able to:

- ü Describe the laboratory diagnosis performed for substance abuse
- ü Identify and perform laboratory methods to diagnose substance dependence.

3.3.4 Laboratory Diagnosis

It is quite true that any suspected medical or neurological condition should be thoroughly evaluated with appropriate laboratory tests. Diagnosis of such phenomenon using laboratory methods requires very sophisticated laboratory facilities that are not even found in high level central and public health laboratories of most developing countries including ours. However, in countries where there are adequate facilities to perform laboratory investigations of substances of abuse, determinations of the level of the substances can be done from plasma/serum analysis, urine test , and through analysis of other body fluids. In addition, certain haematological and clinical chemistry tests can also be done to screen a person.

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2. Liquid Chromatography:-

The recent introduction of high-speed liquid chromatography offers many advantages to the analyst; It is non destructive, requires minimum sample preparation, allows for rapid quantitation, and permits the collection of separated samples for further identification studies.

2. As a nurse, what should be your initial plan be:
   a) Assist him to recognize his depression
   b) Assist him to develop coping strategies
   c) Assist him to recognize the biopsychosocial consequence of his substance dependence.
   d) a and b
3. State at least two nursing diagnoses for Ato Jemal.
4. Discuss the interventions to the nursing diagnosis in Question Number 3?

3.4.5. Effects of Commonly Abused Substances of Abuse and Dependence

A. Alcohol (ethanol)

Ethanol is prepared from fermentation of sugars, starches or other carbohydrates. Ethanol is classed as depressant because it produces sedation and sl

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The opioid withdrawal symptoms include muscle aches, nausea and vomiting, abdominal cramping, decreased appetite, sweating, fever, restlessness, fatigue, rhinorrhoea. diarrhoea, pilo erection [“Goose flesh”)

E) Benzodiazepines

Are the most frequently abused drugs in health care setting esp. diazepam. Prolonged use of benzodiazepines could lead to tolerance and dependence with a characteristic withdrawal syndrome – irritability, anxiety; sleep disturbance, tremor, sweating, palpitation, headache, muscle pain, and increased perceptual sensitivity, as well as occasionally seizures.

F) Marijuana (Cannabis, Hashish)

Marijuana is a common plant with the biological name of Cannabis sativa. It acts as a stimulant or depressant and hallucinogen (at higher doses). Hashish heightens perception, because mood swings, and relaxes body and mind. Marijuana is not

route of administration, stressors in the person's life, method of obtaining the substance (e.g. prescription, stealing, etc)

- Á Assess criteria for dependence (refer to the core module)
- Á Effects of withdrawal
- Á Defence mechanisms employed.
- Á Support systems (familial, social and financial).
- Á Level of self esteem
- Á Prior treatments and outcomes.

3.4.6.2. Nursing Diagnosis: Based on the Assessment Information, one or more of the following client problems can be identified:

1. Ineffective individual coping related to continuous use of substance and limited social assertive skills
2. Sensory perceptual alteration related to effect of substance and withdrawal symptoms.
3. Altered thought processes related to effect of substance and psychologic dependence.
4. Anxiety related to withdrawal symptoms
5. Disturbance in self-concept evidenced by (related to) inability to handle feelings, use of denial and other defence mechanisms and expressions of shame and or guilt.
6. Sleep – pattern disturbance because of central nervous system agitation.

3.4.7. Nursing Interventions

Nurses may be view patients who abuse substances with disapproval, intolerance, anger or condemnation and these attitudes must be guarded against. However, nurses shouldn't be the required to display an accepting (enabling); and non-judgemental attitude while coping with various behaviours such as manipulation, non-compliance, aggression or hostility.

Hence, nursing interventions include:

1) As a general element of an effective brief intervention that help trigger patient motivation for changes the acronym **FRAMES** may be used. (Refer Core Module).

2) Nursing actions in use and control of narcotic drugs and psychotropic substance

An authorized health worker legally prescribes these substances. Possession of such drugs/substances with out a prescription is

- Recognize dependency and relapse
- Mobilize community resources available to patient
- Educate the patient and provide family
- Manage symptoms and provide treatment,
  - Á Avoid rejecting the patient
- Help patient to understand dynamics of substance dependence behaviour.
  - Á Establish a therapeutic relationship and trust
  - Á

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3.5.5 Predisposing Factors for Substance Abuse

There is no a single cause to substance abuse & dependence. But there are several predisposing factors/causes that have been identified which include:

- Social environment – peer pressure especially during adolescence leads to drug taking to get acceptance by their peers, for experimentation, to relieve boredom.
- Prior experience with the substance of abuse
- Availability and cost of the substance of abuse –some of the substances can be obtained easily in most instances with a minimum cost especially khat, tobacco and alcohol so people tend to use them abundantly with eventual dependence.
- Unemployment and low education opportunities
- Mode/route of administration- in most cases route of substances of abuse, if we see the common ones, doesn't require a trained person and it mainly includes chewing, intranasal, (sniffed, or snorted) smoked and the gastrointestinal route,

3.5.6 Prevention and Control

The community health agent should be able to:

1. Inform and educate community about the harmful consequences of substances of abuse such as the health, social and economic impact.
2. Try to prevent young people from smoking, chewing and drinking
3. Promote restriction of smoking in public places
4. Train youth about substance abuse and form peer counsellors and promote prevention works in schools, and in the community.

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UNIT FOUR

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UNIT FIVE

GLOSSARY

Abuse:	Misuse, maltreatment, or excessive use.
Addiction:	Physiologic or psycho logic dependence on some agent, with a tendency to increase its use.
Alcoholism:	A disorder marked by pathological pattern of alcohol use that causes serious impairment in social or occupational functioning.
Analgesia:	Absence of sensibility to pain, particularly the relief of pain with out loss of consciousness; absence of pain or noxious stimulation.
Anti psychotic:	Effective in the management of manifestations of psychotic disorders.
Anxiety:	A feeling of apprehension, uncertainty, and fear without apparent stimulus, associated with physiological changes.
Arrhythmia:	Variation from the normal rhythm of the heart beat.
Carcinogen:	Any substance which causes cancer.
Cardiomyopathy**:**	A general diagnostic term designating primary myocardial disease.
Core Module:	The main teaching module prepared for all team members of a health center.
Delinquent:	Characterized by antisocial, illegal, or criminal conduct.
Delirium:	A mental disturbance of relatively short duration usually reflecting a toxic-metabolic derangement, marked by disorientation, inattention, illusions, hallucinations, delusions, excitement, restlessness, and incoherence; a cerebral disorder with abrupt onset.
Dementia:	Organic loss of intellectual function; a cognitive cerebral disorder with insidious onset.
Dependence:	The psychophysical state of a drug user in which the usual or increasing doses of the drug are required to prevent the onset of withdrawal symptoms.
Depressant:	Diminishing any functional activity; an agent that so acts.

Detoxification: Reduction of the toxic properties of a substance.

Diaphoresis: Perspiration, especially profuse perspiration.

Etiology: The science dealing with causes of disease.

Euphoria: Bodily comfort; well-being, absence of pain or distress.

Hallucination: A sense perception that has no basis in external stimulation.

Haemorrhoid: A varicose dilatation of a vein of the survivor or interior haemorrhoid at plexus.

Hypnotic: Inducing sleep; also an agent that so acts.

Impotence: Lack of power, chiefly of copulative power in the male due to failure to initiate an erection or maintain erection until ejaculation.

Intoxication: A condition that follows the administration of a psychoactive substance and results in disturbances in the level of consciousness, cognation, perception, judgement, affect, or other psycho physiological functions and responses.

Leukoencephalopathy: Any of a group disease affecting the white of the brain.

Libido: The sexual drive, conscious or unconscious.

Narcotic drugs: Drugs that produce insensibility or stupor, especially an opioid.

Piloerection: Erection of the hair.

Tranquilliser: A drug with a calming, soothing effect.

Tremulous: Shaking, trembling, or quivering.

Tolerance: The ability to endure with out effect or injury.

Withdrawal: A specific organic brain syndrome that follows cessation of use or reduction of intake of a psychoactive substance that had been regularly used to intoxication.

UNIT SIX

ANNEX

ANNEX I

Answer key for Pre and Post-tests

1. b
2. d
3. d
4. c
5. True
6. d
7. c
8. d
9. b
10. True
11. b
12. d

Annex II

Opiate Withdrawal Checklist

Source: CIWA-Opiates

Nausea/Vomiting

No nausea/Vomiting	(0)
Mid nausea but no retching or vomiting	(2)

Annex III

Procedure for Management of Alcohol Withdrawal

A. In all patients

- Thiamine 100 mg IM x 1, then PO QD,
- MVI 1 PO QD; Folate 1 mg PO QD
- Check vital signs and staging q 4 hrs x 24 hr

IV thiamine should be administered immediately if Wernicke-Korsakoff syndrome is suspected. Clinical triad is ophthalmoplegia, altered mental status and ataxia. Patient should receive thiamine **PRIOR** to IVF with glucose in any case.

B. Proctor I protocol

Day 1: Labrium 50 mg PO q2h PRN x 24h: vitals q4h while awake.

Day 2: give 75% of total day 1 dose, divided QID

Day 3: give 50%, day 4 give 25%, day 5 D/C…

(use Serax 45 mg PO q2h PRN x 24h when liver disease is present)

Or

C. Chlordiazepoxide:

Day 1: 50 mg po Q4H

Day 2: 50 mg po Q6H

Day 3: 25 mg po Q4H

Day 4: 25 mg po Q6H

Day 5: Stop medication

Or

D. Self-taper protocol (Diazepam front-loading)

Diazepam 5 – 10 mg PO q20 minutes (less aggressive: 20 mg PO q2h) until patient is sedated and no withdrawal signs are noted.

Diazepam (and its active metabolite, nordiazepam) will self-taper over next 2-3d. However, there is still a small risk of withdrawal seizure with this protocol.

Source: Gastfriend DR, Elman I, Solhkhah R (1998) Psychiatric Clinics of N America: Annual of Drug Therapy.

Annex IV

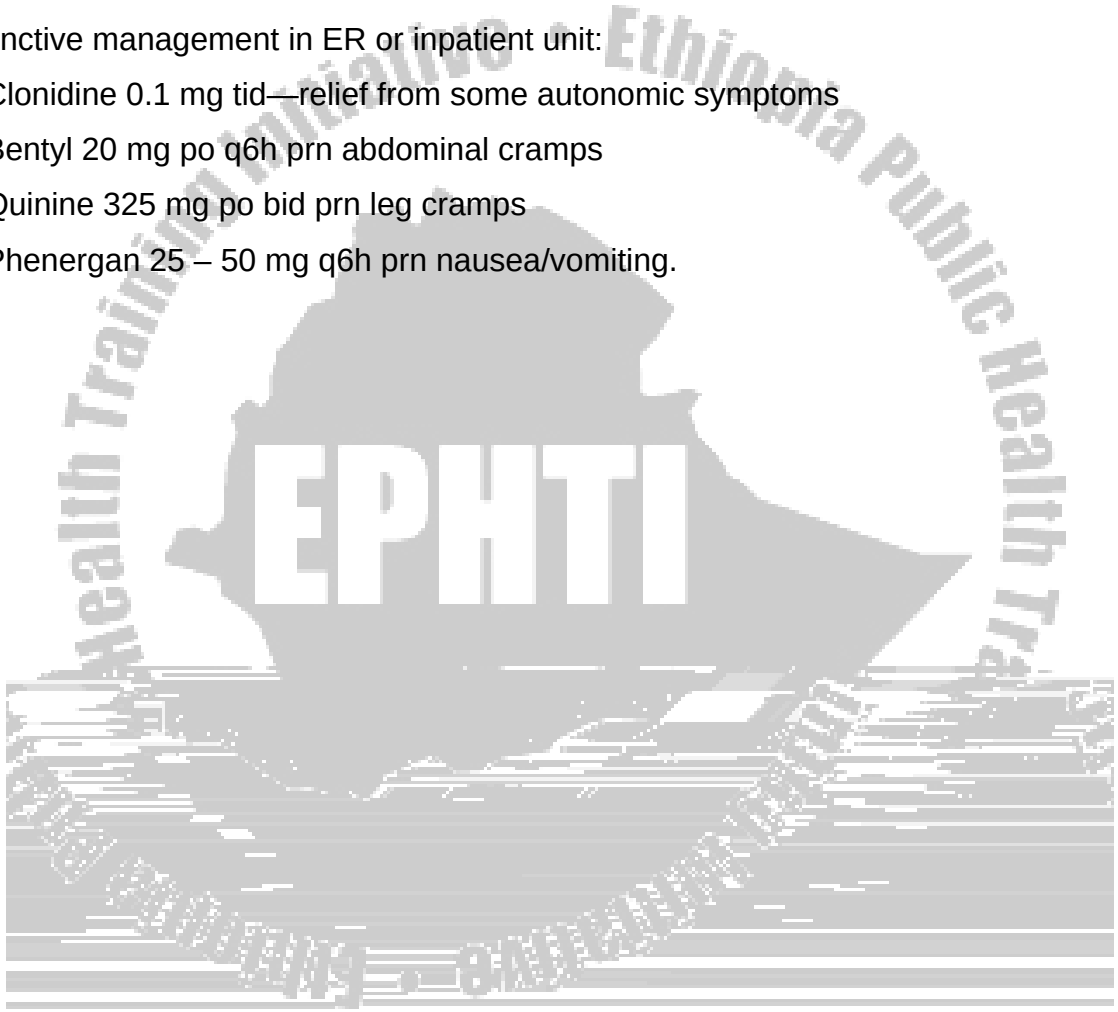
Opiate Withdrawal Symptom Management (ER/inpatients)

Mason Turner-Tree

Opioid withdrawal is uncomfortable but does not pose a medical threat in otherwise health patients. Do not give Methadone to patients who will be discharged from the hospital.

Adjunctive management in ER or inpatient unit:

- Clonidine 0.1 mg tid—relief from some autonomic symptoms
- Bentyl 20 mg po q6h prn abdominal cramps
- Quinine 325 mg po bid prn leg cramps
- Phenergan 25 – 50 mg q6h prn nausea/vomiting.



CIWA-AR Scale for EtOH W/D

Mason Turner-Tree

Blood pressure		**Tremors**	
< 140/90	0	Inner shakes	0
140/90 – 158/98	1	Inner shakes & fine tremor	1
160/100 – 175/110	2	Tremor on holding objects	2
176/110 – 199/110	3	Visible tremors	3
> 200/110	4	Tremor preventing ambulation	4
Anxiety		**Mental status**	
Mild/able to sit	0	Alert, Ox4	0
Mood swings, freq.		Forgets simple instructions	1
Purposeful activity	1	Occ. forgets locale	2
Easily agitated	2	Confused/Ox2	3
Pacing/nightmares	3	Confused/Ox1	4
Hallucination	4		
Pulse		**Nausea/Vomiting**	
90 or less	0	Occ. Nausea	0
91 –100	1	Nausea, eats small amounts	1
101 – 120	2	Vomits x1 q shift	2
121 – 139	3	Vomits x 2 q shift	3
140 and above	4	Unable to Cat(s)tdamp0779982124.2 ref4.42T03 Tc-0.0ll48 0 TD	
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Annex V

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UNIT SEVEN

BIBLIOGRAPHY

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9. Belay Tessema is Assistant Lecturer with B. Sc in Medical Laboratory Technology. He graduated from Gondar University College with Diploma in Medical Laboratory Technology and later on he received his B.SC from Jimma University. He is instructing in the college and also giving service in the University hospital.