

**COURSE
GUIDE**

**HED 322
DRUG EDUCATION**

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CONTENTS

PAGE

Introduction	iv
Course Aim	iv
Objectives	iv
Working through the Course	iv
Course Materials	v
Study Units	v

INTRODUCTION

This course, HED 322 Drug Education is designed to provide you with self-instruction on drug education. It teaches you to understand a little of the history of drugs, learn the different terminologies as they relate to drugs, harmful effects of alcohol, tobacco, narcotics, sedative and stimulant drugs. Providing you with information on factors that are likely to influence psychoactive substance use and abuse, as well as ways of prevention and management of cases arising from their abuse are explained.

COURSE AIM

The aim of this course is to acquaint you with the basics of drugs generally. It also aims at encouraging you to learn about drug use and abuse, harmful effects of alcohol, tobacco, narcotics, sedative and stimulant drugs. In addition, it aims at providing you with factors that may influence the use of these substances and ways of prevention.

OBJECTIVES

At the end of this course, you should be able to:

- explain a brief history of drugs
- discuss different terminologies relating to drug education
- state factors responsible for people abusing drugs
- mention with relevant examples drugs that are commonly abused
- recognize individuals that are drug abusers
- discuss the psychosocial problems associated with drug abuse
- explain the steps in managing drug abusers
- demonstrate proficiency in prevention of drug abuse using in different stages
- explain the causes of alcoholism
- discuss the harmful effects of alcohol and tobacco
- differentiate the main types of tobacco
- write the different ways of rehabilitation alcoholics.

WORKING THROUGH THE COURSE

This course HED 322: Drug Education expects you to do a lot of reading in order to cover the content in the course materials. This means that you should give much time to this course by reading through this material and getting more information from different texts and journals in drug-related research. These are very much available in libraries as well as from the internet. The course material has been made simple to read and very much

user-friendly. This does not mean that you can understand everything in it which is suggestive that you will need to attend the tutorial sessions where your facilitator would help you with more information using relevant examples that can easily be cited in the society. It is advisable that you work in groups with other students in order to discuss, compare thoughts and exchange ideas that provide an in-depth understanding of each unit.

COURSE MATERIALS

The National Open University of Nigeria will provide you with the following items:

1. Course Guide
2. Study Units
3. Assignment File

You are required to visit establishments like NAFDAC, read journals and other prints that have to do with drugs as these are essential supplements to this course material.

STUDY UNITS

There are 17 study units in this course divided into five modules. The modules and units are presented as follows:

Module 1

- Unit 1 Definition and History of Drug Education
- Unit 2 Terminologies in Drug Education

Module 2

- Unit 1 Reasons for Drug Abuse
- Unit 2 Drugs that are Commonly Abused

Module 3

- Unit 1 Marijuana
- Unit 2 Psychedelics
- Unit 3 Stimulants
- Unit 4 Depressants

Module 4

- Unit 1 Ways of Recognising a Drug Abuser
- Unit 2 Psycho-Social Problems Associated with Drugs and Drugs and Academics

Module 5

- Unit 1 Reasons for Alcoholism
- Unit 2 Effects of Alcohol, Tobacco, Narcotics, Sedatives and Stimulants on the Human Body
- Unit 3 Possible Ways of Rehabilitating Alcoholics
- Unit 4 Effects of Drugs, Alcohol and Tobacco on Special Organs of the Body

Module 6

- Unit 1 Tobacco, Main Types and Reasons for Using Tobacco
- Unit 2 Possible Solutions to Tobacco Use and Ways of Preventing Drug Abuse

Module 7

- Unit 1 Effects of Substance Use on Athletes

**MAIN
COURSE**

CONTENTS		PAGE
Module 1	.....	1
Unit 1	Definition and History of Drug Education	1
Unit 2	Terminologies in Drug Education	6
Module 2	.....	11
Unit 1	Reasons for Drug Abuse	11
Unit 2	Drugs that are Commonly Abused	
Module 3	.....	17
Unit 1	Marijuana	17
Unit 2	Psychedelics	22
Unit 3	Stimulants	29
Unit 4	Depressants	35
Module 4	.....	45
Unit 1	Ways of Recognising a Drug Abuser	45
Unit 2	Psycho-Social Problems Associated with Drugs and Drugs and Academics	49
Module 5	.....	56
Unit 1	Reasons for Alcoholism	56
Unit 2	Effects of Alcohol, Tobacco, Narcotics, Sedatives and Stimulants on the Human Body	61
Unit 3	Possible Ways of Rehabilitating Alcoholics	74
Unit 4	Effects of Drugs, Alcohol and Tobacco on Special Organs of the Body ...	78

Module 6	.....	84
Unit 1	Tobacco, Main Types and Reasons for Using Tobacco	84
Unit 2	Possible Solutions to Tobacco Use and Ways of Preventing Drug Abuse	94
Module 7	.....	101
Unit 1	Effects of Substance Use on Athletes	101

MODULE 1

INTRODUCTION

Since the existence of man, leaves and plants have been used for and controlling diseases. The use of drugs in itself does not constitute any health danger as drugs when correctly administered has been a blessing. However, when used otherwise can cause various ailments. This means that the use of drugs could be beneficial or harmful depending on the mode of use.

UNIT 1

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes
- 3.0 Main Content
 - 3.1 Definition and History of Drug Education
 - 3.2 Terminologies in Drug Education
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

It is known that drugs have been used since the existence of humans for various reasons, which include treatment, prevention as well as rehabilitation of people. The gains derived from well-prescribed drugs by medical personnel and used appropriately outweighs the possible risks involved when abused.

2.0 OBJECTIVES

By the end of the unit, you will be able to:

- state the meaning of drug with 65% accuracy
- explain the history of drug education with 80% accuracy
- explain at least five of 7 drug terminologies with 75% accuracy.

3.0 MAIN CONTENT

3.1 Definition of Drug

A drug can be described in different ways. It is explained by National Agency for Food and Drug Administration and Control (NAFDAC (2001) as a substance which by its chemical nature has an effect upon the body or the higher nervous system (the mind). Therefore, it could be seen to mean any chemical agent different from foodstuff that can effectively affect the structure or function of a living organism. Again, World Health Organisation (WHO) (1967) stated that it is any substance which is taken by living organisms may modify the functions of living organisms. These substances may be used for healing purposes or social reasons.

History of Drug Education

The history of drugs and drug abuse-related terms cannot be exactly traced to a particular period. However, one may not be wrong to opine that in the early times, leaves, plants and herbs have been in use for healing as well as in controlling ailment of various categories.

It then suggests that the use of drugs could be traced back to pre-colonial times when alcohol and other substances were used as part of the traditions of communities. Humans have used drugs of one type or another for thousands of years. Wine was used at least from the time of the early Egyptians, narcotics from 4000BC.

In the Holy Bible, in Genesis 9 Verses 20 to 21, “and Noah began to be an husbandman, and he planned a vineyard and he drank of the wine, and was drunken and he was uncovered within his tent” (King James Version)

Shakespeare’s Macbeth referring to alcohol “it promotes the desire but takes away the performance”. Samuel Johnson in Shakespeare also referring to alcohol quotes “In the bottle discontent, seek for comfort, cowardice for courage and bashfulness for confidence.

Chemical agents that alter mood and behaviour have been known since ancient times. Opium was well known to the Egyptians before 1500BC. Ancient writings attest to the popularity of opium throughout the rise and fall of the Babylonian, Egyptian, Greek and Roman Empires. Cannabis was mainly used in India and to a much lesser extent in China, reports dated back from about 1000AD. Its use spread to the Middle East in the 19th century and was introduced into Europe in the Napoleonic era. Cannabis was introduced into the United States early in this century and its use reached epidemic proportions in the 1920s and 1930s and then spread through the rest of America in the 60s. An upsurge in the use of this and other hard drugs occurred during the Vietnam War.

Heroin was synthesized in 1978 as a morphine derivative and was widely used medically as a non-addictive substitute for morphine. This was proved to be wrong.

On the Nigerian scene, the drug cannabis was brought in by soldiers returning from Burma and the few east in the late 40s and early 50s. The use of the drug spread to musicians and lay about in those days called the BOMA boys. Now impetus was given to drug abuse in the 60s with the advent of the Hippie generation in the movement of love, music and drugs when these drugs became fashionable with the crowds. Mandrax made its entry in the early 70s via the doctor's prescription pad and with the ban imposed on Mandrax, "Chinese capsule took over". Hard drugs like Heroin and Cocaine have found their way into Nigeria via Lagos and Kano which are on the drugs trade route from Asian countries. Some of these drugs usually drop in the process of transportation.

The abuse of drugs in Nigeria is traced to factors such as war, rapid socio-economic changes, unexpected oil boom and urbanization which led to the disintegration of the family network and to the proliferation of drugs availability (Ogbonna, 2006). Discussing drug problems, Obot (1993) expressed that almost three decades ago Nigeria did not have the problems due to early use was controlled and limited. The abuse of drugs was found among only men and women that wanted to stay alert, go hunting or engage in tribal wars.

In line with this, he emphasised that the history of alcohol in terms of scientific investigation concerning the problem was not given attention until after the civil war in Nigeria. In the pre-1966 era, alcohol or drug were locally produced by traditional methods. Some of these include alcoholic beverages as native gin, *pito*, *burukutu* and palm wine. By 1977, the outcome of the oil boom brought about a drastic change in the pattern of drug and alcohol produce in Nigeria.

As explained by Ajala (2012), up to the early sixties, cannabis was practically unknown in Nigeria. It is generally believed that cannabis was introduced to Nigeria during and after the Second World War (1939-1945) by soldiers returning from the theatre of war in the Middle East, Far East and North Africa and also by sailors. In Lagos, the main seaport of Nigeria, the then Federal Capital city, cannabis became "freely and openly smoked by Bomba boys who gave it different names such as Congo Matadi, weed, shug, Morocco etc, their own link known only to smokers and suppliers. However, it is commonly known as Indian hemp which is now increasingly becoming a problem.

SELF-ASSESSMENT EXERCISE

- i. Where do you have the first-ever recorded drunkenness?
- ii. Where was the abuse of drugs rampant in Nigeria?
- iii. What happened in Nigeria as it relates to drug between 1939-1945?

4.0 CONCLUSION

The use of drugs could be traced back to pre-colonial times when alcohol and other substances were used as part of the traditions of communities. Heroin was synthesized in 1978 as a morphine derivative and used medically as a non-addictive substitute which was later proved to be wrong. It is generally believed that cannabis was introduced to Nigeria during and after the Second World War.

5.0 SUMMARY

The history of drugs and drug abuse-related terms cannot be exactly traced to a particular period. However, one may not be wrong to stress that in the early times, leaves, plants and herbs have been in use for healing as well as in controlling elements of various categories. In Lagos the main sea-port of Nigeria, cannabis became freely and openly smoked by Bomba boys who gave it different names to qualify it. Why drugs are commonly abused have various reasons for that and the ones commonly abused are those functional in various locations.

6.0 TUTOR-MARKED ASSIGNMENT

Drug is described as _____

- (a) Two ways (b) Five ways (c) Three ways (d) Different ways.
1. A drug is said to be: (a) Chemical agent different from foodstuff. (b) Chemical agent (c) Chemical and food agent (d) A & B are correct
 2. A drug can do one of the following: (a) Modify food substances (b) React to the body (c) Modify functions of living organisms (d) B & C are correct.
 3. A drug can be used for one or all of these: (a) Healing purpose (b) Healing and social purposes (c) Social or drinking purpose (d) Healing and Drinking purposes.
 4. This is true of the history of drug and drug abuse: (a) Traced to 1906 (b) from the demise of Adam (c) Demise of Adam and Eve (d) Cannot be traced to a particular period.
 5. Leaves, plants and herbs have been used _____. (a) for food only (b) after the colonial times (c) for healing as well as in controlling ailment (d) for social engagement

1. The first record of drug abuse among humans is _____. (a) Adam (b) Eve (c) Noah (d) Abraham
2. Opium was well known by _____. (a) Egyptians (b) Nigeria (c) Niger (d) South Africa
3. The drug cannabis was brought into Nigeria by _____. (a) customers (b) police and soldiers (c) soldiers (d) Vietnam
4. One of these was never known in Nigeria till the 1960s: (a) Opium (b) Hashish (c) Cannabis (d) Sedatives

7.0 REFERENCES/FURTHER READING

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UNIT 2 TERMINOLOGIES IN DRUG EDUCATION

CONTENTS

- 1.0. Introduction
- 2.0. Intended Learning Outcomes
- 3.0 Main Content
 - 3.1 Various Types of Terms Used in Drug Education
- 4.0. Conclusion
- 5.0. Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

To better understand issues relating to drug education, there is the need for students to be able to understand the different terms to be able to discuss and relate with individuals and groups that are concerned with drug issues in the society.

2.0. INTENDED LEARNING OUTCOMES

By the end of the unit, you should be able to:

- list five out of nine types of terminologies in drug education
- state the different types of drug terms with relevant examples.

3.0 MAIN CONTENT

3.1 Various types of terms used in drug education

Drug Use: As explained by Johns, Sutton and Cooley (1975) refer to the taking of a psychoactive substance for its intended purpose in an appropriate amount, frequency, strength or proper manner. This means, no more than the taking of a drug. The person that uses drug then is just about all humans. This term as explained by Johns et al (1975) is the taking of a psychoactive substance for its intended purpose in an appropriate amount, frequency, strength or proper manner. In line with this, functionally, drugs use may be categorised into two major overlapping categories: (a) The ones used for medical purposes (prescribed by a physician for specific therapeutic effect(s) and (b) those that are used for purely social purposes (no specific therapeutic use such as cola drinks, kola nuts, caffeine in coffee, nicotine in cigarettes as well as ethyl alcohol in beer, wine and hard liquor) in relation to 'drug use' it is no more than the consumption of a drug. Therefore, a 'drug user' is just about everybody.

Drug Abuse: As described by NACADA (2010), it is the use of drugs to the extent that it interferes with the health and social function of the individual. It can be seen to mean the arbitrary overdependence of one particular drug with or without a prior medical diagnosis from a qualified health practitioner. In addition, drug abuse can be said to be the use of drugs that society does not allow, in contrast to the use of other abusable drugs that are socially acceptable.

Drug Misuse: This can be described to mean the periodic or occasional inappropriate use of a drug either for social or healing reasons. An example of this could be disappointment in a relationship between a woman and man, or not winning a game, therefore, the individual will resolve to use alcohol which he/she might have not tasted in life.

Drug Dependence: According to Belcher (1998), it is a state arising from repeated administration of a drug on a periodic or continuous basis. The individual may not be able to have the satisfaction he/she wants to have without using the drug(s). It could equally mean the psychic or physical dependence that comes after a substance use from time to time or constant administration leading to addiction and habituation.

Drug Addiction: As explained by Gathumbo, Patric and Malley (2007), drug addiction is a complex and chronic relapsing mental disorder characterised by compulsive drug-seeking, the lack of capacity to limit the consumption, the emergence of a withdrawal syndrome during cessation and the use despite the awareness of the harmful consequences. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without engagement in recovery activities, addiction is progressive and can lead to disability or premature death.

Physical Dependence: This is a situation where the body has adjusted to the presence of a drug and when forced to function without the drug, reacts by showing signs of an illness called “substance syndrome” or “withdrawal illness”.

Tolerance: A situation where the body cells protect themselves against toxic substances by developing resistance to them. This condition is manifested when repeated amounts of the same doses of the drug become decreasingly effective and increasingly larger doses are needed to provide the needed effect.

Physical Dependence: In this situation, the individual might have received satisfaction from the first use of the particular drug causing him/her to make repeated use of the drug. Based on the continued repetition of the drug use, he/she may find it very necessary to use the

drug as a means of his adjustment to life, relying upon it for fulfilling his/her desire which many achieve without the help of drugs.

Polydrug: The term is used to describe the use of two or more drugs during a particular period that may last over a month or year. As pointed by Klein, Elster and Cohn (1993), polydrugs use is characterized by the use of two or more psychoactive substances so that their effects are experienced simultaneously.

SELF-ASSESSMENT EXERCISE

Attempt the following:

1. Explain at least five out of the different types of drug terminologies.
2. Describe different terms you can use in drug education.

4.0 CONCLUSION

Having read this Module 1 successfully as well as attempted the self-assessment exercise, it is assumed that you have had a good understanding of the constituents of the two units.

5.0 SUMMARY

In these units, you have learnt the definition and the different terminologies that are generally used in drug education. More references are provided for you so that after reading you may understand better or more terms that are not included in the module.

6.0 TUTOR-MARKED ASSIGNMENT

Objective Test

1. Drug abuse is the use of drug till it _____.
a) Interferes with health and social function (b) Misuse (c) Overuse
(d) None of A to C
2. Drug Misuse is _____.
(a) Occasional inappropriate use of drug (b) Use of drug every time
(c) A and B are correct (d) When recommended for use
3. Drug use refers to _____.
(a) active substance (b) appropriate amount of drug (c) taking of
psychoactive substance for its intended purpose (d) frequently
using appropriate amount of drugs

4. Drug addiction is characterized by _____.
(a) chronic relapsing mental disorder (b) compulsive drug seeking
(c) none of the above
5. Polydrug is a term used to describe _____.
(a) two drugs (b) two or less number of drugs (c) drugs during a particular period (d) two or more drugs during a particular period
6. A polydrug is characterized by _____.
(a) different drugs (b) use of 2 or more psychoactive substance (c) ten less than one drug (d) any of A to C
7. Physical dependence is used to mean _____.
(a) physical swallowing of drugs (b) physical preparation of a drug
(c) body has adjusted to the presence of a drug (d) physical need of a drug
8. Tolerance as a term used in drug education is _____.
(a) tolerating your pause (b) an individual you use a drug together
(c) when repeated among use (d) larger doses to provide desired need
9. An admission of a drug on a periodic or continuous basis is _____.
(a) drug dependence (b) drug abuse (c) psychic dependence (d) all of A to C
10. The use of drugs to the extent that it interferes with one's health is _____.
(a) drug dependence (b) drug abuse (c) social function of the individual
(d) B & C are correct.

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MODULE 2

INTRODUCTION

You have already learnt about what a drug is and the terminologies used in drug education. This module tells you about the brief history of drug education, reasons given by individuals for abusing drugs and the drugs that are commonly abused in the society.

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes (ILOs)
- 3.0 Main Content
 - 3.1 Reasons for Drug Abuse
 - 3.2 Drugs that are Commonly Abused
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

There is always the beginning of everything in life. So the issue of drug use and abuse must have had a beginning and how it spread. Why individuals abuse drugs is highlighted in these units and the drugs that are commonly abused in our society.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you should be able to:

- mention the reasons for abusing drugs
- state the different drugs that are commonly abused.

3.0 MAIN CONTENT

3.1 Reasons for the Abuse of Drugs

Generally, it is known that different reasons are always given for drug abuse which include the following:

1. **Peer group influence:** In the process of trying to belong to a particular group lead some individuals to practice whatever is practiced in that group. This is in line with the adage that birds of the same feathers flock together.

2. **The availability of the drug:** As long as the drug is could be seen and brought as well as tasted by individuals, it will definitely lead to abuse.
3. **The need to improve sexual performance:** Some youths sometimes resort to different types of hard drugs, the commonest in Nigeria being cannabis sativa (Indian hemp). In adults, alcohol is easily abused as it is known and seen in different communities in Nigeria.
4. There are young and old individuals that take certain drugs just for the purpose of trying to see what it is like. This will sometimes come as a result of information from friends or from the media as well trying to experiment.
5. Different social problems are known to exist in Nigeria, unemployment, disappointments, frustration, bereavement, kidnapping etc. This is very common with abnormal personalities unable to deal with the everyday stresses of life.
6. As a means of gaining social acceptance or avoidance of social embarrassment and creating an unacceptable sense of self-confidence. Sometimes before appearing at a gathering or some individuals feel the need to use some drugs to remove shyness in order to provide them with the courage to talk to girls.
7. Habit formation: Some drugs are habit-forming that once formed and becomes self-sustaining e.g. sleeping tablets. Unfortunately, much attention has not been paid to them in Nigeria in contrast to alcohol and hard drugs.
8. Delinquent deviant behaviours: to enable them to perform criminal acts like rape, stealing, etc.
9. Chronic illness: especially in cases of terminal cancer where addictive drugs may be prescribed without restriction.
10. Socio-cultural pressure: Some cultures in Nigeria regard locally brewed wine (*pito*, *burkutu*, palm wine) as part of the diet, they use them freely for ceremonial purposes.
11. Boredom: One of the most common reasons that teenagers begin experimenting with drugs and alcohol is that they are simply bored and have no deeper interests. They see drugs and alcohol as a pastime to be explored. To avert this, try giving your teenager more responsibilities or extra-curricular activities to get involved with so that he or she doesn't have the time to think about substance use.
12. Curiosity: Curiosity is a natural part of life and teenagers are not immune to the urge. Many teens begin experimenting with drugs and alcohol simply because they are curious and want to know what it feels like. As teenagers, they have the delusion that they are invincible. Even if they know that drugs are bad, they don't believe that anything bad can actually happen to them. Educating your

- child on the repercussions of drugs and alcohol abuse may extinguish this curiosity.
13. **Weight loss:** It is known that female teenagers often turn to harder drugs – such as cocaine for a quick way to lose weight, during high school especially, young girls become more body-conscious and may become desperate to slim down and attract the attention of popular boys. These young ladies may also be struggling with a co-occurring eating disorder, such as anorexia or bulimia.
 14. **Stress:** During high school, many teenagers are overly stressed, with a packed schedule of advanced classes and extracurricular activities. A lack of coping skills can lead them to seek out an artificial method of coping with stress. They then turn to drugs such as marijuana in order to relax.
 15. **Low self-esteem:** In teenagers especially between the ages of fourteen and sixteen, low self-esteem due to physical appearance or lack of friends can lead to self-destructive behaviour. The media, bullies and often family pressure on teenagers to act and look a certain way, and they lose confidence in themselves if they don't meet those high standards. Drugs and alcohol seem like an easy way to escape this reality.
 16. **Enhanced experiences:** Drugs and alcohol are often used to enhance certain experiences. Cocaine and Adderall are commonly used to enhance energy and focus when they feel like they can't do something on their own and need a little help. Ecstasy can be used for a lack of inhibition and enhanced sexual experience. Marijuana and alcohol are often used to relax and be more comfortable in social situations.
 17. **Peer pressure:** They all learn about it and think it won't happen to them, but often the classic tale of peer pressure is the reason they experiment with drugs and alcohol. This peer pressure happens most often between the ages of sixteen and eighteen, when teenagers begin to think "everyone else is doing it". So they should too. At a party, after prep with friends or significant others. These are all common situations in which they feel like they need to join in to be able to fit in. This peer pressure is more obvious than the pressure to make friends and is sometimes instigated by older friends.

In conclusion, Olabisi (2000) express that factors like poor family background, peer group influences, desire to remain awake at night, high social class (to be known as big guys on campus), pressure to succeed in academic works, low self-esteem or feeling of inferiority complex and easy accessibility of drugs, etc, are factors that predispose a great number of students to different types of drugs which include cocaine, alcohol, heroin, marijuana (known locally as Indian hemp).

3.2 Drugs that are Commonly Abused

As expressed by World Health Organisation (2005), the drugs that are commonly abused include:

1. **Tranquilizer:** They are believed to produce calmingness without bringing drowsiness. They are chiefly derived from Librium, valium, etc. Chronic use leads to tolerance, dependence, stimulation of appetite, skin rash, impaired sexual function and menstrual irregularities.
2. **Narcotics:** These drugs are among the most widely used and abused. This is largely due to the belief that they relieve stress and anxiety, and some of them induce sleep, ease tension, cause relaxation or help users to forget their problems. They are sourced from valium, alcoholic promethazine, and chloroform. They are also referred to as opiates. These have sedative and analgesic properties. They are the most strongly addictive drugs. Examples include: morphine, pethidine, codeine, heroin etc. Acute intoxication is manifested by a decrease in consciousness, respiratory depression, cyanosis, hypotension, pinpoint pupils, and hypothermia, with prolonged use physical and psychological dependence develops rapidly.
3. **Sedative:** These drugs are among the most widely used and abused. This is largely due to the belief that they relieve stress and anxiety and some of them induce sleep, ease tension, cause relaxation or help users to forget their problems. They are sources from valium, alcoholic promethazine chloroform. Acute intoxication is similar to that of alcohol in its early stages.
4. **Alcohol:** Is the most commonly abused in Nigeria. Acute intoxication with alcohol is exhibited by a disturbance of learned behavioural controls with loss of control of mood and emotion, impaired judgment, concentration, balance, speech, vision, pain, sensation and consciousness is common. Chronic use leads to physical and psychosocial dependency and also a wide range of problems including damage of the central nervous system, gastrointestinal tract, cardiovascular system and mental problems.
5. **Cannabis Sativa:** This is also commonly abused in Nigeria. Acute intoxication is manifested by tachycardia, corneal congestion, dryness of the mouth, dizziness, nausea, craving for sweets, disconnected and the free-flowing ideas, disturbances in time perception, hallucinations, feelings of exultation, excitement and joyousness, uncontrolled laughs and sometimes distortion of reality may result, tolerance is moderate.
6. **Miscellaneous:** This is a group of volatile solvents or inhalants that provide euphoria, emotional disinhibition and perpetual

distortion of thought to the user. The main sources are glues, sport removers, tube repair, perfumes, chemicals, etc.

7. **Hallucinogens:** These are drugs that allow the sensory processing unit in the brain thus producing distorted perception, feeling of anxiety and euphoria sadness and inner joy, they normally come from marijuana, LSD, etc.
8. **Stimulants:** These are substances that directly and stimulate the central nervous system users at the initial stage experience pleasant effects such as energy increase. The major source of these comes from caffeine substances.
9. **Amphetamines of Dexedine:** Methedine, Retalin, benezidrine, are used clinically for the treatment of Narcolepsy. Acute intoxication is demonstrated by restlessness, dizziness, tremors, irritability, insomnia, euphoria, confusion, aggression, hallucinations, headache, sweating, nausea, vomiting, diarrhoea and psychotic symptoms. Chronic use predisposes toxic psychosis with delusions and peramola, tolerance is high.

SELF-ASSESSMENT EXERCISE

- i. Discuss five reasons for abuse of drugs by individuals.
- ii. Explain five different drugs that are commonly abused in Nigerian communities.

4.0 CONCLUSION

Due to the upsurge of diseases, there is the need to sensitize the citizens especially the youths on the evil of drug abuse.

There are various reasons advanced by individuals for abusing drugs include; availability, experimentation, boredom etc. The drugs that are commonly abused are tranquilisers, narcotics, sedatives, etc.

5.0 SUMMARY

7.0 TUTOR-MARKED ASSIGNMENT

1. One of these is a reason for drug abuse. (a) need to increase in size (b) running from friends (c) trying to test for experimenting (d) A and B are correct
2. An example of a habit formation drug is _____. (a) *weewe* (b) sleeping tablets (c) sexual performance (d) solution
3. The process of trying to belong as a reason for drug abuse can be termed__

- (a) peer group influence (b) group cooperation (c) belonging to a group
(d) being part of the group
4. Delinquent deviant behaviours enable drug addict _____. (a) read well
(b) walk along with friends (c) perform criminal acts (d) A and C are correct
5. One of these is not true of reasons for drug abuse by individuals.
(a) stress (b) weight loss (c) boredom (d) weight gain.

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MODULE 3

CLASSIFICATION OF DANGEROUS DRUGS

It is believed that you have already had the knowledge of what a drug is and related terms before making decisions about use or abuse. This module presents a classification of the major psychoactive substances (mind-altering drugs) along with a brief description of each.

The dangerous psychoactive drugs discussed in this module are classified as follows: Marijuana (a psychedelic and legally a narcotic), hashish (which, like marijuana has the same route from the cannabis plant, is now a relative problem in the United States of America, the psychedelics (hallucinogens; LSD, DMT, Deyote, Mescaline, STP, Psilocybin morning glory seed), stimulants (amphetamines: Benzedrine, Dexedrine, Methedrine or speed, cocaine and caffeine), the depressants (methaqualoxe, the barbiturates, tranquilisers, votaline solvents, choral hydrate, and bromides), and the opiates (morphine, heroin and codeine).

UNIT 1 MARIJUANA

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcome
- 3.0 Main Content
 - 3.1 Marijuana
 - 3.2 Hashish
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

This is termed as herbal or synthetic recreational drugs that have become increasingly available and well-cultivated in different parts of Nigeria. It is intended to have pharmacological effects similar to those of illicit drugs but to be chemically distinct from them and therefore either legal or impossible to detect in drug screening; which falls into two main groups. It is sometimes called, weewee, stone, jack, and so on.

2.0 OBJECTIVES

By the end of the unit, you should be able to:

- identify the parts of marijuana that are consumed by humans
- state the different names of marijuana
- mention different ways these psychoactive substances get into the society
- describe the detailed effects on humans.

3.0 MAIN CONTENT

3.1 Marijuana

As explained by Bloomquist (1998), marijuana is the commonly accepted name for the female plant *Cannabis Sativa*. The parts consumed are the flowers, particularly the tops, stems and leaves. These parts are dried, shredded, cleaned, and ingested for their psychedelic effects. The parts of the flower are rolled into a cigarette, smoked in a pipe, brewed as tea, or baked into a cookie and eaten. The whole plant correctly is called Indian hemp while the above-mentioned parts are called marijuana.

Marijuana is grown extensively in the western hemisphere; nearby sources are Mexico and the Southwestern United States. The active chemical ingredient of marijuana is believed to be tetrahydrocannabinol (THC), which has recently been synthesised, thus making possible laboratory research on it in its pure and potent form. Chemically and from its effect, marijuana is a psychedelic. Legally, under the Harrison Act, it is a narcotic.

Some of the common names for marijuana are pot, grass, hay, joint, tea, reefer, number, hemp, rope, roach, stick, joy smoke, goof butt, giggle smoke, and Acapulco gold. The marijuana in the United States resembles the bhang of India, which is the weakest of the preparations from cannabis flowering shoots grown in that country. The great damage done in India by other preparations made from the plant is due to the stronger concentration of resins in the plants of the flower. A highly potent form, called “Thai Sticks”, was smuggled into the United States in 1974. These sticks, which come from Thailand are shaped like long cigars.



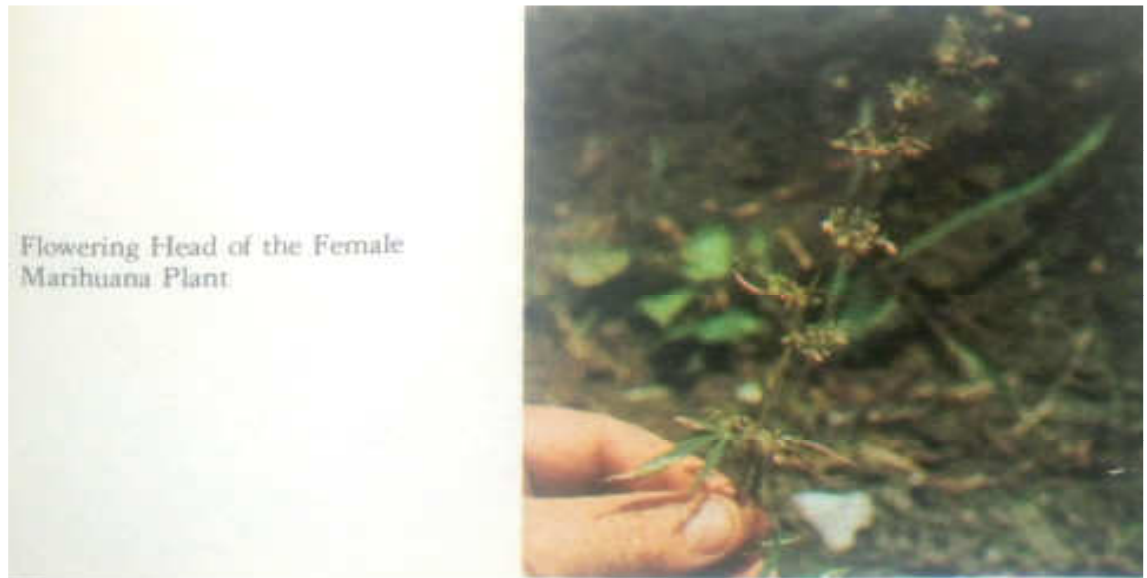
3.2 Hashish

Discussing on Hashish, McGlothlin (2001), Hashish, common in Eastern lands, comes from the gummy resins of the cannabis leaves and flowering tops. It is estimated as being five times more potent than marijuana, simply because of its greater content of THC. The concentration of THC also varies with the climate, soil, cultivation procedures, and time. The strength of hashish is indicated by its darkness of colour, ranging from light brown to black – the most potent. It smells like alfalfa when burned. The use of hashish is becoming a more serious problem in the United States because of increased illicit importation.

Since 1970 hashish has been smuggled into the country in “hash pads”, “has oil”, and “liquid hashish”. Hash oil, like dirty motor oil, is brought in small glass tubes or vials, it has a high concentration of THC (10 to 15 per cent). Hash oil is used by putting one or two drops in a cigarette. This dosage is sufficient to bring about intoxication, and the oil, therefore, commands a high price. Liquid hashish represents a contained reduction of the cannabis leaves and flowering tops. It goes past the hashish concentration to a liquid. THC of close to 50 per cent. It, too, is easily smuggled and is valued at about \$5,000 a pound. It is taken either ingested or smoked in one-drop doses of about 100 milligrams each.

Many users choose to smoke marijuana for relaxation, in the same way that other people have a beer or cocktail at the end of a busy day. But

many marijuana and hashish users, including a number of college students, take it to become “high” or “stoned”, just as they might take alcohol to get drunk. A group setting is often selected since a marijuana smoker usually prefers not to smoke alone. If he does smoke alone, he may just be quiet until he becomes drowsy and drifts off to sleep.



SELF-ASSESSMENT EXERCISE

- i. State the different names used by the society for marijuana.
- ii. How is this herb being used by individual users?

4.0 CONCLUSION

Having read this course unit and successfully completed the self-assessment tests, it is assumed that you have attained an understanding of marijuana and hashish.

5.0 SUMMARY

In this unit, you have learnt about marijuana and hashish. You have also studied where this is commonly found in the western world as well as have known how it is used.

6.0 TUTOR-MARKED ASSIGNMENT

Fill in the gaps and Objective Test

1. Marijuana is commonly accepted for the female plant as

2. In the Western hemisphere, a nearby source is _____ and _____
3. People _____ use _____ marijuana _____ as _____
4. It _____ under the Harrison Act, it is a narcotic.
5. This is one a _____ drug.
6. Hashish _____ is _____ commonly _____ found _____
-
7. The concentration of THC varies with one of these:
(a) climate,
(b) soil
(c) time
(d) all of a, b, and c.
8. Hashish when burned smells like:
(a) lemon
(b) alfalfa
(c) groundnuts
(d) soil
9. One way of smuggling hashish is _____.
(a) through rail
(b) hash oil
(c) palm oil
(d) palm kernel
10. Liquid hashish represents a contained reduction of _____.
(a) cannabis leaves
(b) mango leaves
(c) boaboam leave
(d) guava leave

7.0 REFERENCES/FURTHER READING

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UNIT 2 PSYCHEDELICS (HALLUCINOGENS)

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcome
- 3.0 Main Content
 - 3.1 LSD (Lysergic Acid Diethylamide)
 - 3.2 DMT, Peyote, Mescaline, STP, Psilocybin and Morning Glory Seeds DMT
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

These are a group of drugs that have pharmacological effects that change the user's perceptions, feelings and thoughts which include the following:

LSD (Lysergic Acid Diethylamide)

MDMA (Methylenedioxymethamphetamine)

Mescaline

Psilocylin

STP (4-Methyl-2, 5-dimethoxyamphetamine)

DMT (dimethyltryptamine)

Ketamine

PCP (Phencyclidine) They are commonly ingested or smoked.

2.0 INTENDED LEARNING OUTCOME

By the end of this unit, you should be able to:

- mention different ways these substances are being used with 80% accuracy
- explain the effects of these psychoactive substances on humans with 60% accuracy
- list the various forms they are being formed for use with 90% accuracy
- find the locations where they are produced with 65% accuracy.

3.0 MAIN CONTENT

3.1 LSD (Lysergic Acid Diethylamide)

The psychedelics (hallucinogens), or psychogenic drugs, are those that produce hallucinating effects which are dislocations of consciousness similar to the hallucinations of psychotics. They alter mood, perception, thinking, and the concept of the self. In small doses, they produce a state of euphoria without affecting consciousness. In larger doses, the reactions may be anything from euphoria to ecstasy, from fright to panic. The psychedelics can produce effects which range from clearer views of colours and depths to illusions and hallucinations to some perceptive changes in body image, to complete loss of one's own boundaries. They are the only drugs that destroy the individual's concept of mass. For example, a person under the influence of psychedelic cannot tell the difference between a dollar and a dime.

Explaining further, Parrot (2005) pointed out that LSD is possibly the most powerful of the psychedelic drugs or hallucinogens. It is obtained from ergot, which is a fungus that attacks rye kernels. It has been synthesized chemically as d-lysergic acid and diethylamide tartrate. LSD is a colourless, odourless, tasteless substance. A supply large enough for a trip can be taken from the glue on the flap of an envelope, from the paste on a postage stamp, or from hidden areas inside one's clothing. When the material coated with the LSD is licked, a psychedelic experience can be induced. Frequently LSD is supplied in sugar cubes, capsules, or tablets, or it may be available in liquid or other forms. Since the drug is illegal most supplies are obtained from black-market chemists.



Inhalant use is difficult to monitor and control because inhalants are found in many inexpensive and legal products.

Structural Changes resulting from LSD

Average doses of LSD cause increased numbers of chromosomal abnormalities in the white blood cells; also, LSD users have more abnormalities chromosomes than others. This appears to enhance the chances of women having deformed babies after using the drug, as a result of the changes in chromosomes. LSD anomalies resemble those caused by deep X-ray therapy, some viruses, and some drugs used for the treatment of cancer. There is speculation that alterations in the cellular structure as a result of LSD can lead to leukaemia or cancer. Further research is needed to verify the present findings.

LSD Contributions to Research

Currently, there is little evidence that LSD makes a positive contribution compared with other drugs in treating illnesses. There has been some research, as yet inconclusive, on its effectiveness in the treatment of alcoholics and chronic narcotic addicts. It has been found that LSD can help a dying patient to feel less afraid of death and less in need of pain-killing drugs.

Advice from an Authority

Sidney Cohen, an authority on LSD and drug abuse treatment and research, sums up the LSD problem when he states: “The very qualities desired – loss of ego controls, euphoria and disappearance of rational thought, are most which make it a danger to some under any condition and a danger to all under some conditions”.

3.2 DMT, Peyote, Mescaline, STP, Psilocybin and Morning Glory Seeds DMT

Describing other substances, Waska (2006) pointed out the following. DMT (dimethyltryptamine) is a semi-synthetic fast-acting hallucinogen. Its chemical structure is similar to psilocin, the hallucinogenic substance of psilocybin. The active ingredient from two hallucinogenic plants, DMT is easily synthesized. Generally, it is smoked in a pipe or cigarette, producing an effect that is felt in about two minutes and lasts about thirty minutes. There is no physical dependence, but probably a tolerance does develop. Since DMT reacts quickly, it is said to be a “blast”.

Peyote

Peyote, one of the oldest psychedelics, is derived from the surface part of a small grey-brown cactus. The Aztec knew of its hallucinogenic properties, and Mexican and American Indians have used it as a divine cure in their religious worship. Through the Bill of Rights, the Indians in this country have received legal sanction for its use in religious ceremonies, but it is outlawed for Indians and whites for other purposes. The buttons of the cactus are dried, crushed, and boiled in water as tea or eaten raw. Peyote has a nauseating odour, and nausea frequently accompanies its use. It causes no physical dependence and there are no withdrawal symptoms, although some cases of psychological dependence have been observed.



The peyote cactus is the source of mescaline.

Mescaline

Mescaline is the alkaloid hallucinogen extracted from the peyote cactus; it is also synthesized in the laboratory. It causes less nausea than peyote, and its effects resemble those of LSD except that it is much milder and thus requires a larger dose to produce similar effects. One to two hours after the drug is taken in a liquid or powder form, delusions begin to occur. Optical hallucinations follow one another in rapid succession. These are accompanied by imperfect coordination and perceptions and a sensation of impeded motion, with a marked sense that time is standing still. Mescaline does not cause physical dependence, so there are no withdrawal symptoms. As in the case of LSD, psychological dependence may develop in the chronic user. Mescaline and its derivatives are subject to the Drug Abuse Control Amendments of 1965, and in several states, possession is a misdemeanor.

STP

STP, a takeoff on the motor oil addictive, is a chemical derivative of mescaline which is claimed to produce more violent and longer effects than mescaline does. The drug has been tested on animals but not fully on humans so that it has not been approved by the Food and Drug Administration. Its effect is similar to that of nerve gas used in chemical warfare. STP was recognized as one of the psychedelics after it was distributed free at "love-ins" on the West Coast. Although it is less potent than LSD, its effects are similar to those of other psychedelics.

Psilocybin

Psilocybin, a hallucinogenic alkaloid from small Mexican mushrooms, was first used by the Aztecs and has a part in the religious ceremonies of the Mexican Indians today. They generally eat twelve mushrooms, which induce nausea, muscular relaxation, mood changes with visions of bright colours and shapes, and other hallucinations. These effects may last four or five hours, to be followed by depression, laziness and complete loss of time and space perceptions.

Morning Glory Seeds

The wild tropical morning glory seeds, both black and brown, have been used for centuries to produce hallucinogenic effects. The seeds are ground into flour, soaked in cold water, then strained through a cloth and drunk. Seeds may be available commercially under the names of Heavenly Blues, Flying Saucers, and Pearly Gates. The active ingredient in the seeds is very like LSD except it is much less potent, and the reactions are similar to those resulting from LSD, including prolonged psychoses.

Seeds of the morning glory
have been used for their
hallucinogenic effect.



SELF-ASSESSMENT EXERCISE

Fill in the gaps and objectives

1. A larger doses of hallucinogens reactions may to _____
2. Hallucinogens are only drugs that destroy the individual's concept of ____
3. LSD is possibly the most _____ of the psychoactive drugs.
4. LSD is a _____, _____, _____ substance.
5. The physical effects of LSD include:
 - (a) dilated pupils
 - (b) temporal chilliness
 - (c) skin flushing
 - (d) all of a, b, c

6. LSD contributes to research in a _____.
 - (a) very high way
 - (b) moderate high way
 - (c) little evidence exists
 - (d) very moderate high way
7. DMT is a semi synthetic fast acting _____.
 - (a) LDD
 - (b) hallucinogen
 - (c) Peyote
 - (d) None of these
8. You can get peyote from _____.
 - (a) Iroko leaves
 - (b) gray-brown cactus
 - (c) brown cactus
 - (d) red-white cactus
9. Mescaline is a/an _____.
 - (a) alkaloid hallucinogen
 - (b) chlorine hallucinogen
 - (c) optical hallucinogen
 - (d) rapid succession
10. STP can be described as _____.
 - (a) slow down drug
 - (b) take off on the motor oil addictive
 - (c) run-down addictive
 - (d) long run addictive

4.0 CONCLUSION

It is believed that you have really completed the self-assessment tests and has gotten a very good percentage of the understanding of hallucinogens.

5.0 SUMMARY

In Unit 2, you have learnt about the different psychoactive substances that make up this group of dangerous drugs and can now explain to a great extent the effects of these on human existence.

6.0 TUTOR-MARKED ASSIGNMENT

1. Explain the following with good examples:
 - (a) Mescaline
 - (b) DMT
 - (c) PEYOTE
2. Discuss the different ways research has helped in the knowledge of LSD.

7.0 REFERENCES/FURTHER READING

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UNIT 3 STIMULANTS

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcome
- 3.0 Main Content
 - 3.1 Stimulants and Amphetamines
 - 3.2 Cocaine and Caffeine
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Stimulants are said to spread up the activities of the nervous system. It is known that under their influence, the heart rate increased, blood pressure rises, blood vessels reduces, the pupils of the eye, as well as bronchial tubes, dilate, and gastric and adrenal secretions increase. As explained by authorities, the most common CNS stimulants are cocaine, amphetamines, nicotine, ephedrine and caffeine.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you should be able to:

- list the different types of stimulants
- state the usefulness and otherwise of stimulants in the human body
- mention the health problems associated with the abuse of stimulants.

3.0 MAIN CONTENT

3.1 Stimulants and Amphetamines

Stimulants

Discussing stimulants, Johns, et al (1975) explained that, stimulants are taken for relief from fatigue or to obtain a temporary sense of increased ability or superiority. The most commonly used stimulants of the dangerous drug class are amphetamines (“bennies”, “dexies”, and “speed”). They stimulate the central nervous system and for a short time may bring about an increase in alertness, improve motor and physical activity, elevate the mood, decreases fatigue, and depresses the appetite. Such heightened reactions are usually followed by headache, dizziness, marked fatigue, irritability, decreased ability to concentrate,

hallucinations, and circulatory collapse if the dose is too large or if use is prolonged.



Amphetamines

Amphetamines are antidepressants taken to counteract fatigue, overwhelming attacks of sleep, or depression; to obtain a temporary sense of increased ability or superiority, or to suppress appetite in weight control programs. Physicians frequently prescribe such drugs for fliers, astronauts, truck drivers, and other individuals during dangerous and prolonged work, when the onset of fatigue will hamper their productivity.

The following are trade names, scientific names, and nicknames of widely used amphetamines:

1. Bensedrine (amphetamine sulfate) – “bennies”
2. Dexedrine (dextroamphetamine sulfate); “copilots”
3. Diphetamine (dextroamphetamine sulfate; amphetamine sulfate); “footballs”

Amphetamines are not believed to produce physical dependence, although this is being questioned by recent research findings. It is true that amphetamines may lead to a psychological dependence similar to that of psychedelic drugs. A user develops a tolerance, so that larger amounts are

required to get the same effect. Heavy doses of amphetamines may cause mental derangement, a temporary psychosis requiring hospitalization.

Amphetamines are often used by automobile drivers who find it necessary to drive all night. Unfortunately, such indulgence has resulted in fatal collisions. The tired, dizzy driver, seeing imaginary objects on the highway, has been known to swerve and then smash into oncoming traffic.

Most amphetamines such as Benzedrine, Dexedrine, and Methedrine are legally and ethically restricted to prescriptions. Amphetamines may also be found in small doses in nasal, cough, and allergy preparations. Stimulant drugs are usually taken as pills, although they may be administered by injection in a liquid form.

College students facing a difficult examination have been known to take Benzedrine or Dexedrine in an effort to think and feel better quickly. But after a short period of exhilaration, they may discover to their dismay that the drug is seriously impairing their ability to write in an organized manner. It is a belief in some competitive sports circles that amphetamines help athletes to excel. Karpovich and other psychologists found that although they may cause athletes to feel peppy, this does not result in a better or best performance.

In the light of these facts, it is unwise for you or for any student to resort to amphetamines unless they are prescribed and directed by a reputable physician for some special reason.

'Speed' Methedrine or Metamphotamine, popularly called "speed", "crystal", or "meth", is one of the newest, most prominent, and most dangerous of all the abused drugs. Speed became well known among the hippies in 1967 when it was first used to "juice up" LSD. Then the word was circulated that when one took enough "jolly beans", it produced a flash or rush of its own which seemed better than LSD to many users. "Meth" is a more potent central nervous system stimulant than Benzedrine or Dexedrine.

Speed is taken by sniffing a concentrated liquid or by "mainlining" taking it directly into the veins through intravenous injection. This gives an almost instantaneous feeling of euphoria. Such use can lead to psychological dependence, and greater tolerance is rapidly acquired. A user who injects speed directly into the vein also runs the risk of contracting serum hepatitis or abscesses from improperly sterilized hypodermics.

When as much as 500 to 3,600 milligrams of speed are taken daily for three to six days, the drug usually produces a serious psychosis involving loss of memory and the power of concentration as well as possible brain damage. An overdose of speed into the vein can cause death. With these consequences, no wonder the hippies were quick to develop the slogan, “speed kills”. The spread of this message has done much to reduce the number using the drug.

3.2 Cocaine and Caffeine

Cocaine

In relation to cocaine and caffeine, Insel and Roth (2014) express thus: cocaine, derived from the leaf of the coca bush, is one of the earliest known stimulant drugs. It has been most popular with heroin dependents who like to mix their drugs. Formerly it was considered valuable as a local anaesthetic in medicine, but it has little such use today.

There are signs now which indicate that cocaine is becoming popular with drug users who are willing to take anything. They like it for its strong stimulating, exciting and euphoric effects.

Because in pure form it is a white, crystalline powder, cocaine is often called “snow”. It is usually taken by sniffing or through intravenous injection. While it does not produce physical dependence, psychological dependence occurs with long usage. One does not develop a tolerance to it. The user may “shoot” the drug several times in an hour, since the effects occur immediately but also disappear rapidly.

The “high” of cocaine is so high that often the user needs another drug to bring him down. Speedball is a favourite combination: it is a mixture of cocaine, which provides the rush, and heroin, which tempers the high and prolongs the kick. A modern speedball is the combination of LSD and Methedrine.

Chronic use brings forth a variety of disorders, such as loss of appetite, loss of weight, insomnia, convulsions, delusions, and hallucinations. Its severe mental effects can trigger violent acts, including rape, robbery and murder.

Caffeine

More Americans have a dependence, both physical and psychological, on caffeine than all other drugs put together. Caffeine is present in small quantities in coffee, tea, chocolate, cola drinks, and some wake-up pills. Over-consumption of any of these products means too much caffeine in the system, resulting in a jittery feeling. In addition, other effects may occur, such as a slight loss of motor coordination, irritability, and inability

to sleep. Some heavy users of caffeine feel constrictive pains about the heart, loss of appetite, and on occasion, nausea. Many coffee drinkers have one to two cups a day “because they feel the need of it”. Penn State University investigations identified “colaholics” as students dependent on cola drinks who had withdrawal symptoms when they tried to kick the habit.

SELF-ASSESSMENT EXERCISE

Fill in the gaps and objectives:

1. Most commonly used stimulants of the dangerous drug class are _____
2. These categories of drugs stimulate the CNS for _____ bringing alertness.
3. Amphetamines are taken to suppress appetite in _____ control programmes.
4. Benzedrine is a _____ name for Amphetamiens.
5. Amphetamines are often used by automobile drivers to drive _____.
6. Cocaine is derived from _____. (a) cocoyam leave (b) coco bush
(c) mixture of cocoa leave (d) mix drugs
7. Cocaine is loved for _____. (a) sleeping (b) resting (c) walking
(d) euphoric effects
8. Due to cocaine’s colour, it is called _____.
(a) chocolate (b) snow (c) whitish substance (d) none of a, b & c.
9. Caffeine makes many Americans _____.
(a) dependence to it (b) independent of it (c) both love it (d) hate it
10. One of these is an adverse effect of caffeine on the body.
(a) Inability to sleep (b) Ability to sleep well (c) Inability to run
(d) Sleep when sitting

4.0 CONCLUSION

As you have read through this course unit and has successfully completed the self-assessment tests, it is expected that you have gotten a very good understanding of stimulants, amphetamines, cocaine and caffeine.

5.0 SUMMARY

Reading through and answering the test questions you have known the different types of stimulants, the effects of stimulants in the body and can

now discuss the health problems associated with the abuse of these substances.

6.0 TUTOR-MARKED ASSIGNMENT

1. Describe stimulants and amphetamines with relevant examples.
2. Why is cocaine becoming popular with drug users?

7.0 REFERENCES/FURTHER READING

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UNIT 4 DEPRESSANTS

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcome
- 3.0 Main Content
 - 3.1 Depressants, Methaqualine, Tranquillisers, Volatile Solvent, Chloral Hydrate
 - 3.2 Bromides, Opiates, Heroin, Codeine
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

These categories of drugs are also called sedative-hypnotics, slow down the total activity of the central nervous system. The results range from mild sedation to death, depending on the factors involved in which drug is used; how it is taken, the rate of tolerance the user is and so on. It must be pointed out that, various types of barbiturates are similar in chemical composition and action, but differ in how quickly and how long they act. Other antianxiety agents such as, sedatives or tranquillisers include the benzodiazepines, such as valium, Librium, clonazepam, some of which have medical uses.

2.0 INTENDED LEARNING OUTCOMES

By the end of the unit, you should be able to:

- determine the different types of depressants
- ascertain the medical economic importance of some of these psychoactive substances
- determine the effects of these substances on humans.

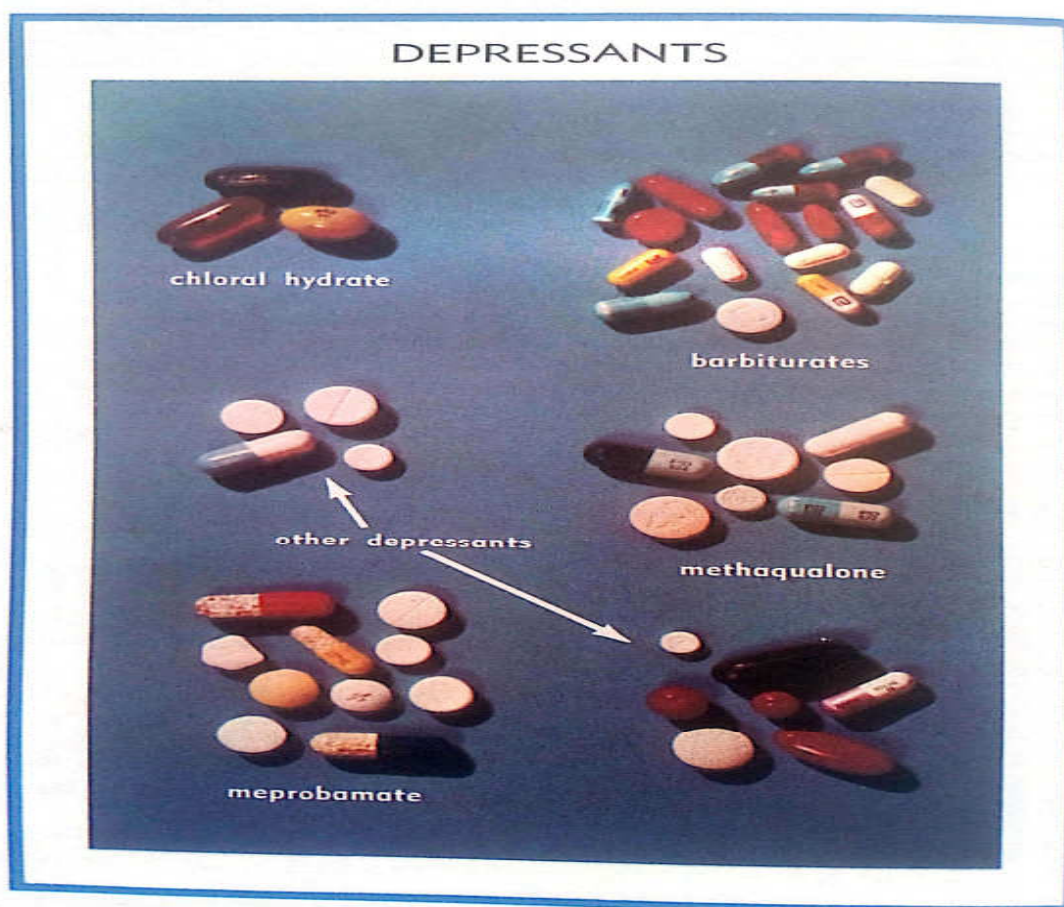
3.0 MAIN CONTENT

3.1 Depressants, Methaqualine, Tranquillisers, Volatile Solvent, Chloral Hydrate

Describing depressants, Ksir, Hars and Ray (2010) stated that depressants are drugs that diminish functional activity. The principal depressants are hard narcotics, which are used medically for the relief of pain. In addition,

these narcotics produce euphoria, a pleasant state of semi-sleep, a dream-like condition from which a person is easily aroused and into which he quickly returns.

Depressants of the non-opiate class, sedatives, also are important medically for inducing sleep, calming an individual during the daytime when necessary, and treating epilepsy. Any of the depressants may be abused. The major non-opiate depressants are presented in the following discussion.



Methaqualone

Methaqualone is a non-barbiturate hypnotic, a depressant, a “downer” or “soper”. It is relatively new on the American drug scene. It is known by the street names of “sopers”, “sopes”, “ludes” and the common commercial name of Quaalude. Methaqualone abuse has been called “luding out”. It became popular because of its dissociative “high”. Users describe a loss of physical and mental self. Many users and physicians have been unaware of its potential for producing a compelling dependence and causing severe withdrawal reactions, such as headache,

nausea, and abdominal cramps. Psychological, as well as physical dependence, occurs. Some users felt it was safe because it was not barbiturate, only to learn of its dangers through experience. A tolerance to the drug develops to the extent that the quantity needed for a “high” is very close to the lethal dose. An overdose may cause a grave series of complications including heart failure, convulsions, and vomiting in an unconscious state. Even though it is a new drug, it is one about which both physicians and the public should be concerned.

Barbiturates

Grat (2006) explained barbiturates as the large group of drugs derived from barbiturates acid are classed as barbiturates. They are central nervous system depressants often referred to as sedatives, hypnotics, and sleeping pills. They are used medically for relieving such conditions as nervousness, tension and anxiety. Administered under the care of a physician, they are helpful. However, to use these drugs, readily available method of reducing the conscious activity of the brain is very unwise. The danger in using barbiturates lies in long-continued use and in overdose. If the drugs are taken in greater quantity than prescribed by a physician, acute or chronic intoxication results. A person intoxicated by barbiturates is likely to consume more of the drug than he realizes, and the result is usually fatal. In most major cities of the United States, the number of deaths attributed to over-dosage has increased.

Barbituric-acid compounds are taken in either capsule or pill form. Upon prescription, they may be purchased under a variety of names. The following are trade names, scientific names, and nicknames of widely used barbiturates (‘goof balls’):

1. Second Sodium (Secobarbital Sodium); “redbirds”, “red devils”, “pink dolls”.
2. Nembutal (Phenobarbital Sodium); “yellow jackets”, “nemmies”.
3. Sodium Amytal (Amobarbital Sodium); “blue heavens”
4. Alluminal (Phenobarbital); “purple hearts”
5. Tuinal (amobarbital sodium, secobarbital sodium); “tooies”, “rainbows”.

Abuse occurs when a person obtains a high from taking the pills orally or injecting the drug intravenously. The effect may be similar to a high on alcohol, without the telltale odour. However, many people do not know that some of the effects may be similar to a high on alcohol, without the telltale odour. However, many people do not know that some of the barbiturates cause unconsciousness when injected into the bloodstream or taken in large quantities. Furthermore, when mixed with alcohol, serious effects result because the reaction is greater than the sum of the two drugs. This combination has resulted in many accidental deaths.

Continued use of barbiturates causes drug dependence, both physical and psychological; in fact, the state is properly referred to as total dependence. Withdrawal is very difficult and prolonged. Irresponsible use of barbiturates may result in impaired judgment and intellectual performance, bizarre, behaviour, tremors, and self-neglect. Abrupt withdrawal when the user is dependent can lead to nausea, fever, hallucinations, convulsions, coma, and death.

When a reputable physician prescribes one of these compounds, he does so for a specific purpose and usually permits only a limited number of capsules or pills per prescription. Once the prescription has been completed, it cannot be refilled except on the written permission of the prescriber. This is in accord with legislation in all states. However, this law is broken many times by addicts who appeal to unscrupulous physicians, who go to several different physicians, or who make their purchases on the black market. Barbiturates appear to be readily available on the black market. Because some physicians treat the law rather loosely and unprincipled or uninformed pharmacists make barbiturates available for a price, the danger inherent in the use of barbiturates by the public is very real.

Tranquiliser

As posited by Johns et al (1975), tranquillisers are said to be one of the most frequently used substances in mental institutions, where sufferers from numerous types of psychosis, particularly depression, have been brought back from their world of fantasy to approximate reality. Even violent patients have been calmed and made manageable enough for attending physicians to communicate with them, which often leads to recovery and discharge from the hospital under continued medication. This helps to shorten the period of hospitalization.

Because tranquillisers have been so successful in the treatment of mentally ill patients, the practice of taking these drugs has leapt the walls of mental hospitals and they are now prescribed for millions of reasonably normal, healthy people, people who need pills to help them reduce the anxieties and tensions generated by the daily grind of making a living. In some cases where there is a temporary need to help a person over a difficult period of adjustment, physicians may prescribe one of the true tranquillisers, such as meprobamate or chlorpromazine.

It should be understood that no drug, whether it is prescribed or purchased over the counter, is totally free from possible hazards. For example, the side effects of tranquillisers may include dizziness, blurred vision, mental depression, changes in blood pressure, nausea, liver disturbances, skin rashes, or unwanted weight increases. The advantages of therapy must be

weighed against the possible adverse side effects. There is also a tendency to dependency.

Before embarking on the tranquilliser escape route, avoid self-medication and ask yourself whether it is wise to soften temporary distress or minor emotional burdens. If a drug is necessary, let your physician determine the type, the brand, the dosage, and the length of treatment.

Volatile Solvents

Hydrocarbon solvents are also central nervous system depressants. The inhalation of the fumes of an airplane, glue, paint thinner, nail polish and remover, lighter fluid, gasoline, hair spray, dry cleaning fluid, and similar compounds can have some intoxicating effects. When you are working with or near these materials, be sure there is fresh air moving through the area.

Great care should be exercised in wearing or being near articles that have recently been cleaned in coin-operated dry-cleaning machines. Inhaling perchloroethylene fumes, the solvent frequently used in dry cleaning can cause illness and death. A thorough airing of do it yourself articles that have just been cleaned is sound protection against possible illness.

Chloral Hydrate

This synthetic drug, sometimes called “knock out drops” or “Mickey Finn”, is a strong sedative. It is bitter and has an unpleasant taste. The usual therapeutic dose produces five to ten hours of sleep. Large doses will cause longer sleep and may lead to coma and death. The drug is not widely used by the medical profession. At times criminals have used chloral hydrate to render their victims unconscious. In their hands or in the hands of any unskilled persons the result is likely to be fatal.

3.2 Bromides, Opiates, Heroin, Codeine

Bromides

Sodium bromide, a white, odourless powder and a central nervous system depressant is widely used by persons needing sedation or a sleep-producing drug. Prolonged use of the drug can result in a serious impairment of health. Overdosing causes bromism, in which the skin breaks out, appetite for food is lost, speech is affected, memory is impaired, the pulse is slow, and the reflexes are diminished. Taking bromides usually results in a psychic dependence, not a physical

dependence, not a physical reliance. A person does not build up a tolerance to bromides, and he may develop some unpleasant toxic reaction to an accumulation of the drug in his body.

Opiates

Opiates are narcotic drugs obtained from the pod of the opium poppy. The prominent opiates morphine, heroin, and codeine are discussed as follows:

Morphine

Morphine, one of the hard narcotics is used medically today as an important pain killer. Psychologically, it is valuable because it relieves discomfort, worry and anxiety. Although its action is not exactly known, it appears to depress the pain centre in the brain without blacking out the senses of touch, taste and hearing. It also has a depressing effect on the respiratory centre. With the advent of heroin, the use of morphine among illicit drug users diminished markedly. Now, it is only rarely that someone becomes dependent and it may be a person within the medical profession, such as a physician or nurse.

Heroin

Despite the fact that heroin, a morphine derivative, is illegal to possess, use, or manufacture, it is the popular drug of total dependency in the United States. In its pure state, it is a grey colour. When the user sees it, it is generally white, a bitter crystalline powder, two or three times more potent than morphine. It cuts down to half the bulk of morphine, so it is more efficient for smuggling and profit-making. The heroin user soon becomes “hooked” and physically dependent upon the drug. This occurs within daily use after a week or so. In addition to physical dependence is an intense craving for the psychological effects of the drug. The sum of eth physical and psychological dependence produces a total dependence.

Those using heroin either sniff it or inject it into the bloodstream. The effects are similar to those of morphine. The individual finds himself greatly elated. He loses his sense of pain. He forgets unpleasantness and for a few hours appears to be at peace with the world. As soon as the body fluids have neutralized the heroin, which takes three to six hours, the user needs another shot. A heroin-dependent of a year’s standing or more require \$50 to \$100 a day to satisfy his desires. Heroin is sold illegally in 1-grain capsules, usually at \$10 or more a grain.

Dependence on heroin can follow upon the repeated use of marijuana, and then it is a rapid and vicious process. Within a few weeks, one can become a full-fledged dependent, a “mainliner”. Placing the needle in a large vein of the arm gives a fast, jolting reaction. Usually, the first four to five shots cause illness. It is at this point that the individual is most susceptible to

efforts to turn him away from the drug. After two to four weeks of injections, the body builds up a tolerance and the desire or ability to stop is lost. When a user is deprived of the drug, he suffers the agonies of withdrawal pains. They are very real and are partially caused by dehydration of the body. The only temporary release is another shot or administration of methadone.

The heroin-dependent person is a pitiful specimen. The face has a grey pallor. He is restless and nervous and suffers auditory and visual hallucinations. He is constipated and malnourished. His appetite for food is unstable. He is a sick person (mentally, physically and socially).

Side Effects of Heroin

Effects other than those produced by the drug occur with the use of heroin. Infections often result from the contaminated material frequently mixed with the heroin and from unsterile hypodermic syringes and needles. Heroin users sometimes die after the self-injection of heroin into the vein. Frequently this is because the true dosage is not known to the individual buyer, or because the drug contains unknown toxic materials. Hepatitis is frequently transmitted when several people use the same needle. Syphilis, bacterial endocarditis, abscesses, malaria, tetanus, and phlebitis are other diseases and conditions characteristic of mainlining. Apparently, the heroin user is also especially susceptible to pneumonia and tuberculosis. The heroin-dependent person is actually constantly flirting with death in one form or another. It may result unexpectedly from disease, accident, homicide or suicide.

Treatment

In the past, the best partial or fairly successful treatment has been possible only in the federal and state narcotic centres, such as the U.S. Public Health Service Center in Lexington, Kentucky. These hospitals, although the best available, have been more like prisons than modern hospitals.

Matrix House, a part of the Clinical Research Center of the National Institute at Lexington, Kentucky, is based on a new model of drug treatment that gets away from the previous penitentiary like atmosphere. Matrix is a self-help therapeutic community organized in 1970 by a group of former narcotic addicts. It is now completely operated and administered by ex-addicts. It is an official aftercare agency. The matrix program consists of two phases: re-learning and reintegration. In the first, the addict relearns the responsibility model for certain people in meeting the drug addiction problem.

Largely because of the research of Drs. Marie Nyswander and Vincent P. Dole on methadone, there is new hope for users who can be treated daily in hospitals as outpatients. Such treatment enables these people to become

self-supporting and live decent lives as responsible members of the community. Methadone is itself a synthetic narcotic. Its actions last for a period of three to five hours, during which time it blocks the euphoric effect of heroin and other opiates. Nyswander's and Dole's research showed that an addict taking methadone regularly cannot be readdicted to heroin or any other narcotic. However, the side effects of methadone include addiction and male impotence.

New drugs are being experimented with that show signs of being better than methadone. Acetylmethadol, whose actions lasts for two or three days (as compared with methadone, which must be taken daily), reduces the necessity for any take-home medication where illicit use of methadone has occurred. Another new drug is Darvon N (propoxyphene napsylate), not to be confused with the pain killer. Darvon Forrest Tennant, Jr., a physician at the UCLA Medical School, has found it to be as good as or better than methadone without its side effects.

Another successful treatment of heroin users has been carried out by Synanon, which has successfully "dedicated its so-called dope friends" through group encounter therapy. Synanon has some five centres throughout the United States and is planning a Synanon City. Daytop, another program for addicts, features an attack therapy through group therapy, attempting to cope with the effects of drugs in a mature way. The program involves a two or three-year voluntary stay.

The federal government through its Special Action Office for Drug Abuse Prevention has now funded 398 treatment programs. The number of patients on methadone maintenance is about 20,000 while those on non-maintenance number around 36,000. New York State has a long-time treatment plan available in twenty-five centres. Even though the treatment picture looks brighter today, it still is but a small beginning in attacking the total dependency problem.

Codeine

Codeine, one of the opiates which are used as a pain-killer, is abused by some people. It is obtained from the juices of the unripe pod of a white poppy. Codeine is similar to morphine, although its effects are much milder. It is considered to produce a mild dependence both physically and psychologically, and its withdrawal symptoms are milder than those of morphine or heroin. Codeine is a common drug in cough syrups. Frequently, it serves as a withdrawal substitute drug for users attempting to withdraw from morphine and heroin.

What Can be Done About Drug Abuse

A decision can be made about the use and abuse of psychoactive mind-altering drugs.

1. Advise others who need correct information, encouragement, and support.
2. Support the development and operation of sound educational programs that emphasize helping the individual solve his problems through finding new challenges, goals, and activities.
3. Support and work to relieve those people with a variety of deprivations, miseries and deficiencies.
4. To support the federal, state, and local drug programs such as the Federal Special Action Office for Drug Abuse Prevention, which is charged with reducing drug abuse, especially heroin addiction in the shortest possible time.
5. To assist those number of our society who are dependent on amphetamines, barbiturates, and other drugs to receive proper treatment from their physicians or from public clinics.
6. To work for better drug legislation at federal, state and local levels that will help to alleviate the overall problem of drug use and abuse.
7. To support research for new treatment drugs and for new findings relating to the influencing of drug-taking behaviour.
The goal is to have drug use as common as need be for an effective living but to have drug abuse as uncommon as possible in a huge and complex society.

SELF-ASSESSMENT EXERCISE

Fill in the gaps and objectives

1. Depressants are narcotics that produce _____.
2. Medically sedatives are known for _____.
3. Methoqualine is a _____.
4. methoqualine can cause psychological as well as _____.
5. Barbiturates are derived from _____.
6. Depressants are often referred to as _____. (a) sedatives (b) hyporotics (c) sleeping pills (d) all of a, b, c.
7. Red birds is a term used to describe _____.
(a) oriotes (b) poyotes (c) sodium (d) barbiturate
8. Tranquilizers are medically used for individual with _____.
(a) brain problem (b) psychosis (c) headage (d) none of these
9. Bromides are _____ and _____ powder.

10. Heroin is a drug popular for total _____. (a) dependency (b) independence (c) total deliverance (d) a and c are correct.

4.0 CONCLUSION

As you have read in Unit 4, and successfully attempted the self-assessment exercises, it is hoped that you have a good grasp of depressants.

5.0 SUMMARY

In this unit, you have learnt about different types of depressants. You can successfully determine the different types of depressants, the medical economic importance of some of them as well as generally determine the effects of these substances on humans.

6.0 TUTOR-MARKED ASSIGNMENT

1. Write explanatory notes on the following: methaqualine, volatile solvent and choral hydrate.
2. State the economic importance of Bronidu, opiates, heroin and codeine.

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MODULE 4

Unit 1 Ways of Recognizing a Drug Abuser

Unit 2 Psychological Problems associated with Drugs

INTRODUCTION

In Module 2, you have understood the brief history of drug education, the reasons individuals give for abusing certain drugs as well as the drugs that are commonly abused in Nigeria. In this Module, you will learn about the different ways of recognising a drug abuser and the social problems that go with drug abuse.

UNIT 1 WAYS OF RECOGNIZING A DRUG ABUSER**CONTENTS**

- 1.0 Introduction
- 2.0 Intended Learning Outcomes
- 3.0 Main Content
 - 3.1 Ways of Recognising a Drug Abuser
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Various signs and signals are normally noticed with individuals that abuse drugs, these are pointed out in this module. In line with this, certain social problems are normally linked to many individuals that abuse drugs.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you should be able to:

- discuss the various ways of recognizing a drug addict
- explain different social problems associated with drug abuse.

3.0 MAIN CONTENT

3.1 Ways of Recognizing a Drug Abuser

(a) Signs and Symptoms of Drug Abuse

According to the Adolescents Health Information Project (AHIP) (2001), the following are signs and symptoms of drug abuse. They are:

- (i) Possession of drug-related paraphernalia such as pipes, rolling paper, small decongestants.
- (ii) Possession of drugs peculiar plants or bolts, seeds of leaves in ashtrays or clothing pockets.
- (iii) Odour of drugs, the smell of incense or other cover-up scents.

(b) Identification with Drug Culture

- (i) Drug-related magazines, slogans or clothing.
- (ii) Hostility in discussing drugs.

(c) Signs of Physical Deterioration

- (i) Memory lapses, short attention span, difficulty in concentration.
- (ii) Poor physical coordination, slurred or incoherent speech, unhealthy appearance, indifference to hygiene and grooming.
- (iii) Bloodshot eyes, dilated pupils.

(d) Changes in Behaviour

- (i) Distinct downward performance in school place of work.
- (ii) Increased absenteeism or tardiness.
- (iii) Chronic dishonesty, lying, cheating and stealing.
- (iv) Trouble with the police and other law enforcement agencies.
- (v) Change of friends, evasiveness in talking about new ones.

In relation to the above, it is generally known that the following symptoms are some of the early warning signals:

- (i) A dreamy detached appearance (flat affect).
- (ii) Nails and hairs are dirty and unkempt.
- (iii) Loss of interest in his appearance.
- (iv) Insomnia
- (v) Scars of injection and bloodstains on clothes may be found.
- (vi) Incessant demand for money from parents or spouse and sometimes resorting to cheating and stealing to get the drug.
- (vii) The fair, worries and ease for the family disappear.
- (viii) Restlessness.
- (ix) Unusual irritability and outburst of temper in an otherwise quiet yellow.

SELF-ASSESSMENT EXERCISE

Objective Test:

1. One of these is not a symptom of drug abuse.
 - (a) having a pipe
 - (b) rolling paper
 - (c) small decongestant
 - (d) cigarette
2. All are true of identification with drug culture, except:
 - (a) drug related magazines
 - (b) slogans
 - (c) clothing
 - (d) black fingers
3. Insomnia is _____.
 - (a) long term warning signal
 - (b) medium term warning signal
 - (c) short term warning signal
 - (d) All of the above
4. All of these are signs of physical deterioration of an addict except one:
 - (a) incoherent speech
 - (b) bloodshot eyes
 - (c) dilated pupils
 - (d) tardiness

4.0 CONCLUSION

There are different concrete ways of recognising individuals that abuse drugs as well as unwanted vices not needed by the society.

5.0 SUMMARY

Individuals that abuse drugs may have possession of pipes, rolling paper, hostile poor coordination, unhealthy appearance, etc. Some of the social vices common to drug abusers include among others, family breakdown, suicide, child abuse, financial problems, etc.

6.0 TUTOR-MARKED ASSIGNMENT

List and discuss five different ways you may be able to recognise a drug abuser.

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UNIT 2 PSYCHO-SOCIAL CHALLENGES ASSOCIATED WITH DRUG ABUSE

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes (ILOs)
- 3.0 Main Content
 - 3.1 Psychological Problems Associated with Drugs
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

In this unit, you will learn the problems associated with drug abuse which are either social or academic in nature.

2.0 INTENDED LEARNING OUTCOMES (ILOs)

By the end of this unit, you should be able to:

- mention and discuss five different psycho-social problems associated with drug abuse
- explain at least two problems of drug abuse on the academic fortunes of drug abusers.

3.0 MAIN CONTENT

3.1 Psychological Problems associated with Drugs

The following are known generally to affect the society:

- (i) Family breakdown, chronic unemployment, criminal activities, suicide, financial problems as well as child abuse. Family breakdown is inevitable due to the inability of the addict to maintain a close relationship by altering his own lifestyle to accommodate someone else.
- (ii) Chronic unemployment due to constant absences and inability to perform a job occurs because of intoxication and apathy while

- under the influence of drugs. The addicted population have a higher incidence of unemployment.
- (iii) Criminal activities, such as theft, prostitution, rape, etc have long been associated with drug addicts and more recently physical violence has become linked to the problem. However, there are still large numbers of addicts who do not engage in these activities.
 - (iv) Suicide: This is usually accidental, resulting from confusion or a semi-conscious state where the individual targets how much of drug he has consumed. It may also occur as a result of contamination, where the drug he has been mixed with other drugs or toxic substances and may follow hallucinations and loss of judgment from intoxication.
 - (v) Financial Problems: Drugs abused are expensive. Therefore, people who abuse them easily run out of money. In an adult married man, this may result in his inability to play the role of the breadwinner of the family adequately.
 - (vi) Child Abuse: This is a result of an addict inability to alter his lifestyle to accommodate children. He fails to make responsible decisions concerning the child's needs and is incapable of meeting the child's needs if it means denying his own. Consequently, the child is neglected.

In relation to school work, Lief (2005) express that drug users have decreased interest in classwork and negative attitude which make them drop out of school before accomplishing their studies. Drug users have decreased interest in the completion of tasks, decreased ability to perform tasks that require a lot of concentration and paying attention which interferes with learning. They are unmotivated, apathetic without goals or objectives and without the wish to succeed in anything.

Merogosa (1997) Students on drugs arrive at school late and lack energy. Wolaver (2002) emphasised that alcohol consumption has a negative productive effort on study hours under all definitions of drinking (binge, frequent binge, drunkenness and frequent drunkenness). More frequent use of alcohol usually produces larger negative effects on study hours with frequent drunkenness having the largest effect. There is a negative relationship between heavy episodic alcohol use and the time spent on academics.

In addition, Wechsler, Dowdall, Maenner, Gledhill-Hoyt and Hangil (1998) expressed that excessive drinking and drug use are both associated with short-term academic problems, students who use substances during college, spend less time studying and skip more classes thereby reducing their exposure to the classroom learning environment and the beneficial experiences of interacting with faculty

and other students. Longitudinal research has found that students who use alcohol and drugs are more likely to have disruptions in their enrolment in college and also fail to graduate. Associated mental health problems can exacerbate the adverse academic consequences of excessive drinking and drug use. Frequent binge drinkers are more likely to miss a class; fall behind in their school work. The number of drinks consumed correlates positively with the number of classes missed. The frequency of alcohol consumption was associated positively with absenteeism from classes disliked.

Again as expressed by Ngesu, Ndiku and Masesi (2008), the use of drugs leads to discipline problems which make students lose a lot of learning time during punishment or under suspensions. Students who use drugs are more likely to engage in delinquent behaviours such as fighting and stealing. Students who use drugs have an unexplained mood swing, behave negatively, are argumentative, confused, destructive, anxious, overreact to criticism, act rebellious and doesn't seem happy.

Drugs and Academics

Relationship between Drug Abuse and Academic Performance

Binge drinking two or more times in a typical two weeks period is linked to significantly lower semester grades (Pascarella et al, 2007). The probability of getting a high grade significantly decreases as the frequency of heavy episodic drinking increases, this is because the heaviest drinkers obtain the lowest grades (Preseley, 1993). Heavy college drinking predicts a reduction in the probability of having an A average cumulative GPA (Wokver, 2002). Those with higher grades of B and above consumed lower drinks per week or even a month. Therefore, there is a significant decline in mean grades when comparing abstainers to heavier drinking categories (Ran & Durand, 2000).

Drugs make the student have a negative attitude to learning, failure to do assignments and impaired capacity to reason hence influencing academic performance. Drugs also interfere with students' discipline leading to loss of learning time doing punishment or under supervision. Drugs lead to decreased interest in learning, students are unmotivated without goals or objectives and without the wish to succeed in anything. Students on drugs arrive at school late and they lack energy hence influencing academic performance.

Influence of Marijuana Abuse on Academic Performance

According to Spooner (2005), the social environment is a powerful influence on health and social outcomes. In this content, marijuana use and related problems result from the complex interplay of the individual and the environment whereby social institutions or structures can

influence the environment whereby social institutions or structures can influence the environment for a manner that can influence drug use and related problems.

Having realised that the majority of marijuana use starts during the adolescent stage especially so for the “gateway” drugs, are tried out (Indiana Preventive Resource Center, 2005). Drug abuse by students can lead to a sharp decline in their academic performance, increase reports of truancy and expulsion from school. It can also lead to addiction, increased desire for drugs without which normal life process is disturbed and increased appetite and libido. Other vices such as stealing, fighting and gambling may also be caused by drug abuse as a result of alteration in the brain chemistry of the abuser.

Influence of Drug Abuse on Time Spent Studying

Alcohol consumption has a negative productive effort on study hours under all definitions of drinking (binge, frequent binge, drunkenness, and frequent drunkenness) (Wolever, 2002). More frequent use of alcohol usually produces larger negative effects on study hours, with frequent drunkenness having the largest effect (Wolaver, 2002). There is a negative relationship between heavy episodic alcohol use and the time spent on academics (Porter & Pryor, 2007).

Impacts of Drug use on Class Attendance

Excessive drinking and drug use are both associated with short-term academic problems, students who use substances during college spend less time studying and skip more classes thereby reducing their exposure to the classroom learning environment and the beneficial experience of interacting with faculty and other students. Longitudinal research has found that students who use alcohol and drugs are more likely to have disruptions in their enrolment in college and also fail to graduate. Associated mental health problems can exacerbate the adverse academic consequences of excessive drinking and drug use. Frequent binge drinkers are more likely to miss a class fail to be in their school work (Wechsler et al, 1998). The number of drinks consumed correlates positively with the number of classes missed (Alcohol Edu 2008-2009). The frequency of alcohol consumption was associated positively with absenteeism from classes disliked (Wyatt, 1992).

Influence of Drug Use of Students’ Interest in Learning

Drug users have decreased interest in classwork and a negative attitude which makes them drop out of school before accomplishing their studies (Leadership, 2004). Drug users have decreased interest in the completion of tasks, decreased ability to perform tasks that require a lot of concentration and paying attention with interference with learning (Leadership, 2004). They are unmotivated, apathetic, without goals or

objectives and without the wish to succeed in anything (Melgosa, 1997). Students on drugs arrive at school late and lack energy.

Influence of Drug Use on Students' Discipline

According to Kerochio (1994), many people have tried drugs sometimes in their lives. He further asserts that the society becomes alarmed when a person's use of drugs results in impairment of occupational or social functioning. The user becomes a threat to other members of society and engages in criminal activities. Hartmatz (1973) discovered that drugs tend to make users to have erratic mood swings, anxious and impulsive. They lead to poor social adjustment on part of the user characterized by situational hostility. A survey by the International Commission for the Prevention of Alcoholism and Drug Dependence carried out in Kenya schools between 1977 and 1978 revealed that 23.3% of the students took alcohol while 26% smoked (Bhang, Malulu, 2004). The use of drugs leads to discipline problems which make students to lose a lot of learning time during punishment or under suspensions. Students who use drugs are more likely to engage in delinquent behaviours such as fighting and stealing. According to Ngesu, Ndiku and Masesi (2008), students who use drugs have an unexplained mood swing, behave negatively, are argumentative, confused, destructive, anxious, over-reactive to criticism, act rebellious and don't seem happy.

SELF-ASSESSMENT EXERCISE

Objective Test:

1. Drugs abused are expensive, one of these is imminent:
 - (a) adult abuse
 - (b) financial problems
 - (c) inability to play the role of a breadwinner
 - (d) B and C are correct

2. These are true of psycho-social challenges relating to drug abuse except:
 - (a) unemployment
 - (b) suicide
 - (c) unemployment
 - (d) none of these

3. In relation to school work and drug abuse, one of these is true:
 - (a) love for reading
 - (b) lateness to school
 - (c) decreased interest in class work
 - (d) negative attitude towards teachers

4. Excessive drinking and drug use are both associated with _____.
- (a) short-term academic problem
 - (b) long term academic problem
 - (c) both A and B)
 - (d) None of the above
5. Students who abuse drugs use have all these EXCEPT:
- (a) negative behaviour
 - (b) argumentative
 - (c) rebellious
 - (d) always happy
6. Criminal activities, such as: theft, rape, etc have long been associated with:
- (a) drug abuse
 - (b) drug addicts
 - (c) drug use
 - (d) suicide

4.0 CONCLUSION

There are different types of psycho-social problems associated with drug abuse which include family breakdown, chronic unemployment, criminal activities, suicide, financial problems, child abuse and so on.

5.0 SUMMARY

Some of the social vices common to drug abusers include among others, family breakdown, suicide, child abuse, financial problems, etc.

6.0 TUTOR-MARKED ASSIGNMENT

1. Mention and discuss five different psycho-social problems associated with drug abuse.
2. Explain at least two problems of drug abuse as it relates to academics.

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MODULE 5

Unit 1 Reasons for Alcoholism

Unit 2 Effects of Alcohol, Tobacco,
Narcotics, Sedatives and Stimulants
on the Human Body

Unit 3 Possible Ways of Rehabilitating
Alcoholics

Unit 4 Effects of Drugs, Alcohol and
Tobacco on Special Organs of the Body

INTRODUCTION

In the last module, you have learnt about ways of recognising a drug abuser and the psycho-social problems associated with drug abuse. This module will show you reasons for alcoholism, the effects on the human body and the possible ways of rehabilitating alcoholics.

UNIT 1 REASONS FOR ALCOHOLISM

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes (ILOs)
- 3.0 Main Content
 - 3.1 Reasons for Alcoholism
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Whatever humans do on earth must have reasons for doing what they are doing. In the same vein, the use of alcohol by individuals cannot be without reasons. Since alcohol is termed to be a drug, it must have some effects on the human body. However, the good part is that there are possible ways of rehabilitating alcoholic bringing them back to good health.

2.0 INTENDED LEARNING OUTCOMES (ILOs)

By the end of this unit, you should be able to:

- state at least six reasons why individuals are involved in alcohol taking
- mention ten different effects of alcohol on the human body
- write three different ways of rehabilitating alcoholic.

3.0 MAIN CONTENT

3.1 Reasons for Alcoholism

Perkinson (2002) gave the following as the main causes of alcoholism:

- (i) **Experimental Curiosity:** Curiosity to experiment the unknown facts about drugs thus, motivates adolescents into drug use. The first experience in drug abuse produces a state of arousal such as happiness and pleasure which in turn motivate them to continue.
- (ii) **Peer Group Influence:** Peer pressure plays a major role in influencing many adolescents into drug abuse. This is because peer pressure is a fact of teenage and youth life. As they try to depend less on their parents, they show more dependency on their friends. In Nigeria, as in other parts of the world one may not enjoy the company of others unless he conforms to their norms.
- (iii) **Lack of Parental Supervision:** Many parents have no time to supervise their children. Some parents have little or no interactions with family members, while others put pressure on their children to pass exams or perform better in their studies. These phenomena initialise and increase drug abuse.
- (iv) **Personality problems due to socioeconomic conditions:** Adolescents with personality problems arising from social conditions have been found to abuse drugs. The social and economic status of most Nigerians is below average. Poverty is widespread, broken homes and unemployment is on the increase, therefore our youths roam the streets looking for employment or resort to begging. These situations have been aggravated by a lack of skills, opportunities for training and retraining as well as a lack of committed action to promote job creation by private and community entrepreneurs. Frustration arising from these problems lead to recourse in drug abuse for temporarily removing the tension and problems arising from it.
- (v) **The need for energy to work for long hours:** The increasing economic deterioration that leads to poverty and disempowerment of the people has driven many parents to send their children out in search of a means of earning something as a way of contributing to family income. These children engage in hawking, bus conducting, head loading, scavenging, serving in food canteens etc and are prone to drug-taking so as to gain more energy to work for long hours.

- (vi) **Availability of the Drugs:** In many countries, drugs have dropped in prices as supplies have increased. In this way, the drugs are available and very much affordable to all.
- (vii) **The need to prevent the occurrence of withdrawal symptoms:** If a drug is stopped, the user experiences what is termed “withdrawal symptoms”. Pain, anxiety, excessive sweating and shaking characterize such symptoms.
The inability of the drug user to tolerate the symptoms motivates him to continue. However, it is known that there are three (3) major causes of alcoholism, which are:
- (a) Psychological
 - (b) Social
 - (c) Nature of work
- (a) Among the psychological causes are sadness over some situations e.g. personal disappointments, unfulfilled promises, loneliness, family problems, e.g. nagging housewives, sexual maladjustment, shyness or inferiority feeling and relief from anxiety.
- (b) Social causes of alcoholism may include such factors as “trying to belong” or to be socially acceptable, visits and parties for women trying to keep their husband’s company, feasts and as a way of overcoming loneliness, boredom and marital frustration. Some learn to drink because of the type of families they belong to e.g. children from alcoholic parents tend to become alcoholics themselves later in life.
- (c) Alcoholism can also arise due to the nature of the job one does. Examples include: Monotonous jobs that make the workers so bored that they need the assistance of alcohol. Some jobs need intensive vigilance and mental effort and may likely cause nervous fatigue which some workers try to combat by resorting to the euphoria and anaesthetic effect of alcohol in the false belief that alcohol provides strength for daily work. In some other cases people who do heavy work, especially those exposed to heat, have a habit of consuming alcohol as a means of relaxation after the daily toils.

The unfortunate and pathetic thing about alcohol is as Turner says: “The victims of alcoholism only rarely set out to get drunk. Usually, they wish simply to enjoy a few drinks. “Like other people’. This they find to their horror and dismay, does not seem possible for them; almost every time they drink they end up drunk, entirely against their will and intentions. In a later stage of their progressive illness, they find matters even worse, for by then they frequently determine not to drink at all, only to find themselves, again to their own horror and dismay, drinking once more to drunkenness in total contradiction to their expressed will in the matter.



SELF-ASSESSMENT EXERCISE

Test: Fill in blank spaces

1. Curiosity to experiment the unknown facts about drugs, thus _____ adolescents into drug use.
2. Adolescents with personality problems arising from social conditions have been found to _____ drugs
3. By the availability of a drug everywhere makes it much _____ to all.
4. Social causes of alcoholism may include “trying to belong’ or to be _____
5. Alcoholism can also arise due to the _____ of job one does.

4.0 CONCLUSION

As you have read through the unit, it is expected that you have understood the various reasons individuals advance alcoholism.

5.0 SUMMARY

You have learnt that there are various reasons for alcoholism which when summarised are either, psychological, social, or nature of the job.

6.0 TUTOR-MARKED ASSIGNMENT

State the different reasons responsible for individuals using alcohol.

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UNIT 2 EFFECTS OF ALCOHOL, TOBACCO, NARCOTICS, SEDATIVES AND STIMULANTS ON THE HUMAN BODY

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcome
- 3.0 Main content
 - 3.1 Effects of Alcohol, Tobacco, Narcotics, Sedatives and Stimulants on
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/ Further Reading

1.0 INTRODUCTION

As long as alcohol is being consumed, it must have some effects on the human body, which is what you are about to study.

2.0 INTENDED LEARNING OUTCOME

By the end of the unit, you should be able to:

- discuss the various types of effects of alcohol on the human body.

3.0 MAIN CONTENT

3.1 Effects of Alcohol, Tobacco, Narcotics, Sedatives and Stimulants on

Explaining the effects of alcohol on the human body, Insel and Roth (2014) explain that due to the fact that alcohol when taken is distributed throughout most of the body, it can affect many different organs and tissues. They posited that problems associated with habitually excessive use of alcohol include diseases of the digestive and cardiovascular systems and some cancers. Drinking during pregnancy risks the health of both the mother and her developing fetus. They emphasised that even in short terms, alcohol can change the functioning of the liver. Within just a few days of heavy alcohol use, fat begins to accumulate in liver cells, resulting in the development of “fatty liver”. If drinking continues, inflammation of the liver can occur, resulting in alcoholic hepatitis, a

frequent cause of hospitalization and death in alcoholics. Both fatty liver and alcoholic hepatitis are potentially reversible if the person stops drinking. With continued alcohol use, however, liver cells are progressively damaged and then destroyed. The destroyed cells are replaced by fibrous scar tissue, a condition known as cirrhosis. As cirrhosis develops, a drinker may gradually lose his or her capacity to tolerate alcohol because fewer and fewer healthy cells remain in the liver to mobilize it.

As with most health hazards, the risk of cirrhosis depends on an individual's susceptibility, which is largely genetically determined, and the amount of alcohol consumed over time. Some people show signs of cirrhosis after a few years of consuming three to four drinks per day. Women generally develop cirrhosis at lower levels of alcohol consumption than men. Heavy drinkers who also inject drugs place themselves at risk of acquiring infection with hepatitis virus (HCV) the combination of alcohol abuse and HCV increases the risk for cirrhosis and liver cancer.

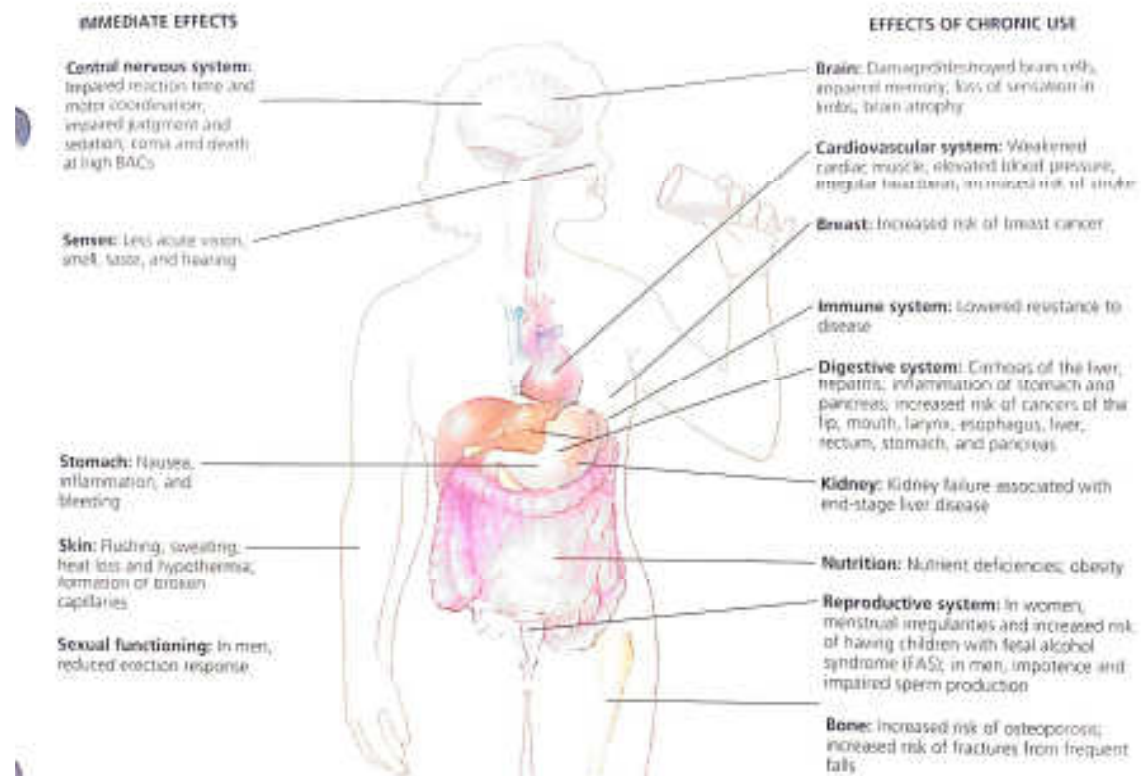
Alcohol can inflame the pancreas, causing nausea, vomiting, abnormal digestion, and severe pain. Acute alcoholic pancreatitis generally occurs in binge drinkers. Unlike cirrhosis, which usually occurs after years of fairly heavy alcohol use, pancreatitis can occur after one or two severe binge drinking episodes. Acute pancreatitis is often fatal; in survivors, it can become a chronic condition. Overuse of alcohol is a common cause of bleeding in the gastrointestinal tract. Cirrhosis frequently results in the development of enlarged, fragile oesophageal and rectal veins, which can easily burst or tear with potentially fatal results. Enlarged oesophageal veins are especially vulnerable when the drinker vomits after an alcoholic binge. Even a relatively small amount of alcohol can cause painful irritation of the lining of the stomach.

Generally, some of the harmful effects of alcohol begin to appear only with constant use of alcohol. Alcohol causes dilatation of the blood vessels at the skin surface making the person feel a bit warm. Deep inside the body however the temperature is lowered. This may result in rapid heat loss if the person is exposed and there could be serious

Alcohol places an added strain on the kidneys and liver especially during pregnancy and may result in miscarriage in women. It is known that different criminals use alcohol before doing wicked deeds. Alcoholism thus presents itself as a social disease by the frequency and the severity of its effect and by what it costs the individual and the community. Heavy drinkers re to have less work output, lessens caution, skills and accuracy.

Due to one's interaction as he drinks there is a greater likelihood of contracting tuberculosis. Many quantities of alcohol bring about impairment of brain activities, leading to confusion, poor coordination, disorientation, stupor, coma and death. There could be impairment having vitamin deficiency and malnutrition due to the fact that alcoholics often reduce food intake in preference for alcohol. Alcohol predisposes one to alcoholic psychosis lasting a few days and may be accompanied by hallucination, trembling, nervous breakdown.

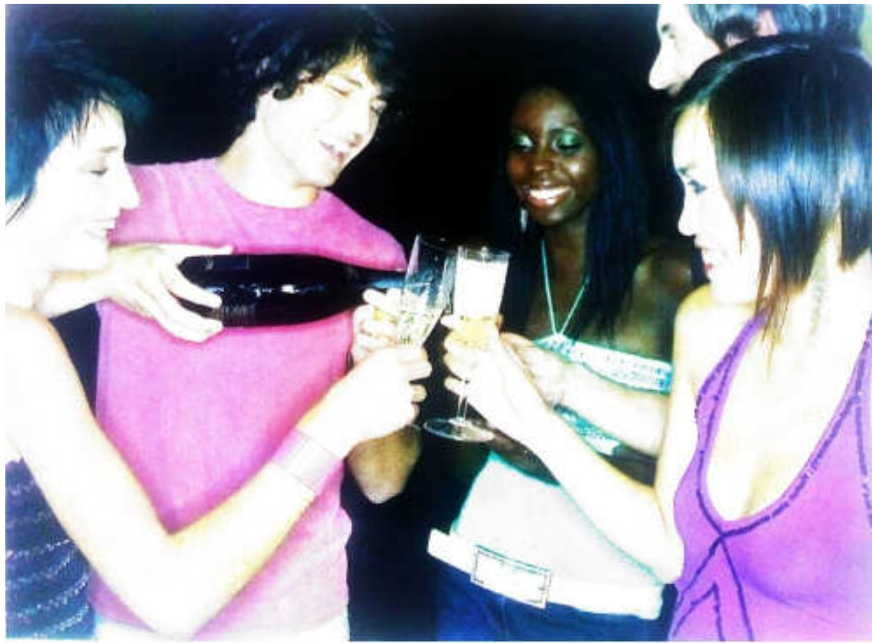
Many quantities of alcohol produce a serious condition known as the wet brain, which is normally marked by swellings and congestion in the tissues covering the brain so that the normal powers of coordination can no longer function. Drinking is said to have a direct bearing on the sexual relationship which often led to the contraction of venereal diseases leading to morally debased personality.



The Immediate and Long-Term Effects of Alcohol Abuse



Experts warn that there is no safe level of alcohol consumption during pregnancy



College Binge Drinking



Eating food while you are drinking will slow the rate of alcohol absorption and lower your peak BAC.

something to eat before will be served.

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Touring Lifestyle Behaviors

ALCOHOL USE, STAGES OF INTOXICATION

TOBACCO USE, IMMEDIATE AND LONG-TERM HEALTH RISKS OF TOBACCO USE

THE GREENHOUSE EFFECT, CLIMATE CHANGE, AND YOU

GOALS OF THE TOUR

1. **Alcohol Use.** Describe the stages of intoxication and the effects experienced in each stage.
2. **Tobacco Use.** Identify and describe the immediate effects and long-term health risks of tobacco use.
3. **Exercise.** Identify and describe the immediate effects and long-term health benefits of exercise.
4. **The Greenhouse Effect.** Explain the greenhouse effect and describe actions individuals can take to reduce their carbon footprint.

Alcohol Use: Stages of Intoxication

1 Describe the stages of intoxication and the effects experienced at each stage.

Blood alcohol concentration (BAC) rises quickly with alcohol consumption, but alcohol is metabolized at a relatively slow rate—about 1 drink per hour. Note that rate of alcohol metabolism varies widely depending on sex, body weight, ethnicity, age, food in the stomach, genetics, and other factors—so the effects at different BACs also vary.

One drink =

- 12-ounce beer
- 1.5-ounce shot
- 5-ounce glass of wine

Number of drinks in 1 hour before the legal BAC limit of 0.08 is reached

Weight in pounds	Drinks in 1 hour
90-109	1
110-129	1
130-149	2
150-169	2
170-189	2
190-200+	3

effects

- BAC: 0.01-0.05**
Relaxation; mild euphoria; reduced inhibition; decreased alertness; impaired motor coordination and judgment.
Approximate time to metabolize: 2-3 hours
- BAC: 0.05-0.10**
Emotional instability; exaggerated feelings and behavior; impaired reasoning, judgment, and visual tracking; slowed information processing; reflexes and reaction time; sleepiness; nausea; legally intoxicated at 0.08 in all 50 states.
Approximate time to metabolize: 3-4 hours
- BAC: 0.10-0.15**
Mood swings; aggression; staggering gait; impaired balance; slurred speech.
Approximate time to metabolize: 3-10 hours

Harmful Effects of Tobacco, Narcotics, Sedative and Stimulants

Generally, Haag (nd) expressed that drugs, narcotics and hallucinogens are among the substances commonly misused in our society. Drugs and narcotics can be depressants or stimulants. Depressants act on the central nervous system, reduce functional body activity and produce muscular relaxation. Stimulants increase activities of the central nervous system, produce excitement, and decrease the desire for sleep. Hallucinogens are “mind-altering” substances that can produce changes in the state of consciousness of an individual.

A. Tobacco

As expressed by Pallock (2011). The beginning smoker often has symptoms of mild nicotine poisoning, including the following:

dizziness, faintness, rapid pulse, cold, nausea, vomiting and diarrhoea. In line with these, expressed that the long term effects are linked to many deadly and disabling diseases. As coronary heart disease, the most common are:

- a. Stroke leading to sudden interference with the circulation of blood in a part of the brain, resulting in the destruction of brain cells.
- b. Aortic aneurysm involves a bulge in the aorta caused by a weakening in the walls.
- c. Pulmonary heart disease, which is a disorder of the right side of the heart caused by changes in the blood vessels of the lungs.

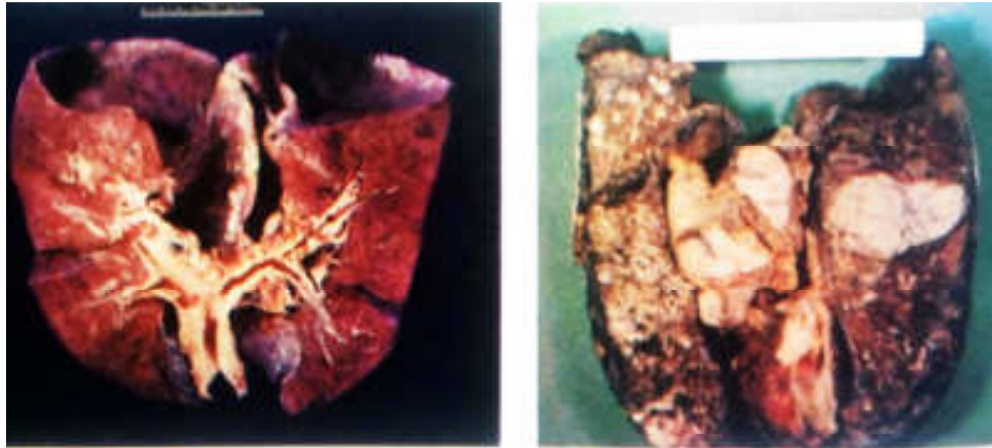
The cumulative effects according to Insel and Roth (2014) falls into two general categories. The first category is reduced life expectancy. A male who takes up smoking before age 15 and continues to smoke is only half as likely to live to age 75 as a male who never smokes. Females who have similar smoking habits also have a reduced life expectancy. The second category involves the quality of life. They expressed that both male and female smokers have a greater rate of acute and chronic disease than people who have never smoked.

High school boys who were regular smokers had a higher incidence of respiratory infections than non-smokers. Also, these young smokers coughed more and had larger amounts of mucus than non-smokers. Diminished athletic performance by smokers is well known to coaches. The air sacs of the lungs are gradually destroyed by emphysema. Small blood vessels in the walls disappear. There is less contact between the blood and oxygen. As the process of exchanging oxygen for carbon dioxide is cut off, the carbon dioxide builds up and the heart works harder to pump the oxygen-poor blood to body tissues. These three conditions: the tearing of the air sacs, the blocking of the airways and the ballooning-out of air sacs, the blocking of the airways and the ballooning-out of air sacs with trapped air – are characteristics of emphysema.

Cigarette smoking is the major cause of lung cancer for both men and women. It can also contribute to the development of diseases of the heart and blood vessels and to death from coronary heart disease. Carbon monoxide and nicotine affect the heart and blood vessels. Carbon monoxide reduces the oxygen-carrying capacity of the blood. Thus, the blood must be circulated more rapidly in order to provide the cells with the oxygen they require. Smoking impairs the ability to hear low-pitched sounds. Heavy smoking causes a hearing defect.

The death rate from lung cancer in women who are heavy smokers is five times that of non-smokers, and smokers are also more susceptible to a host of other ailments. Men who smoke two or more packs a day are twice as likely to die in their 40s or 50s as are non-smokers. In addition, Ray

(2012) pointed out that cigarette smoking has been clearly identified as the major cause of lung cancer. Cigarette smoking elevates serum cholesterol and high blood pressure are major risk factors for the development of coronary heart disease. There is a confirmed relationship that the infants of women who do not smoke during pregnancy. The fetal and neonatal mortality rate is significantly higher for the infants of smokers than for infants of non-smokers.



The photograph on the left shows a normal set of lungs
The photograph on the right shows the lungs of a heavy smoker.

B. Narcotics

Discussing the effects of narcotics on the human body, the Substance Abuse and Mental Health Services Administration (SAMHSA) (2010) posited that the Central Nervous System (CNS) depressants reduce anxiety and cause mood changes, impaired muscular coordination, slurring of speech, and drowsiness or sleep. In addition, they expressed that mental functioning is also affected; but the degree varies from person to person as well as also depends on the kind of task the person is trying to do. Most individuals become drowsy with the small doses, although a few become more active.

Haag (nd) pointed out that drugs especially depressants are meant to relieve anxiety and tension. In line with this, he gave the following effects on the human body.

Effects on the Mind

Besides their medical use, narcotics/opioids produce a general sense of well being by reducing tension, anxiety and aggression. These effects are helpful in a therapeutic setting but contribute to drugs abuse. Narcotics/opioids use come with a variety of unwanted effects including drowsiness, inability to concentrate and apathy. Use can create

psychological dependence. Long after the physical needs for the drug has passed, the user may continue to think and talk about using drugs and feel overwhelmed coping with daily activities. Relapse is common if there are no changes to the physical environment or the behavioural motivators that prompted the abuse in the first place.

Effects on the Body

Effects depend heavily on the dose, how it is taken, and previous exposure to the drug. Negative effects include:

- Slowed physical activity
- Constriction of the pupils
- Flushing of the face and neck
- Constipation
- Nausea
- Vomiting
- And slowed breathing.

As the dose is increased, both the pain, relief and the harmful effects become more pronounced, some of these preparations are so potent that a single dose can be lethal to an inexperienced user. However, except in cases of extreme intoxication, there is no loss of motor coordination or slurred speech.

(3) Sedatives

Sedatives are a type of prescription medication that slows down brain activity. They're typically used to make a user feel more relaxed. Sedatives work by modifying certain nerve communications in your Central Nervous System (CNS) to your brain (Jewell, 2019).

Sedatives work by modifying certain nerve communications in your Central Nervous System (CNS) to your brain. Specifically, sedatives make the neurotransmitter called gamma amino bylyric acid (GABA).

Effects

Sedatives can have both short and long term side effects. Some of the immediate side effects you might notice include:

- Sleepiness
- Dizziness
- Blurred vision
- Not being able to see depth or distance as well as usual impaired perception.
- Slower reaction time to things around you (impaired reflexes)
- Slower breathing
- Not feeling as much pain as usual (sometimes not even sharp or intense pain).
- Having trouble focusing or thinking (impaired cognition)

- Speaking more slowly or slurring your words.

Long-term Effects

- Frequently forgetting or losing your memory (Amnesia).
- Symptoms of depression such as fatigue, feelings of hopelessness or suicidal thoughts.
- Mental health conditions such as anxiety.
- Liver dysfunction or liver failure from tissue damage or overdose.
- Developing a dependency on sedatives can lead to irreversible effects or withdrawal symptoms, especially if you stop using them abruptly.

4. Stimulants (Marijuana and Cannabis)

Short-Term Effects

As is true with most psychoactive drugs, the effects of a low dose of marijuana are strongly influenced both by the user's expectations and by past experiences. At low doses, marijuana users typically experience euphoria, a heightening of subjective sensory experiences, a slowing down of the perception of passing time and a relaxed attitude. These pleasant effects are the reason this drug is so widely used with moderate doses, marijuana's effects become stronger and the user can also expect to have impaired memory function, disturbed thought patterns lapses of attention and feelings of depersonalisation in which the mind seems to be separated from the body.

Physiologically, marijuana increases heart rates and dilates certain blood vessels in the eyes, which creates the characteristic bloodshot eyes. The user may also feel particularly hungry or thirsty.

Long-Term Effects

The most probable long-term effect of smoking marijuana is respiratory damage, including impaired lung function and chronic bronchial irritation. Although there is no evidence linking marijuana use to lung cancer, it may cause changes in lung tissue that promote cancer growth. Marijuana users may be at increased risk of emphysema and cancer of the head and neck, and among people with chronic conditions like cancer and AIDS. Marijuana use is associated with an increased risk of fatal lung infections (these are key reasons why the institute of medicine has recommended the development of alternative methods of delivering the potentially beneficial compounds in marijuana). Heavy users may experience learning problems as well as subtle impairments of attention and memory that may or may not be reversible following long-term abstinence. Long term use may also decrease testosterone levels and sperm counts and increase sperm abnormalities.

Heavy marijuana use during pregnancy may cause impaired fetal growth and development, low birth weight and increased risk of ectopic pregnancy. Marijuana may act synergistically with alcohol to increase the damaging effects of alcohol on the fetus. THC rapidly enters breast milk and may impair an infant's early motor development.

Discussing the effects of drugs on athletes, Mellion, Putukian and Madden (2003) expressed thus:

Effects of Amphetamines on Performance

Side effects of amphetamines may actually decrease performance in individual athletes. These effects include anxiety during their use or depression following their withdrawal, tremors, headaches, hyperthermia, vasoconstriction, confusion, paranoia, variable gastrointestinal effects, cardiac arrhythmias, and even sudden death. Agitation and acute psychosis may appear suddenly and would obviously adversely affect performance.

Effects of High-Dose Caffeine Consumption

Agitation, irritability, and tremulousness are the most common side effects of acute ingestion of caffeine. Supraventricular arrhythmias, although less common, also can occur in susceptible individuals. Addiction, dependency, and withdrawal can occur in long-term users. Finally, caffeine acts as a moderate diuretic and may accelerate dehydration.

Effects of Nicotine and Athletic Performance

Athletes use nicotine for a variety of reasons, including its stimulant properties and its mood-altering effects, which may provide a calming sensation in some individuals and a stimulating effect in others. Nicotine also has mild appetite-suppressive properties that are perceived as beneficial by some athletes. No evidence exists that nicotine enhances performance. Given the well-known adverse effects of tobacco use (both smoking and smokeless), the use of nicotine-containing products should be strongly discouraged.

Effects of Ephedrine

It is known to be associated with temperature dysregulation and heart illness. Adverse effects including hypertension, stroke, insomnia, tremors, tachycardia, seizures, cardiac arrest, and death associated with the use of ephedrine.

Effects of Stimulants

Many of these drugs have perceived ergogenic properties by athletes. When they are used by athletes to gain an edge on the competition and the perception of athletes is that there is a benefit when other athletes are

coerced into taking them to remain competitive. Contradiction exists in the scientific literature regarding the potential performance-enhancing effects of various stimulants. As long as a question remains regarding their effects on performance, most governing bodies will end to err on the side of restricting their use. The spirit of fair and ethical competition is against the use of drugs for performance enhancement.

SELF-ASSESSMENT EXERCISE

Objective test

1. One of these is the effect of alcohol on the human body.
(a) accumulation of fat (b) increase in use (c) drinking continuously (d) A and B are correct
2. Susceptibility is associated with the risk of alcohol causing _____.
(a) cough (b) tuberculosis (c) cirrhosis (d) drinking level to increase
3. Much quantities of alcohol produce a serious condition known as _____.
(a) mix wet weather (b) wet brain (c) we tissues (d) weight gain
4. Disulfiram is a term used for: (a) Encouraging alcoholics (b) Rehabilitating alcoholics (c) working with alcoholics (d) diffusing alcoholics
5. Tracing the course of alcoholism and trying to remove it is said to be a _____.
(a) way of stopping them (b) place in drug reduction (c) causing a reduction in drinking (d) b and c are correct

4.0 CONCLUSION

Different reasons are advanced by individuals for taking alcohol. Alcohol-related problems such as hypertension, liver cirrhosis, mental retardation, craniofacial abnormalities, crime rate, etc are on the increase. However, to stop this menace, prevention is definitely the best approach to this medico-social problem.

5.0 SUMMARY

Individuals say various reasons for using alcohol which may either be psychological, social or nature of the job. The effects of alcohol-related problems include physical problems, such as peptic ulcer, tuberculosis,

neurological disorders. Pregnant women may have the factors of having the foetus having a deficiency in growth and such children when born may have delayed motor development.

6.0 TUTOR-MARKED ASSIGNMENT

Mention two effects of each of the following: Alcohol, Tobacco and Drugs citing relevant examples for each discussed.

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UNIT 3 POSSIBLE WAYS OF REHABILITATING ALCOHOLICS

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcome
- 3.0 Main content
 - 3.1 Possible Ways of Rehabilitating Alcoholics
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference/ further reading

1.0 INTRODUCTION

In human endeavour, it is expected that solutions are provided to solve problems, alcoholism is not left out. Therefore, as you study this unit you should be able to understand the various ways of rehabilitating alcoholics.

2.0 INTENDED LEARNING OUTCOME

By the end of this unit, you should be able to:

- explain the possible ways of rehabilitating alcoholics.

3.0 MAIN CONTENT

3.1 Possible Ways of Rehabilitating Alcoholics

Insel and Roth (2014) explained that there are several medical treatments for alcoholism. All of these work best in combination with counselling or other non-pharmacological programs.

- (i) Disulfiram (Antabuse) inhibits the metabolic breakdown of acetaldehyde and causes patients to flush and feel ill when they drink, thus theoretically inhibiting impulse drinking. However, disulfiram is potentially dangerous if the user continues to drink.
- (ii) Naltrexone (ReVia, Depade) binds to a brain pleasure centre that reduces the craving for alcohol and decreases its pleasant, reinforcing effects. When taken correctly, naltrexone usually does not make the user feel ill.
- (iii) Injectable naltrexone (Vivitrol) acts the same as oral naltrexone, but it is a single monthly shot administered by a health professional. Compliance with a monthly regimen may be better for some alcoholics.

- (iv) Acamprosate (Campral) helps people maintain abstinence after they have stopped drinking. It is unclear how acamprosate works, but it appears to act on brain pathways related to alcohol abuse.

A variety of other drugs to treat alcoholism are undergoing clinical trials – alone in combination – or in combination with counselling therapies. In people who abuse alcohol and have significant depression or anxiety, the use of antidepressant or anti-anxiety medication can improve both mental health and drinking behaviour. In addition, drugs such as diazepam (Valium) are sometimes prescribed to replace alcohol during the initial stages of withdrawal. Such chemical substitutes are usually useful for only a week or so because alcoholics are at particularly high risk for developing dependence on other drugs.

Alcohol treatment programs are successful in achieving an extended period of sobriety for about half of those who participate. Success rates of conventional treatment programs are about the same for men and women and for people from different ethnic groups. Women, minorities, and the poor often face major economic and social barriers to receiving treatment. Most inpatient treatment programs are financially out of reach for people with low income or those without insurance coverage. AA remain the mainstay of treatment for most people and is often a component of even the most expensive treatment programmes. Special AA groups exist in many communities for young people, women, gay men and lesbians, non-English speakers and a variety of interest groups.

There should be health education for responsible drinking. This education should include information on why people drink, the effects of alcohol on the body and the alcohol content of certain beverages. Some of this information are provided below:

- (a) Early education both at home and in school on the dangers of alcohol.
- (b) A multidisciplinary approach to preach to drinking example a joint effort by doctors, health education, and reverend ministers.
- (c) To raise national awareness through campaigns and even legislation.
- (d) Alternative pass times like sports could be sought.
- (e) Trace the cause and try to remove it.
- (f) There should be the promotion of good mental health in order to avoid a feeling of inadequacy.
- (g) The habit could be gradually eliminated through substitution with drugs such as antabuse, citrated calcium carbide, promazene and cetadol which are less harmful to the body.
- (h) Trace the cause and try to remove it.
- (i) Alternative pass times like sports could be sought

SELF-ASSESSMENT EXERCISE

Objective test

1. _____ Inhibits the metabolic breakdown of acetaldehyde and causes patients to flush and feel ill when they drink. (a) Antagus (b) Drinking Alcohol (c) Disulfiram (d) Disarm
2. _____ binds to a brain pleasure centre that reduces the craving for alcohol (a) Re Via (b) Depade (c) Naltrexone (d) Brain Pressure
3. vivtrol _____ the same as oral nathexon. (a) Acts (b) Create (c) Emphasized (d) A and C are correct
4. One of these is a programme to help in rehabilitating alcoholics. (a) Injectable (b) Campral (c) Abstinence (d) acamprostate

4.0 CONCLUSION

The habit of alcoholism could gradually be eliminated through substitution with drugs that are less harmful to the body.

5.0 SUMMARY

Having gone through the unit, you have understood that early education, multi-disciplinary approach, raising national awareness, removing the cause, promotion of good mental health and gradual elimination of the habit by using drugs that are less harmful to the human body be use are necessary to rehabilitating alcoholics.

6.0 TUTOR-MARKED ASSIGNMENT

Discuss two of the four programmes you can use in rehabilitating alcoholics in your area.

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UNIT 4 EFFECTS OF DRUGS, ALCOHOL AND TOBACCO ON SPECIAL ORGANS OF THE BODY

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcome
- 3.0 Main content
 - 3.1 Effects of Drugs, Alcohol and Tobacco on Special Organs of the Body
 - 3.3 Effects of Tobacco on Special Organs of the Body
 - 3.2 Effects of Alcohol on Special Organs of the Body
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 Reference/ Further Reading

1.0 INTRODUCTION

This unit is on the effects of drugs, alcohol and tobacco on special organs of the body. Drugs dissolve in the stomach, be absorbed into the bloodstream through the lining of the small intestine and then pass through the liver, heart and lungs before returning to the heart to be carried via arteries to the brain. A good understanding can make you make informed decisions that could be beneficial to you and your associates.

2.0 INTENDED LEARNING OUTCOMES (ILOs)

By the end of this unit, you should be able to:

- identify the special parts of the body drugs passed through in the process of digestion
- enumerate effects of these substances on the special organs of the human body
- discuss the different levels of intoxication on individuals that use them
- state the different health problems associated with the consumption of these substances.

3.0 MAIN CONTENT

3.1 Effects of Drugs on Special Organs of the Body

Changes in Brain Chemistry:

Psychoactive drugs produce most of their key effects by acting on brain chemistry in a characteristic fashion. Before any changes in brain chemistry can occur, however, molecules of the drugs have to be carried to the brain through the bloodstream via a particular route of administration. A drug that is taken by mouth has to dissolve in the stomach, be absorbed into the bloodstream through the lining of the small intestine, and then pass through the liver, heart and lungs before returning to the heart to be carried via arteries to the brain. A drug that is dissolved and is injected directly into the bloodstream will reach the brain in much less time, and drugs that are inhaled and absorbed by the lungs travel to the brain more rapidly. The more quickly a drug reaches the brain, the more likely the user is to become dependent on it.

Once a psychoactive drug reaches the brain, it acts on one or more neurotransmitters, either increasing or decreasing their concentration and actions. Cocaine, for example, affects dopamine, a neurotransmitter thought to play a key role in the process of reinforcement – the brain's way of telling itself “that's good; do the same thing again”. When a neurotransmitter is released by one neuron, it travels across a gap, called a synapse, to signal another neuron. The signalling is controlled in part by removing the neurotransmitter molecules from the synapse by a process called resorption. Some drugs, such as cocaine, inhibit the resorption of dopamine, hereby extending or intensifying their action.

Effects of Cocaine on Brain Chemistry

Under normal circumstances, the amount of dopamine at a synapse is controlled in part by the reuptake of dopamine by the transmitting neuron. Cocaine blocks the removal of dopamine from a synapse; the resulting buildup of dopamine causes continuous stimulation of the receiving neurons.

Effects of Stimulants (Cocaine) on the Central Nervous System

The effects of cocaine are usually intense but short-lived. The euphoria lasts from 5 to 20 minutes and ends abruptly, to be replaced by irritability, anxiety or slight depression when cocaine is absorbed via the lungs by either smoking or inhalation, it reaches the brain in about 10 seconds, and the effects are particularly intense. This is part of the appeal of smoking crack. The effects of IV injections occur almost as quickly – in about 20 seconds. Since the mucus membranes in the nose briefly slow absorption, the onset of effects from snorting takes 2-3 minutes. Heavy users may inject cocaine intravenously every 10-20 minutes to maintain the effects.

The larger the cocaine dose and the more rapidly it is absorbed into the bloodstream, the greater the immediate and sometimes lethal effects. Sudden death from cocaine is most commonly the result of excessive CNS stimulation that causes convulsions and respiratory collapse, irregular

heartbeat, extremely high blood pressure, blood clots, and possibly heart attack or stroke. Although rare fatalities can occur in healthy young people; among people aged 18-59, cocaine users are seven times more likely than nonusers to have a heart attack. Chronic cocaine use produces inflammation of the nasal mucosa, which can lead to persistent bleeding and ulceration of the septum between the nostrils. The use of cocaine may also cause paranoia and aggressiveness.

When steady cocaine users stop taking the drug, they experience a sudden “crash” characterized by depression, agitation and fatigue, followed by a period of withdrawal. Most deaths result from people using cocaine in combination with another substance such as alcohol or heroin.

3.2 Effects of Alcohol on Special Organs of the Body

Because alcohol is distributed throughout most of the body, it can affect many different organs and tissues. Problems associated with chronic or habitually excessive use of alcohol include diseases of the digestive and cardiovascular systems and some cancers. Drinking during pregnancy risks the health of both the mother and her developing fetus.

Even in the short term, alcohol can alter the functioning of the liver. Within just a few days of heavy alcohol consumption, fat begins to accumulate in liver cells, resulting in the development of “fatty liver”. If drinking continues, inflammation of the liver can occur, resulting in alcoholic hepatitis, a frequent cause of hospitalization and death in alcoholics. Both fatty liver and alcoholic hepatitis are potentially reversible if the person stops drinking. The destroyed cells are replaced by fibrous scar tissues a condition known as cirrhosis. As cirrhosis develops, a drinker may gradually lose his or her capacity to tolerate alcohol because fewer and fewer healthy cells remain in the liver to metabolize it.

Signs of cirrhosis can include jaundice (yellowing of the skin and white part of the eyes) and the accumulation of fluid in the abdomen and lower extremities. Some people with cirrhosis show no obvious outward signs of the disease. Treatment for cirrhosis includes correcting nutrient deficiencies and completely abstaining from alcohol. People with cirrhosis who continue to drink have only a 50% chance of surviving five or more years.

Alcohol can inflame the pancreas, causing nausea, vomiting, abnormal digestion and severe pain. Acute alcoholic pancreatitis generally occurs in binge drinkers. Unlike cirrhosis, which usually occurs after years of fairly heavy alcohol use, pancreatitis can occur after one or two severe

binge drinking episodes. Acute pancreatitis is often fatal; in survivors, it can become a chronic condition.

Overuse of alcohol is a common cause of bleeding in the gastrointestinal tract. Cirrhosis frequently results in the development of enlarged fragile esophageal and rectal veins, which can easily burst or tear with potentially fatal results. Even a relatively small amount of alcohol can cause painful irritation of the lining of the stomach.

Effects of Alcohol on the Cardiovascular System

The effects of alcohol on the cardiovascular system depend on the amount of alcohol consumed. In some people, more than two drinks a day will elevate blood pressure, making a stroke and heart attack more likely. Some alcoholics show a weakening of the heart muscle, a condition known as cardiac myopathy. Binge drinking can cause “holiday heart”, a syndrome characterized by serious abnormal heart rhythms, which usually appear 24 hours of a binge episode.

Cancer

Also, chronic alcohol consumption is a clear risk factor for cancers of the mouth, throat, larynx and oesophagus (these cancers are also associated with the use of tobacco with which alcohol frequently acts as a co-carcinogen). Alcohol is largely responsible for the most common forms of liver cancer and continued heavy drinking in people with hepatitis accelerates progression to this cancer.

Alcohol increases the risk of breast cancer, but quantifying the risk is complicated. A study published in the *Journal of the American Medical Association* in 2011 shows that regularly drinking even a small amount or quantity of alcohol – three to six drinks a week – could significantly increase the risk of breast cancer. The kind of alcohol does not seem to matter.

Effects on the Brain

Brain damage due to chronic alcohol abuse is also tempered by a person’s physiology and genetics. Imaging studies document that many alcoholics experience brain shrinkage with loss of both grey and white matter, reduced blood flow and slowed metabolic rates in some brain regions. To some extent, brain shrinkage can be reversed over time with abstinence. About half of the alcoholics in the United States have cognitive impairments, ranging from mild to severe. These include memory loss, dementia and compromised problem-solving and reasoning abilities. Malnutrition, particularly thiamine deficiency, contributes to severe brain damage.

3.3 Effects of Tobacco on Special Organs of the Body

Cigarette smoking is the primary cause of lung cancer. Research has identified the precise mechanism: benzo(a)pyrene, a chemical found in tobacco smoke, causes genetic mutations in lung cells that are identical to those found in many patients with lung cancer. The risk of developing cancer increases with the number of cigarettes smoked each day and the number of years of smoking.

Chronic Obstructive Pulmonary Disease

A smoker's lungs are constantly exposed to dangerous chemicals and irritants, so they must work harder to function adequately. The stress placed on the lungs by smoking can permanently damage lung function and lead to Chronic Obstructive Pulmonary Disease (COPD), also known as Chronic Obstructive Lung Disease (COLD), or chronic lower respiratory disease. This progressive and disabling disorder consists of several different but related diseases; emphysema and chronic bronchitis.

i. Emphysema

Smoking is the primary cause of emphysema, a disabling condition in which the air sacs in the walls of the lungs lose their ability to take in oxygen and expel carbon dioxide is impaired. A person with emphysema is often breathless, gasps for air and has the feeling of drowning. The heart must pump harder and may become enlarged. People with emphysema often die from a damaged heart.

ii. Chronic Bronchitis

Persistent, recurrent inflammation of the bronchial tubes characterizes chronic bronchitis. When the lining of the bronchial tubes is irritated, it secretes excess mucus. Bronchial congestion is followed by a chronic cough, which makes breathing more and more difficult. If smokers have chronic bronchitis, they face a greater risk of lung cancer; no matter how old they are or how many cigarettes they smoke. Chronic bronchitis seems to be a shortcut to lung cancer.

SELF-ASSESSMENT EXERCISES

Fill in the blank spaces and Objectives

1. _____ drugs produce most of their key effects by acting on the brain.
2. Drugs have to be carried to the brain through bloodstream _____ a particular rate of administration.

3. Drugs pass through the small intestine, liver _____ and lungs before returning to heart.
4. In short-term effect, alcohol can alter the functioning of the _____.
5. Alcohol can inflame the _____, causing nausea.
6. The effect of alcohol on the cardiovascular system depends on one of these
(a) amount (b) type (c) source (d) B and C are correct
7. Brain damage due to chronic alcohol abuse is also tempered by an individual's _____. (a) physiology and food eaten (b) genetics and physiology (c) genetics and food eaten (d) genetics and types of parent
8. Cigarette smoking is the primary cause of _____. (a) liver problem (b) lungs problem (c) lung cancer (d) lungs respiration
9. One of these must happen to smokers before their lungs can function adequately. (a) Resting very well (b) Working moderately (c) Avoid danger (d) Work harder
10. Smoking leads to one of these: (a) liver problem (b) cancer of the liver (c) emphysema (d) A and C are correct

4.0 CONCLUSION

As you have read through the course unit and successfully attempted the self-assessment tests, it is expected that you have attached a good grasp of the effects of drugs, alcohol and tobacco on the special organs of the body.

5.0 SUMMARY

In this unit, you have understood the effects of drugs, alcohol and tobacco on special organs of the body and would have had an idea of the various health problems associated with the inappropriate use of these substances.

6.0 TUTOR-MARKED ASSIGNMENT

1. Identify and discuss the effects of drugs on the Central Nervous System.
2. Explain the effects of cocaine and alcohol on the human body.

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MODULE 6

Unit 1 Tobacco, Main Types and Reasons for Using Tobacco

Unit 2 Possible Solutions to Tobacco Use and Ways of Preventing Drug Abuse

INTRODUCTION

There are main types of tobacco and each is not from fermenting and drying the leaves of the plant nicotine tobacco. It is known that the major types are cigarettes, cigar and tobacco pieces used for pipes or for snuffing. The module tells you reasons people give for using it, the possible solutions to tobacco use and generally ways of preventing and managing drug abuse.

UNIT 1 TOBACCO, MAIN TYPES AND REASONS FOR USING TOBACCO

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes (ILOs)
- 3.0 Main Content
 - 3.1 Tobacco and Main Types and Reasons for Using Tobacco
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

Individuals use tobacco in three different ways, which are chewing, smoking and snuffing. It causes stimulation of the heart and narrowing of blood vessels, producing various types of health problems like hypertension, loss of appetite, nausea and the likes. The four units under this module will guide you in understanding the main types of tobacco, reasons why people engage themselves in using it, as well as the possible solutions to tobacco use. In all, the last aspect of the module tells you the general ways of preventing and managing drug-related abuses.

2.0 INTENDED LEARNING OUTCOMES (ILOS)

By the end of the module, the students should be able to:

- mention the main types of tobacco.
- advance at least three reasons why tobacco is used by individuals.
- state three ways as possible solutions to tobacco use.
- discuss two programmes that could be used in the prevention of drug abuse.
- Describe three different strategies for managing drug abuse.

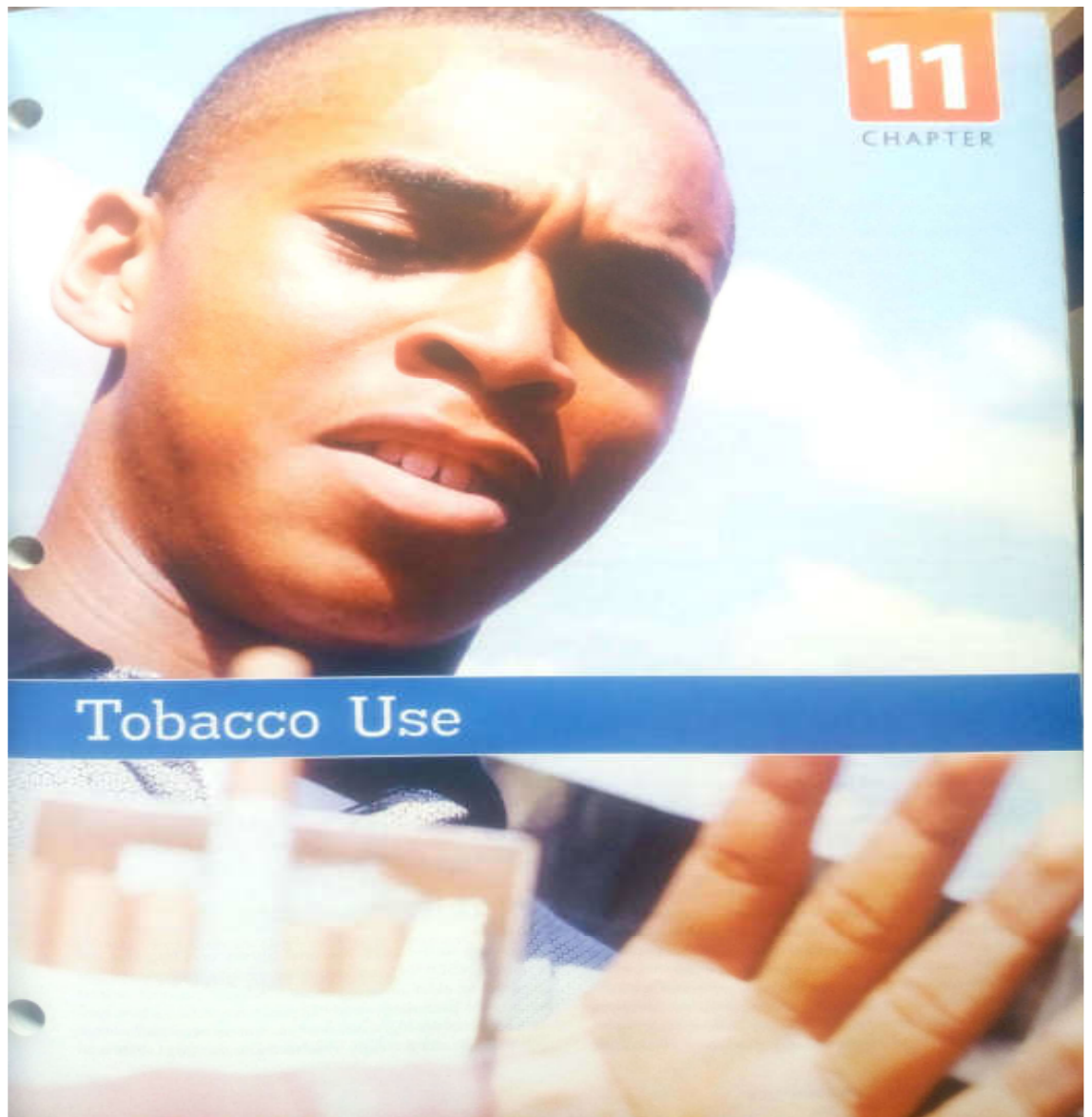
3.0 MAIN CONTENT

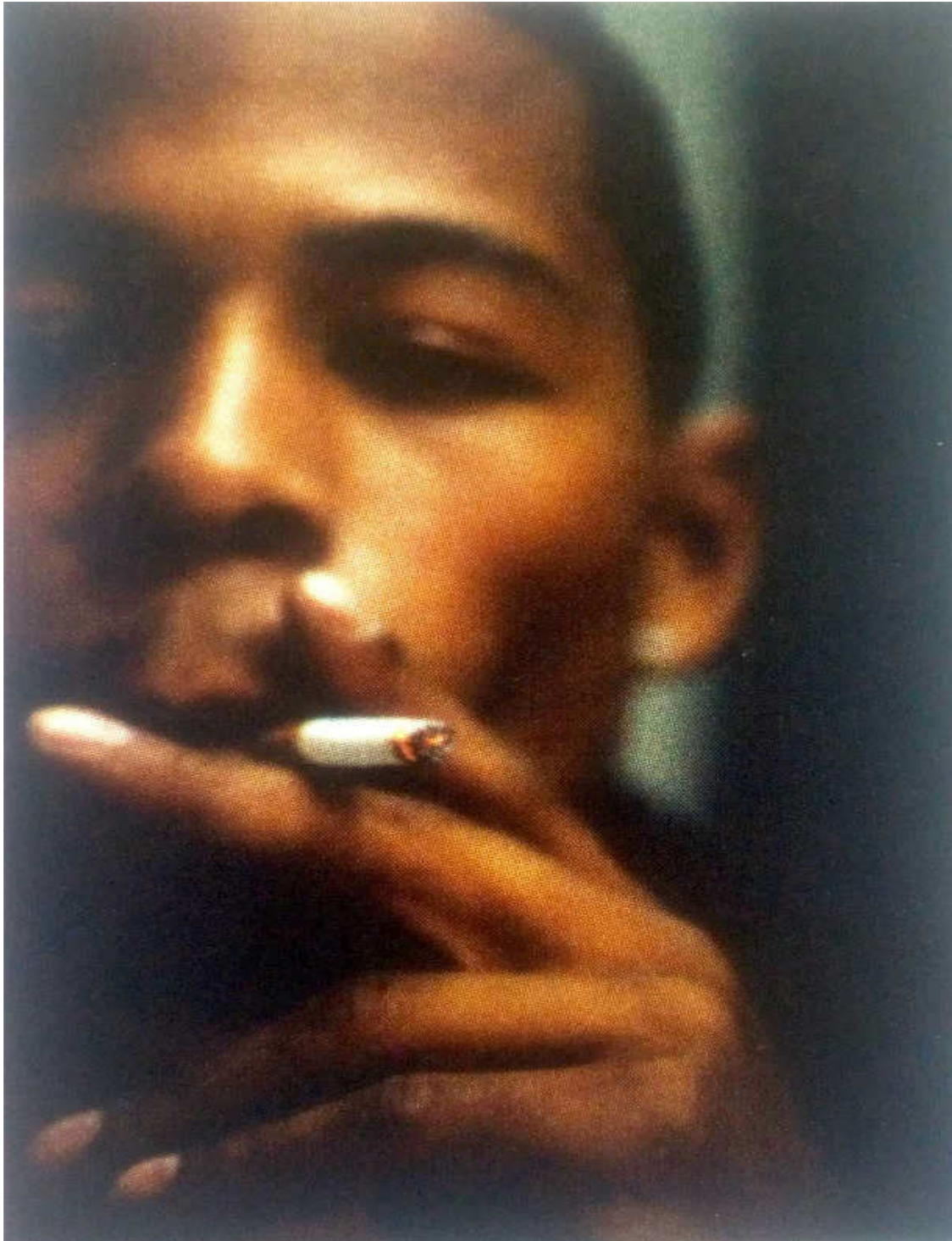
3.1 Tobacco and Main Types and Reasons for Using Tobacco

There are main types of tobacco but each is not from fermenting and drying the leaves of the plant *nicotiana tobacum*. The major common types include cigarettes, cigar and tobacco pieces used for pipes or for snuffing. Tobacco is wrongly believed to be a stimulant. It is rather narcotic. The main constituent is a volatile alkaloid called nicotine, a very poisonous colourless oily compound. The quantity of nicotine contained in tobacco smoke is determined by the kind of tobacco and its dryness, and the form in which it is taken (Insel & Roth, 2014). When it is burnt out, 14-33% of nicotine content appears more oicotine appears in the smoke of cigar than cigarette. When the smoke is puffed out hence cigar and pipe smokers who mostly puff out the smoke do not inhale as much smoke as cigarette smokers. It would also follow that the amount of nicotine absorbed into the body of cigarette smokers would be greater than the amount absorbed by cigar and pipe smokers. This again depends on how each person takes his, whether he inhales the smoke or puffs it out.

Apart from nicotine tobacco contains tar, carbon monoxide aldehydes, hydrogen sulfide, hydrocyanic acid, ammonia, collidine, furfural, benzpyrene, oxalic acid, acetio acid and arsenic most of which are injurious to the body.

Fast smoking and smoking near the but give the smoker more nicotine than slow smoking.

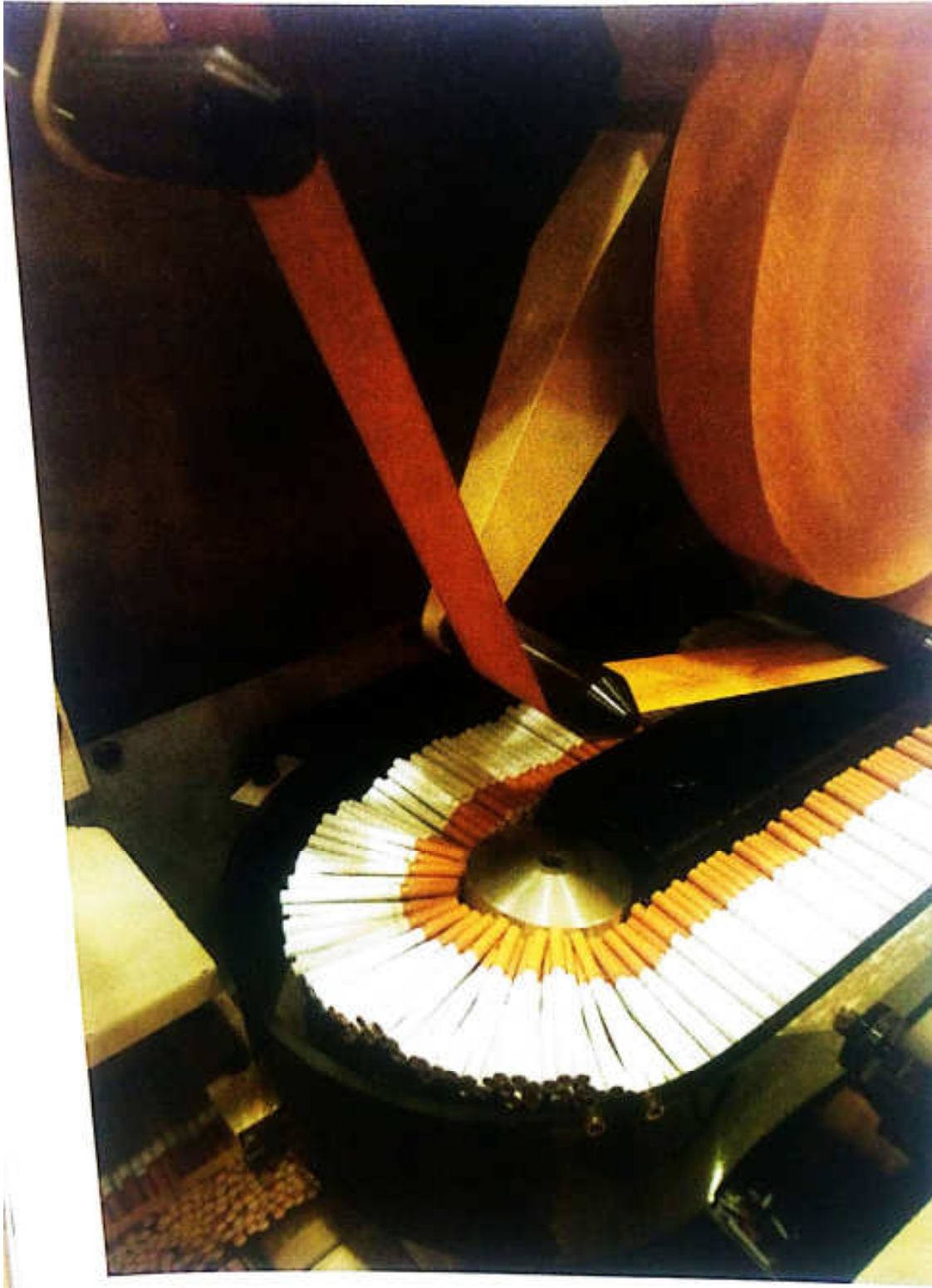




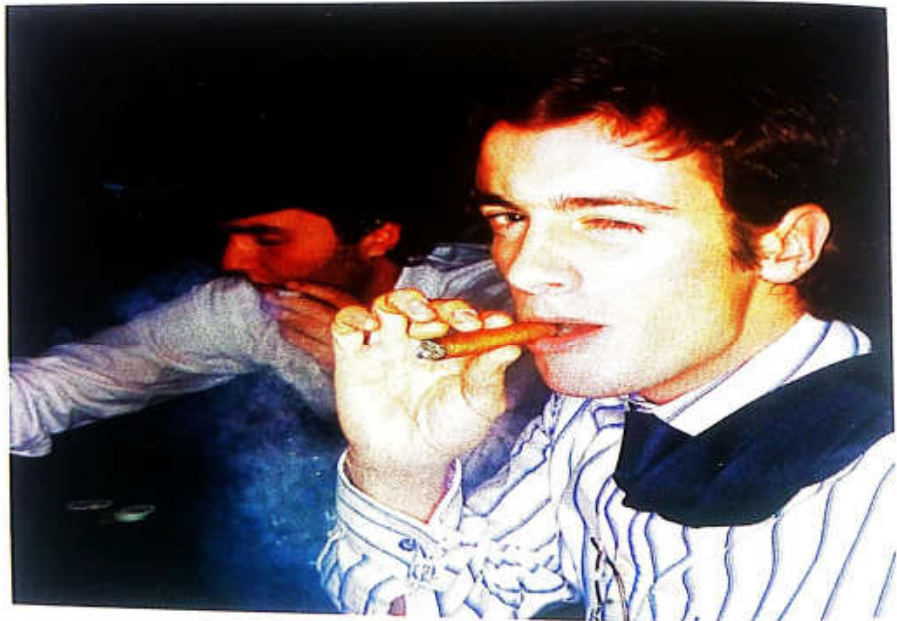
Smoking among Ethnic Populations



Most adult smokers began as teenagers



Cigarette making is an elaborate process involving industrial machinery and chemistry. Dozens of compounds may be added to tobacco to produce a specific brand of cigarette.



Occasional cigar smoking may be more likely to lead to nicotine addiction in teens than in adults.

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Millions of American infants and children are regularly exposed to environmental tobacco smoke.

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Reasons for Use Tobacco

Discussing on reasons individuals give on the use of tobacco, Insel and Roth (2014) stressed that the primary reason why people continue to use tobacco is that they have become addicted to the powerful psychoactive drug nicotine. Although the tobacco industry long maintained that nicotine had not been proved to be addictive, scientific evidence overwhelmingly shows that nicotine is highly addictive. Many researchers consider nicotine to be the most physically addictive of all the psychoactive drugs, including cocaine and heroin.

Some neurological studies indicate that nicotine acts on the brain in much the same way as cocaine and heroin. Nicotine reaches the brain via the bloodstream second after it is inhaled or, in the case of spit tobacco, absorbed through membranes of the mouth or nose. It triggers the release of powerful chemical messengers in the brain, including epinephrine, norepinephrine, and dopamine. But unlike street drugs, most of which are used to achieve a high, nicotine, primary attraction seems to lie in its ability to modulate everyday emotions.

At low doses, nicotine acts as a stimulant. It increases heart rate and blood pressure. In adults, nicotine can enhance alertness, concentration, information processing, memory and learning. The opposite effect, however, occurs in teens who smoke; they show impairment in memory and other cognitive functions. In some circumstances, nicotine acts as a mild sedative. Most commonly, nicotine relieves symptoms such as anxiety, irritability and mild depression in tobacco users who are experiencing withdrawal. Some studies have shown that high doses of nicotine and rapid smoking cause an increase in levels of glucocorticoids and endorphins, chemicals that act in the brain to moderate moods and reduce stress.

Tobacco users are able to fine-tune nicotine's effects and regulate their moods by increasing or decreasing their intake of the drug. Studies have shown that smokers experience milder mood variation than nonsmokers while performing long, boring tasks or while watching emotional movies, for example:

All tobacco products contain nicotine, and using any of them can lead to addiction (See the box "Nicotine Dependence: Are you hooked?") Nicotine addiction fulfils the criteria for substance dependence described above, including loss of control, tolerance and withdrawal.

SELFASSESSMENT EXERCISE

- i. There are three main types of tobacco. True/False
- ii. Another name for tobacco leaf is *nicotiana tobaculus*. True/False
- iii. Tobacco contains tar. True/False
- iv. The primary reason for individual's use of tobacco is addiction. True/False
- v. A low dose of nicotine acts as a stimulant. True/False

4.0 CONCLUSION

The major common types of tobacco include, cigarettes, cigar and tobacco pieces use of pipes and snuffing. It is wrongly believed to be a stimulant; however, it is a narcotic.

5.0 SUMMARY

The main constituent of tobacco is a volatile alkaloid called nicotine, a very poisonous colourless oily compound. The quantity of nicotine content in tobacco smoke is determined by the kind of tobacco and its dryness as well as the form in which it is taken. The main reasons why individuals continue to use tobacco is that they have become addicted to a powerful psychoactive drug, nicotine. The five possible solutions to the problem of smoking are, emphasizing the dangers of smoking, what people stand to gain by not smoking, reducing the dangers of smoking, helping those that want to quit and reducing the impact of the tobacco company.

6.0 TUTOR-MARKED ASSIGNMENT

- i. State the main types of tobacco known to you.
- ii. List and explain three reasons for people using tobacco.

7.0 REFERENCES/FURTHER READING

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UNIT 2 POSSIBLE SOLUTIONS TO THE SMOKING PROBLEM AND PREVENTING DRUG ABUSE

CONTENTS

- 1.0 Introduction
- 2.0 Intended Learning Outcomes (ILOs)
- 3.0 Main Content
 - 3.1 Possible Solutions to the Smoking Problem and Preventing Drug Abuse
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

As it was in the case of alcohol, whereby there are certain ways of managing alcoholics. In the same vein, the issue of smoking is having certain programmes whereby they are used for solving and managing the problem of smoking and drug abusers for that is what you will learn in this unit.

2.0 INTENDED LEARNING OUTCOMES (ILOs)

By the end of this unit, you should be able to:

- mention three possible solutions to tobacco use
- describe two programmes that could be used in the prevention of drug abuse
- describe three different levels for managing drug abuse.

3.0 MAIN CONTENT

3.1 Possible Solutions to the Smoking Problem and Preventing Drug Abuse

As posited by Johns et al (1975) there are five possible ways of solving the problem of smoking, which include: emphasizing the dangers of smoking, what can be gained by not smoking, reducing the dangers of smoking, helping those that want to quit and reducing the impact of the tobacco company.

Johns et al. (1975) expressed that the most common approach to smoking problem is to keep people from smoking by stressing its harmful

consequences. This is based upon the belief that humans are essentially rational and that they will look at the evidence of risks and will not smoke.

One other way as expressed by them is for health caregivers to emphasise what individual will gain by not smoking, which include: increasing the chances of living longer may strengthen personal self-esteem, individuals will be forever grateful that are not smokers, reducing the possibility of developing health problems, having the satisfaction of helping others, etc. In line with this, in reducing the dangers associated with these problems, using substitute ways of delivering nicotine to the smoker and discovering a substitute for nicotine, is by eliminating the threat to health associated with the inhalation of smoke containing harmful substances in addiction to nicotine.

There are individuals who may want to quit smoking, reinforcement from outside sources in order to break the smoking habit, examples, use of minter materials suggesting ways of stoppage, the clergy, medical personnel, etc. In order to reduce the impact of tobacco industry, advertisement is a strong force encouraging the smoking habit, therefore, reducing the advertising impact of the tobacco industry to recruit new smokers and to retain current smokers is important in seeking solutions to the problem of smoking.

Preventing Drug Abuse

Various authors have suggested different ways of drug preventive programmes which include the following:

- (i) Family prevention programmes
- (ii) Role of health care providers in the prevention, and role of the community and school

Prevention Programmes

Botvin and Griffin (2007), cited several key factors required in prevention programmes to make them effective. These factors include a need to address multiple risks, and protective factors, provide developmentally appropriate information relative to the target age group, include material to help young people recognise and resist pressure to engage which include comprehensive personal and social skills training, high interactive methods and cultural sensitivity that includes relevant language and audiovisual content familiar to the target audience. Successful prevention programmes should incorporate all of these characteristics and can then be provided through the family, school, community or health care community.

The 2010 National Institute on Drug Abuse (NIDA) (2010) emphasises both the role of family and community prevention programmes as vital to

detering child and adolescent substance abuse. Their findings are summarised below:

Family Prevention Programmes

The National Institute on Drug Abuse (2010) report emphasizes strengthening protective factors through the family, including increasing family characteristics place children at a higher risk for substance abuse: parents with a history of alcoholism and drug abuse, high levels of family conflict, lack of and/or inconsistent parental discipline. It follows that eliminating these risk factors can reduce the risk of a child/adolescent abusing drugs and alcohol. Once these risk factors are identified, families may benefit from formal prevention programmes that can focus on enhancing family bonding, parenting behaviours that may place a child at risk for later abuse. One example of a family prevention/treatment programme is multi-dimensional family therapy (MDFT). This is a comprehensive family-based outpatient or partial hospitalisation (day treatment) programme for substance-abusing adolescents and those at high risk for continued substance abuse and other problem behaviours. MDFT focuses on helping youth develop more effective coping and problem-solving skills for better decision making and helps the family improve interpersonal functioning as a protective factor against substance abuse and related problems. Liddle (1999) compared multi-dimensional family therapy with individual cognitive behaviour therapy (CBT). MDFT was more efficacious in treating substance use problem severity, in addition to creating more long-lasting effects than standard CBT.

The Role of Health Care Providers in Prevention

According to Holfors and Van-Dorn (2002), expressed that it is believed that less than 30 per cent of primary health care providers perform any screening for substance abuse and as many as 69 per cent do not offer any type of counselling. They cited the following barriers affecting the screening and prevention services in primary care: lack of tested screening tools, lack of knowledge, skills and confidence, financial disincentives (third party services for covering prescription abuse vary widely); and lack of follow up services and resource limitations.

Effects from paediatricians and primary care providers to overcome these barriers can assist in identifying substance abusers and eventually lead to their treatment.

School and Community Prevention Programmes

According to the National Institution on Drug Abuse (NIDA) (2010), emphasises that in addition to family programmes, school and community programmes as being beneficial in substance abuse prevention. The report also suggests introducing programmes of an early age (pre-school/first grade) to address risk factors for later substance abuse, such as early

aggression, poor social skills and academic difficulty. One of the many examples of school prevention programmes cited in the NIDA report is counselling (young), a school-based prevention programme for high school students with poor school achievements and potential for not completing their education. Participants may also show signs of multiple problem behaviours, such as substance abuse, depression, aggression, or suicidal behaviours. Students are screened for eligibility and then invited to participate in the programme. The programme goals are to increase school performance, reduce drug use, and learn skills to manage mood and emotions. RY blends small group work (10-12 students per class) to foster positive peer bonding, with social skills training in a daily, semester-long class. Early experiments have shown that participation in RY improved school performance (20% improvement in grade point averages), decreased school dropout, reduced hard drug use (by 60%), and decreased drug use control problems, such as progression to heavier drug use (Thompson, Horn, Herting and Eggert, 1997).

Prevention is definitely the best approach to this serious medio-social problem. It involves a multisectoral approach. The prevention should be considered under the following:

- Primary
 - Secondary
 - Tertiary
- Government should restrict the availability of dangerous and addictive drugs. This may be achieved through the improved efficiency of our social control system, e.g. the police courts, customs and prisons.
- Health education to population risk and to the general public about the causes, nature and the after malignant effects of drug abuse.
 - Government should place less emphasis on the establishment of breweries and control the advertisement of alcohol and other substances of abuse in the mass media.
 - Doctors in their prescribing should keep constantly in mind the risk of inducing drug addiction.
 - Drug abuse should form part of the school curricula in primary, secondary and even tertiary institutions.

Secondary Prevention

This involves early recognition and prompt treatment of cases so recognized. This can be achieved through the creation of specialised drug treatment units in all states of the federation. The units should have trained personnel.

Tertiary Prevention

This is directed towards the proper rehabilitation of the drug addict. There is a need to establish employment centres.

Discussing on management on drug abuse, Liddle (1999) of drug abuse and dependence has to be multidisciplinary that involves doctors, nurses, social workers, psychologists, clergymen, law enforcement agencies, teachers, traditional rulers/elders and voluntary agencies.

The care of the patient must be deliberate, systematic and individualized through the use of the nursing process.

- (i) Obtain patients social background, physical condition and premorbid personality.
- (ii) An attempt is made through psycho-therapy to discover why the patient had to resort to drugs. The objective is to solve the emotional problem on a realistic level.
- (iii) The nurse's attitude must convey empathy understanding and the relationship must be based on trust.
- (iv) Daily contact with the patient is important throughout the withdrawal period and will form a relationship for future psychotherapy in the later stages.
- (v) The nurses should apprehend and stop the source of supply of the drugs and drug-taking associates prohibited.
- (vi) The patients and relatives must be told the facts of drug addiction and patients' special difficulties and their aid enlisted if necessary.
- (vii) Group and individual psychotherapy are beneficial. Attention is also paid to patients' general physical condition.
- (viii) Long term outpatient supervision and support are desirable for up to five (5) years or more. The addict needs continuity of care and continuity of relationship.

SELF-ASSESSMENT EXERCISE**Objective Test Items**

1. This is one way to control smoking. (a) exposing its danger (b) encouraging it (c) make individuals be on their own (d) A and B are correct
2. To quit smoking, one of these is essential.
(a) clergy (b) use mainter (c) medical personnel (d) A, B, C are correct
3. This is one of the family prevention programmes to control smoking.
(a) adolescent abuse drugs and alcohol (b) increase family well being

- (c) parents with a history of alcoholism can separate (c) from clubs
(d) B and C are correct
4. School prevention programmes can be said to be one of these.
(a) addressing risk factors (b) poor social interaction (c) primary prevention
(d) tertiary prevention
5. One way to control drug abuse is _____.
(a) encourage schooling (b) restrict availability (c) allow it in the society (d) empower individuals to trade

4.0 CONCLUSION

Smokers are able to regulate their mood by either stopping or reducing smoking. There are five possible ways of solving the problem of smoking. In line with this, three major preventive programmes can be used in the prevention of drug abuse and the major strategy to be used is the involvement of a multi-sectoral approach.

5.0 SUMMARY

The main constituent of tobacco is a volatile alkaloid called nicotine, a very poisonous colourless oily compound. The quantity of nicotine content in tobacco smoke is determined by the kind of tobacco and its dryness as well as the form in which it is taken. The main reason why individuals continue to use tobacco is that they have become addicted to a powerful psychoactive drug, nicotine. The five possible solutions to the problem of smoking are, emphasising the dangers of smoking, what people stand to gain by not smoking, reducing the dangers of smoking, helping those that want to quit and reducing the impact of tobacco company.

6.0 TUTOR-MARKED ASSIGNMENT

1. Mention three possible solutions to tobacco use.
2. Describe two programmes that could be used in the prevention of drug abuse.
3. Describe three different levels for managing drug abuse.

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MODULE 7**UNIT 1 EFFECTS OF SUBSTANCE USE ON ATHLETES****CONTENTS**

- 1.0 Introduction
- 2.0 Intending Learning Outcomes (ILOs)
- 3.0 Main Content
 - 3.1 Stimulants Use by Athletes
 - 3.2 Use of Amphetamines for Athletics Performance
 - 3.3 Use of Other Types of Stimulants in Performance
 - 3.4 Substances Listed as “banned” by Athletic Bodies
 - 3.5 Sports Performance Enhancement – Alcohol, Smoking and Caffeine
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Reading

1.0 INTRODUCTION

This Unit is to provide information on certain stimulants that influence the performances of athletes in various sporting activities. These substances may have various degrees of effects ranging from mild, moderate or high consequences depending on the amount used.

2.0 INTENDED LEARNING OUTCOMES

By the end of this unit, you should be able to:

- discuss the different types of stimulating substances to influence sports performance
- find out the dangers associated with the use of psychoactive substances
- determine the herbal preparations used to enhance athletic performance
- determine the potential performance enhancing properties of some of these substances.

3.0 MAIN CONTENT

3.1 Stimulants Used by Athletes

Stimulants are agents that increase organic activity primarily through their effects on the Central Nervous System (CNS) and peripheral nerves via the sympathetic nervous system. These agents primarily work to increase heart rate and respiratory rate, as well as to increase both smooth and skeletal muscle tone. Stimulants have been shown to increase muscle contractility and reaction time which can give the athlete an edge over the competition. Stimulants may also be used in an attempt to increase endurance or as an appetite suppressant to lose weight. Studies are inconclusive as to the real benefits of their use, but many athletes report a perception of increased energy and less fatigue when using stimulants.

Some Common Stimulants used by Athletes

Both over-the-counter and prescription drugs that have stimulant properties that are commonly used by athletes both for therapeutic and performance-enhancing effects are listed below.

Over-the-Counter Medications	Prescription
Medications	
Caffeine	Theophylline
Decongestants	Beta-agonists
Ephedrine	Albuterol
Pseudoephedrine	Metaproterenol
Antiasthmatic medications	Terbutaline
Epinephrine	Isoproterenol
Nicotine	Bitolterol
Herbal preparations	Salmeterol
Ma huang	Methamphetamines
Guarana	
Ginseng	

Use of Amphetamines for Performance Enhancement

Amphetamines are potent sympathomimetic agents and their effects on peripheral tissues are thought to result from the release of norepinephrine from adrenergic nerve endings and from direct action on alpha-and-beta adrenergic receptors. Activation of these receptors works to increase heart rate and contractility and to relax bronchial smooth muscle. CNS effects are primarily in the cerebral cortex where they cause an increase in motor activity, an increase in alertness, and diminish the sense of fatigue. No conclusive evidence indicates that amphetamine improves performance, and they are illegal for use by athletes. A national study of substance abuse habits

of college student-athletes in 1989 reported a 3% use rate of amphetamines.

Adverse Effects of Amphetamines on Performance

Side effects of amphetamines may actually decrease performance in individual athletes. These effects include anxiety during their or depression following their withdrawal, tremor, headaches, hypothermia, vasoconstriction, confusion, paranoia, variable gastrointestinal effects, cardiac arrhythmias, and even sudden death. Agitation and acute psychosis may appear suddenly and would obviously adversely affect performance.

Use of Other Types of Stimulants in Performance

Other Types of Stimulants that may be used by Athletes

Stimulants in the form of methylphenidate (Ritalin or concerta) and amphetamine/dextroamphetamine (Adderal) are indicated in the treatment of attention deficit hyperactivity disorder and may be used by athletes. Athletes must be under a physician's care, and there must be careful documentation of medication use and the prescriptions given. Although they are stimulants, they have a paradoxically calming effect on some patients which helps them concentrate while at school and lengthens their attention span. The use of these medications is not legal for use by athletes without the diagnosis of ADHD, and use of amphetamines, including methylphenidate, are banned by both the U.S. Olympic Committee (USOC) and the National Collegiate Athletic Association (NCAA).

Potential Performance-Enhancing of Caffeine

Caffeine, like theophylline and theobromine, is a xanthine derivative. Caffeine acts at adenosine receptors to stimulates the CNS and voluntary skeletal muscle through the secretion of epinephrine and has been shown to decrease muscle fatigue. Caffeine also promotes the release of free fatty acids into the bloodstream and thereby preserves glycogen stores as a ready source of energy, which has been proved to increase endurance in some athletes. Conflicting evidence exists regarding increased muscle contractility and increased explosiveness from the use of caffeine.

How much Caffeine must be consumed to Achieve Performance-Enhancing Levels

The effects vary widely from one individual to another. No evidence exists that a threshold exists over which performance is likely to be improved. However, doses of 250-350 mg have been shown to enhance performance in endurance athletes. To achieve banned levels of caffeine in the body, most athletes would need to consume five or six cups of regular coffee within 2 hours of competition. High levels

of caffeine are banned by the NCAA (15 µg/ml) and USOC (12 µg/ml) and many are detected in the urine.

Adverse Effects of High-Dose Caffeine Consumption

Agitation, irritability and tremulousness are the most common side effects of acute ingestion of caffeine. Supraventricular arrhythmias, although less common, also can occur in susceptible individuals. Addiction, dependency and withdrawal can occur in long-term users. Finally, caffeine acts as a moderate diuretic and may accelerate dehydration.

Effect of Nicotine Consumption on Athletic Performance

Athletes use nicotine for a variety of reasons, including its stimulant properties and its mood-altering effects, which may provide a calming sensation in some individuals and a stimulating effect in others. Nicotine also has mild appetite-suppressive properties that are perceived as beneficial by some athletes. No evidence exists that nicotine enhances performance. Given the well-known adverse effects of tobacco use (both smoking and smokeless), the use of nicotine-containing products should be strongly discouraged.

Decongestants like Pseudoephedrine, and Phenylephrine enhancing properties on athletic performance.

These agents and other sympathomimetic amines act by stimulating both alpha- and beta-adrenergic receptors like their chemical cousins amphetamines. They may also have mild CNS stimulating effects in some susceptible individuals and thereby decrease the sensation of fatigue. No scientific evidence exists concerning efficacy in enhancing competitiveness following acute ingestion. Ephedrine is banned by the NCAA, 10C, and the NFL. Pseudoephedrine is banned by the 10C, but not by the NCAA.

Other Dangers Associated with Using Substances Containing Ephedrine

There is growing evidence that ephedrine may have devastating consequences when used improperly by athletes and by the public in general. It is known to be associated with temperature dysregulation and heat illness. An FDA press release reported that since 1994 they have received and investigated over 800 accounts of adverse events including hypertension, stroke, insomnia, tremors, tachycardia, seizures, cardiac arrest, and death associated with the use of ephedrine. It was recently added to the list of banned substances by the NFL. Its herbal form, ephedra or ma huang, may be easily found over-the-counter and is disguised under many names in various supplements.

Prescription Medications with Stimulant Properties that affect Performance

Beta-agonists, frequently used in the management of reactive airway disease, may have ergogenic benefits, although sound evidence regarding their performance-enhancing effects is lacking. Evidence exists that clenbutenolol a beta-agonist available in Europe and other countries outside the U.S. may have anabolic effects. Theophylline also has been shown to enhance performance in endurance events in some individuals, although its side effects, especially diuresis and gastrointestinal intolerance with acute dosing, limit its use in most athletes. For obvious ethical reasons, a physician should never prescribe these medications for their possible performance-enhancing effect but only for approved medical indications.

Herbal Preparations Used to Enhance Performance

Ginseng is derived from the roots of several species of panax, a Chinese plant. Its chemical structure is similar to pseudoephedrine and is hypothesized to stimulate the hypothalamic-pituitary-adrenal axis. No evidence exists that ginseng or other herbs with stimulating effects enhance performance. Guarana is the herbal form of caffeine and has many of its stimulant properties and side effects. Ma huang, also known as ephedra, is the herbal form of ephedrine and is sold in health-food stores everywhere. It is marketed as an energy builder and for its possible weight-loss properties. It is important to note that herbal medicines are not regulated by the FDA (the consumer is taking a risk when using these products as the ingredients strength and purity may vary greatly).

“Andro” work to Improve Performance

Androstenedione is a metabolite of dehydroepiandrosterone (DHEA) and is a precursor in the synthesis of testosterone. The FDA banned DHEA in 1996, but andro is still used frequently. It is shown by some studies to increase blood levels of testosterone within 15 minutes to 1 hour of its consumption and is believed to increase energy while decreasing recovery time from exercise. Many athletes use andro in an effort to increase muscle mass, and typical dosing by athletes may frequently be much higher than recommended. It is not proved to increase endurance or strength and is legal for sale as a nutritional supplement. Long-term effects are unknown but its use may down-regulate the body's production of natural testosterone. It is supposed to be taken once daily and may elevate testosterone for up to 3 hours.

Substances Listed as “Banned” by the NCAA and USOC

Most athletic governing bodies ban stimulants during competitive events. However, appropriate use of medication is acceptable in all

but the highest levels of competition. The following categories are generally banned anabolic agents, peptide hormones, narcotics, diuretics, stimulants and urine-altering agents such as probenecid. There are strict limitations on the use of caffeine, codeine, corticosteroids, beta-blockers, beta-agonists, alcohol, and injectable anaesthetics. Each athlete is responsible for knowing which medications he or she can or cannot use, and both organizations have websites and hotlines for information on particular products.

If there are no proven performance-enhancing effects associated with stimulants, why are they banned?

Many of these drugs have perceived ergogenic properties by athletes. When they are used by athletes to gain an edge on the competition and the perception of athletes is that there is a benefit, then other athletes are coerced into taking them to remain competitive. Contradiction exists in the scientific literature regarding the potential performance-enhancing effects of various stimulants. As long as a question remains regarding their effects on performance, most governing bodies will tend to err on the end side of restricting their use. The spirit of fair and ethical competition is against the use of drugs for performance enhancement.

Sports Performance Enhancement, Alcohol, Smoking and Caffeine
Smoking

A cigarette can be considered as a 'chemical cocktail' and one of the most damaging substances contained in cigarettes is tar. It literally clogs up and irritates the respiratory system. Tobacco smoke also contains carbon monoxide that pollutes the system. Nicotine is a powerful, addictive drug that together with carbon monoxide affects the heart, blood vessels and nervous system. Nicotine also depresses the nervous system, appetite and reduces the haemoglobin capacity of the blood to carry oxygen, which will obviously affect energy levels. What makes it such a powerful drug is that its effect is almost immediate, taking about seven seconds to reach the brain, which stimulates releasing noradrenalin, which is related to the stress mechanism. It is also extremely addictive and once 'hooked' it is with you possibly for life. Smoking also has antisocial implications. Twenty per cent of smoke exhaled can be re-circulated by passive smoking. Finally, as with all drugs, their use can always be justified by the user.

A trawl of the literature highlights the following:

- It can take up to 21 days for nicotine to clear the system.
- A smoker's sense of smell and taste are soon lost.

- Appetite is reduced.
- Smokers are more susceptible to colds and chest infections.
- It reduces 'peak flow' output (output during exhalation).
- It reduces exercise tolerance.
- It paralyses cilia in the bronchial tubes, therefore, preventing them from removing harmful irritants whilst breathing. This in turn causes the alveoli in the lungs to become congested.
- It destroys Vitamin C.
- Whilst many 'hard-drugs' can leave serious psychological effects on the user, nicotine affects a person far more physically, which presents problems for those who wish to 'kick the habit', e.g. withdrawal symptoms.
- Pain responses and expectations are different in smokers than non-smokers.
- Certain personality traits can sometimes be associated with smokers, e.g. selfishness, arrogance and not being truthful/realistic. Smokers do tend to understand how many cigarettes they smoke and may not accept that the inherent risks actually apply to them as well as other smokers.

Long-Term Problems

- Lung/heart damage. Nicotine and carbon monoxide damage the heart and blood vessels.
- Smokers are almost certain to suffer from bronchitis, blood pressure and coronary heart disease at some stage in their lives.
- Smokers are up to 20 times more likely to contract lung cancer and 10 times more likely to contract cancer of the throat and lungs. They are twice as likely to die of heart disease as non-smokers.

Peripheral Damage

- Long-term damage can lead to peripheral vascular disease culminating in necrosis and gangrene.
 - Smoking can be the cause of stomach ulcers.
 - Smokers are four times more likely to suffer mental decline/cognitive impairment (Sport Ex, 2000).
- The moral and ethical arguments surrounding tobacco and its advertising, especially related to sport, continue. Should a health-related industry associate itself with such a product?

Alcohol

This is one of the oldest known drugs. The alcohol we drink is called ethanol or ethyl alcohol and is obtained via fermentation or distillation. Fermentation allows enzymes in fruit juice or grain plus water to act on carbohydrates in the mixture turning it into alcohol. This is achieved in the absence of oxygen, i.e.

anaerobic metabolism. Distillation is when the products of fermentation are boiled and the alcohol evaporates and is collected separately. Distilled alcohol is much stronger than fermented i.e. beer and wine are fermented whilst spirits are distilled. Again a review of the literature provides us with the following information:

- A can of beer has less nutritional value than a slice of bread.
- It can provide energy but muscles cannot use it so it is stored as fat.
- Alcohol is known to depress the nervous system.
- In small doses, it is good as a relaxant.
- Alcohol deprives the body of its natural water and flushes out essential minerals.
- It destroys certain minerals, especially Vitamin C and lowers blood glucose levels.
- It is a powerful vasodilator and, therefore, going to the bar after a traumatic injury, to drown your sorrows may not be a good idea.
- It impairs performance and reaction time.
- It can act as a diuretic in hot weather, therefore risking dehydration. It inhibits the release of the anti-diuretic hormone that retains body fluid.
- In cold weather, it can reduce body temperature by dilating peripheral blood vessels leading to hypothermia.
- Sensible and irresponsible levels of consumption are suggested for the general public.

What these levels should be for an athlete range from nil to those suggested. Although some would argue the social aspects of certain sports are just as important as the game!

- Sensible weekly levels of alcohol: 10/11 pints for males (20-22 units) and 7 pints for females (14 units).
- Silly weekly levels of alcohol: more than 18 pints for males (36 units) and 11 pints for females (22 units).

Short-Term Problems

- Reaction times slow and concentration and motivation are reduced.
- Judgment, balance, speech and hearing become increasingly affected as more alcohol is consumed.
- Personality becomes affected.
- It can depress blood vessels of the skin resulting in heat loss.
- It lowers blood glycogen levels, therefore alcohol 24 hours before an endurance event wouldn't help. This also stops exercise sooner and makes for a longer recovery.
- It increases weight.
- It reduces fitness levels.

- It can irritate the stomach lining causing vomiting.
- It constricts arteries to the heart increasing the pulse rate and blood pressure.

Long-Term Problems

- Liver damage
- Kidney damage. These have to work harder causing cirrhosis of the liver.
- Heart damage
- Brain cell damage
- Gastritis in the stomach can develop
- Malnutrition and diabetes.

Clearly, the issues of smoking alcohol are contentious ones if we compare health risks against advantages against social implications. What people should and should not do in a democracy touches on moral, ethical, social and political issues. However, sports, therapists will need to address such issues.

Caffeine

Caffeine is a very common part of the diet but it is not a nutrient but a biologically occurring drug. In the world of athletics, it is clearly a powerful ergogenic aid. The frequency of its use/abuse appears to be because it is socially acceptable, readily available, relatively inexpensive and can be orally ingested. In other words, it is not perceived by some as 'doping'.

Caffeine has been found to be a natural constituent of over 60 plants. Coffee beans and tea leaves are the most obvious natural sources although it is found in cola, cocoa, and Lucozade drinks as well as in chocolate.

There is also a vast array of prescription and pharmaceutical remedies that contain caffeine, e.g. cold and pain relief tablets, drinks and stimulants such as pro-plus (one can of coke, 46 mg caffeine per can = 2/3 cups of coffee – one cup tea/coffee = 100mg caffeine. This translates to a level of 1.5 mcg/ml in the urine after 2/3 hours). Solpadeine (30mg caffeine per capsule), a pain killer also contains paracetamol and codeine, with the caffeine being added to enhance their combined actions. Obviously, its effects/side-effects depend very much on individual susceptibility and quantity.

Effects

The beneficial effects can be considered in certain people who ingest larger doses, i.e. in excess of 1000mg per day. Upon reaching the brain, via the blood, caffeine stimulates nerves in both the brain and

spinal cord. It also affects the heart, lungs, kidneys and certain gland functions.

- It increases awareness, vigilance, clarity of mind, ability to concentrate, intellectual performance when taken in small doses (doses 1-5mg per kg of body weight).
- Heart rate is increased, in both speed and strength. It increases the rate at which the kidneys work.
- It increases the breathing rate.
- It increases metabolic rate.
- It can enhance the effect of painkillers by 40%.
- It prolongs endurance by decreasing the amount of glycogen, burned by muscles.
- It stimulates the release of fats from tissues, sparing the glycogen which allows the muscles to work longer, therefore delaying the onset of fatigue.
- It increases muscle contractility.

Considerations/Value of /on Athletic Performance

Caffeine can have the effect of increasing:

- Reaction time
- Coordination
- Vision
- Mental alertness
- Endurance. Marginal improvements have been noted in long-term endurance exercise (more than 45 minutes sustained effort).
- It can increase strength and/or power and speed.

This is why it is classified as an illegal stimulant and is included in the IOC banned list of drugs for sportspeople. However, it must be found in a urine sample of about 12mg/ml which equates to eight cups of coffee. As so many other things contain caffeine, this limit can inadvertently be exceeded.

Side-Effects

These can range from being unpleasant to fatal and can be pretty well assured if up to 1,000mg are ingested per day. The following side-effects have been noted:

- In large doses, trembling in the hands.
- There can be a diuretic effect, increasing the need to go to the toilet. This leads to dehydration and increased irregular heart contractions. Caffeine and alcohol take more than their own volume of liquid with them, depleting the body of vital vitamins and minerals.
- 'Caffeinism' is a state said to be similar to alcoholism and is habit-forming. Doses of 15mg per kg of body weight can lead to this state.

- Nausea
- Insomnia
- Headaches
- Jitteriness and muscle twitching
- Restlessness
- Irritability
- Tinnitus
- Arrhythmia – irregular heartbeat
- Palpitation – increased heart rate
- Tachycardia – an excessively, rapid heartbeat.
- Research during the last decade has demonstrated that coffee brewed without a filter contains a fat derivative that can be detrimental to cardiovascular health.
- Mild delirium, coma, seizures and death (doses that would require a man to drink 50-160 cups of strong coffee in 30 minutes!)
- Stimulates gastric acid secretion in the stomach.
- Withdrawal symptoms are not uncommon which can include minor to severe headaches, drowsiness, fatigue and anxiety.
- Diarrhoea
- Decreased iron intake by a third if taken with a meal
- Increased metabolic rate
- Increased blood cholesterol levels.

Indications

Doctors in 1995 suggested no more than six strong cups daily. Obviously, this depends on individual tolerance and today two cups of ‘real’ or four cups of ‘instant’ would be considered moderate.

Contra-Indications

None to just one or two cups daily if there is evidence or suspected:

- High blood pressure
- Heart problem
- Kidney disease
- Pre-menstrual syndrome
- Migraine
- Pregnancy
- Breast-feeding

SELF-ASSESSMENT EXERCISES

True and False Statements and Objectives

1. Amphetamines are potent sympathomimetic agents. True/False
2. Ephedrine is not a stimulant but a sedative. True/False

3. There is growing evidence that ephedrine may have little consequences when used. True/False
4. Beta-agonists are used frequently in the management of reactive airway infections. True/False
5. Ginseng is derived from the roots of Panax. True/False
6. One of these is a stimulant. (a) opiate (b) beta-agonists (c) caffeine (d) all of these.
7. Amphetamines do one of the following: (a) running well (b) decrease alertness (c) diminish fatigue (d) b and c are correct
8. Nicotine does one of these: (a) mood-altering effect (b) mood server (c) restlessness (d) no benefit to performance
9. Ephedrine can easily be found _____. (a) close to the market (b) over-the-counter (c) under many names except downing (d) A and B are correct
10. One problem with 'banned' drugs is: (a) restricting their use (b) encouraging their use (c) modification of their use (d) enhancing their use

4.0 CONCLUSION

Having read through the course unit and successfully completed the self-assessment tests, it is assumed that you have attained a good understanding of the stimulant substances in sports and their effects on sports performance.

5.0 SUMMARY

In this Unit, you have learnt the different stimulants used for athletic performance, use of amphetamines, as well as other stimulants used for sports performances in addition to the substances listed as 'banned' in athletics.

6.0 TUTOR-MARKED ASSIGNMENT

1. List and explain 3 different types of stimulants used for enhancing athletic performance.
2. Write explanatory notes on the following:
 - (a) Amphetamines
 - (b) Caffeine

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