

MODULE

Lifestyle and Personal Health

For the Ethiopian Health Center Team



**Ethiopia Public Health
Training Initiative**

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PREFACE

Lifestyle and personal health are indeed very closely related aspects of human life, wellbeing and survival. Yet it seems that issues of lifestyle and personal health have been given little considerations by health professionals, teachers, students, ordinary people, and society at large. To these end, theoretical (basic) as well as practical (applied) knowledge pertaining to the relationships of lifestyle and personal health and the multifaceted dimensions associated with them are of paramount importance in order to accomplish the challenges of attaining the optimal level of health for ourselves and our loved ones which is in fact a life time benefit or asset. One of the ways to disseminate information and to develop roles and responsibilities in this regard is preparing good and relevant teaching materials on the subject.

The preparation of this module has been realized with the following intentions and premises:

- Health professionals and other concerned people of a theoretical or empirical bent have done little on lifestyle and personal health heretofore.
- Textbooks and relevant reference materials on aspects of lifestyle and personal health are extremely scarce in institutions higher learning
- Basic knowledge on personal health and lifestyle which is designed to address the Ethiopian local context is not widely available.
- Students should be provided with basic facts having to do with personal health and lifestyle and should contextualize the related multifaceted issues to their own feelings and situations, and
- Students should be able to teach individuals, groups, patients, families, pupils, healthy people and community at large.

Therefore, the present module is meant for bridging the aforementioned gaps through the provision of wide range of thoughts on lifestyle and personal health. It is particularly designed in such a way that it will greatly benefit the health center team that will be working at the Primary Health Care Unit (PHCU). Above all, the module is designed and organized in a manner so that each category knows the specific tasks and roles in promoting personal health and well-being.

The core module as presented in this document may seem a bit enlarged. This is because we are forced to incorporate detailed aspects of physical exercise and personal health. This is deliberately done because we were unable to prepare a separate satellite module on physical exercise and fitness since there are no health care staff concerned with physical

education and health in our primary health care units. However, the authors recommend that this issue should be seriously considered in future similar module preparatory undertakings.

In this module, efforts were basically geared to combine lecture notes based upon basic science and information on lifestyle and personal health with integrated practice oriented modules designed for participate students and thereby enhancing active learning. This is primarily because, as stated above, there is often a shortage of reference materials of all kinds and hence provision of essential and practical information is of great importance, relevant and timely right at this particular point in time.

The Health Center Team training includes the following students: Health Officers (B.Sc.), and three categories of diploma students (Public Health Nurses, Environmental Health Technicians, and Medical Laboratory Technicians). The module has a core module, and three satellite modules and a take home message. The core module is intended to provide very essential and basic information in a bare minimum for all categories. On the other hand, the satellite modules complementary to the core module. Specific areas of each category that were not possible to cover in the core module are addressed in the satellite modules. However, the foundation for the development of the satellite modules is the core module and the tasks/roles analysis are presented in a tabular form.

The Authors of the module want to make plain for the readers and users that this module is not prepared to replace any teaching –learning about personal health and lifestyle produced so far. It is rather designed to further supplement and strengthen the teaching-learning process through the use of interactive methods that enable students of the different categories to take active roles in teachings pertaining to personal health and lifestyle.

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LIST OF ABBREVIATION

BMI: Body Mass Index

Bpm: Heart beat per minute

CNS: Central Nervous System

HDL: High Density Lipoprotein

HO: Health Officer

HRMax: Heart Rate Maximum

LSD: Lysergic acid Diethylamide

OSHA: Occupational Safety and Health Act

OTC: Over The Counter

PHN: Public Health Nurse

THR: Target Heart Rate

WHO: World Health Organization

WHA: World Health Assembly

UNIT ONE

INTRODUCTION

1.1. Purpose and Uses of The Module

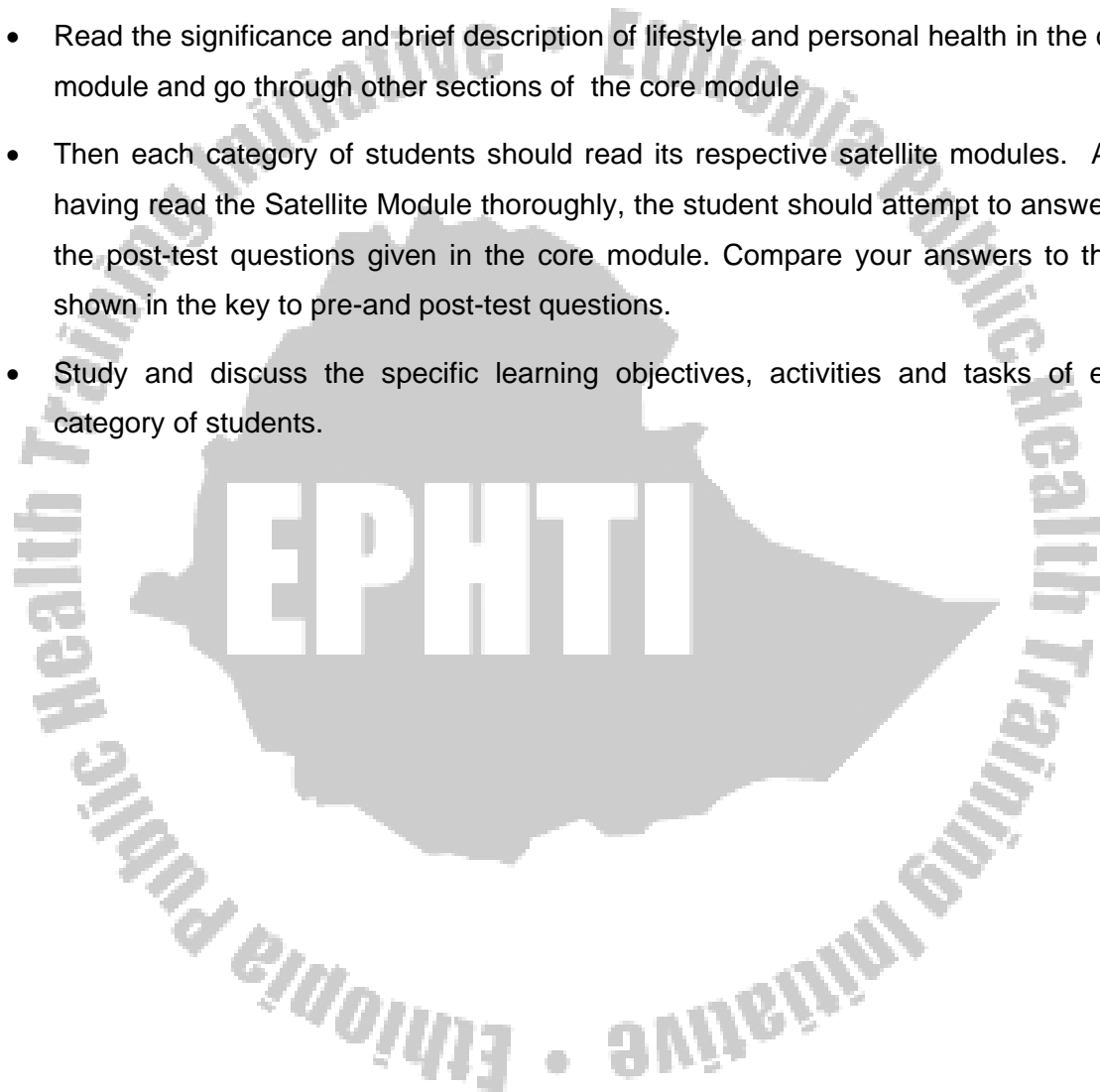
This module is intended to serve as a general resource about lifestyle and personal health for the Health Center Team: Health Officers, Environmental Health Technicians, Public Health Nurses, Medical Laboratory Technicians and Pharmacy Technicians. The basic components of lifestyle and personal health; exercise and fitness, managing stress, drugs and lifestyle, emergency care, and other aspects of personal health are discussed in a simple and quite understandable way.

Lifestyle is increasingly affecting the health of people. Yet there is no organized reference material which suits our context. Therefore, this module can be used as reference material for professionals working in the Health Centers. It can also be used as learning material in training workshops, and seminars for members of the health center team and other institutions.

The module consists of the "Core Module" as well as "Satellite Modules." The information and facts stated in the core module are set of information that should be known by all categories of health workers. Satellite Modules deal with the specific knowledge, attitude and skills that are required by the respective category of the health center team members. Hence, each student should know what is stated in the Core Module as well as in the respective satellite modules. It is advisable that each student reads the satellite modules of other categories, too. This will enable the team member to know the tasks of other members of the Health Center Team.

1.2. Directions for Using the Module

- Read this section on "Directions for using the module" both in the Core as well as in each Satellite module carefully
- First read the introduction and understand the purpose and uses of the module.
- Then attempt to answer all the questions on the pretest questions (both designed for all categories of the students as well as those specific to the respective professionals
- Read the significance and brief description of lifestyle and personal health in the core module and go through other sections of the core module
- Then each category of students should read its respective satellite modules. After having read the Satellite Module thoroughly, the student should attempt to answer all the post-test questions given in the core module. Compare your answers to those shown in the key to pre-and post-test questions.
- Study and discuss the specific learning objectives, activities and tasks of each category of students.



UNIT TWO

CORE MODULE

2.1. Pre-test and post-test questions

2.1.1. Questions for all categories

Review Questions

Instructions: Consider the following statements and answer true or false in the space to the left of the statement.

- _____ 1. Vitamins provide energy for the body.
- _____ 2. Nutritious diet consists of eating a variety of foods in recommended amount
- _____ 3. Sugar offers no nutritional value
- _____ 4. Hydration is important for efficient physical as well as mental activities.
- _____ 5. On a diet, people are losing only body fat.

Instructions: for each of the following question select the correct answer and circle the letter of your choice.

- 6. Which one of the following exercise is important to develop cardiorespiratory endurance?
 - a) Sit-up
 - b) Bicycling
 - c) Hand stretching
 - d) Weight lifting
- 7. Stretching exercise is important for all of the following **except** one?
 - a. improving the range of motion of joints
 - b. Relieving tension
 - c. Elongating the muscles
 - d. None
- 8. In order to improve cardiorespiratory function you should do
 - a. Strength exercise
 - b. Stretching exercise
 - c. Aerobic exercise
 - d. All

9. Which one of the following is **not true** about stretching exercises?
- Having a bouncing movement
 - Stretching slowly and smoothly
 - Paying attention on the muscle being stretched.
 - Maintaining normal breathing
10. The main reason for most people overweight is
- Overeating
 - Lack of physical activity
 - Overeating and physical activity
 - Drinking too much water
11. Fat is important for the following reasons **except** one?
- Provides insulation and cushions to internal organs and joints
 - Stores the fat- soluble vitamins
 - Provides the means for movement of the bones
 - All
 - None
12. Which one of the following should be the ultimate goal (target) of any weight loss program?
- Loss of water
 - Loss of body weight
 - Loss of body fat
 - B and c
 - None
13. A type of stress which is created as a result of problems with family illness is known as
- Environmental stress or
 - Physiological stressor
 - Psychological stressor
 - None
14. Which one of the following can be a reason for the occurrence of stress?
- Financial problem
 - Work area conflict
 - Death of relatives
 - Drugs
 - All

Instruction: for each of the following questions give your brief answer in the space provided.

15. What does stress mean for you? And how does one relax at times of stress?

16. Abegaz says “ too little and too much stresses are potentially dangerous “ Is it true or not true? Why?

17. What is “moderate-intensity physical activity?”

18. What is “vigorous-intensity physical activity?”

19. Define accident.

20. List the general causes of accident.

- A). -----
- B). -----
- C). -----
- D). -----
- E). -----

21. List the ways of vehicle accident prevention.

- A). -----
- B). -----
- C). -----
- D). -----
- E). -----

22. What are the most common causes of accident at home?

- A). -----
- B). -----
- C). -----
- D). -----
- E). -----

23. What are the common causes of smoking?

24. Define the term nicotine.

25. State some health impacts that result from smoking.

26. What are the processes of drug addiction?

- A). -----
- B). -----
- C). -----

27. List three alternatives to drug taking to develop a healthier coping style.

- A). -----
- B). -----
- C). -----



2.1.2. Questions for Pharmacy Professionals

PART I: Say True or False

1. Alcohol is correctly classified as a drug.
2. There is no effective treatment for alcoholism.
3. Only individuals with seriously maladjusted personalities become alcoholics.
4. Inappropriate use of legal drugs intended to be medications is drug abuse.
5. When a patient takes the prescription or over the counter drug for a purpose or a condition other than for which it was indicated or a dosage other than that recommended is considered as drug misuse.
6. It is not simple to distinguish between where social drug use ends and drug abuse begins.
7. All drugs manufactured and marketed are liable for abuse.
8. Alcohol is classified as stimulant drug.
9. Primary prevention of drug abuse attempts to discourage the initiation of drug abuse, especially by children and adolescents.
10. Detoxification is one of the methods to provide treatment for drug abusers.

PART II: Choose The Best Answer

1. Which of the following can be used as alternatives to drug taking?
 - A. Relaxation
 - B. Diet
 - C. Exercise
 - D. All of the above
2. Which one of the following is prevention programme for drug abuse?
 - A. Recognizing the problem
 - B. Information dissemination
 - C. Community involvement
 - D. All of the above
3. One is NOT social consequence of drug abuse.
 - A. Unemployment
 - B. Violence
 - C. Crime
 - D. Intoxication organ damage

4. One of the following is NOT classified as drug abuse.
 - A. Taking drugs on one's own initiative
 - B. Obtaining drugs through illicit channels
 - C. Sharing a prescription drug with friend or family member
 - D. Use of legal drug when it is detrimental to health.
5. One of the following is NOT a stimulant.
 - A. Caffeine
 - B. Khat
 - C. Cocaine
 - D. Cannabis

2.1.3. Questions for Health Officers and Public Health Nurses

Write, "True" for true statements and "False" for false statements.

1. In most communities, cigarette smoking is the greatest single health hazard and usually a self imposed risk.
2. Cigarette smoking during pregnancy cause in infant low birth weight.
3. Smoking impairs the ability to concentrate and relax.
4. The major alkaloid in tobacco is nicotine.
5. Smoking may be due to psychological need only.
6. Nicotine is an addictive stimulant.
7. Smoking increases the risk of heart and lung diseases.

2.1.4. Questions for Environmental Health Technicians

1. Lifestyle is
 - a) The way we eat and drink
 - b) The way we dress
 - c) The way we keep ourselves clean
 - d) The way we live
 - e) All of the above

2. What is plaque?
 - a) It is a sticky substance on teeth
 - b) It is a sticky substance on gums
 - c) It is hardened teeth material
 - d) It is cavities in teeth

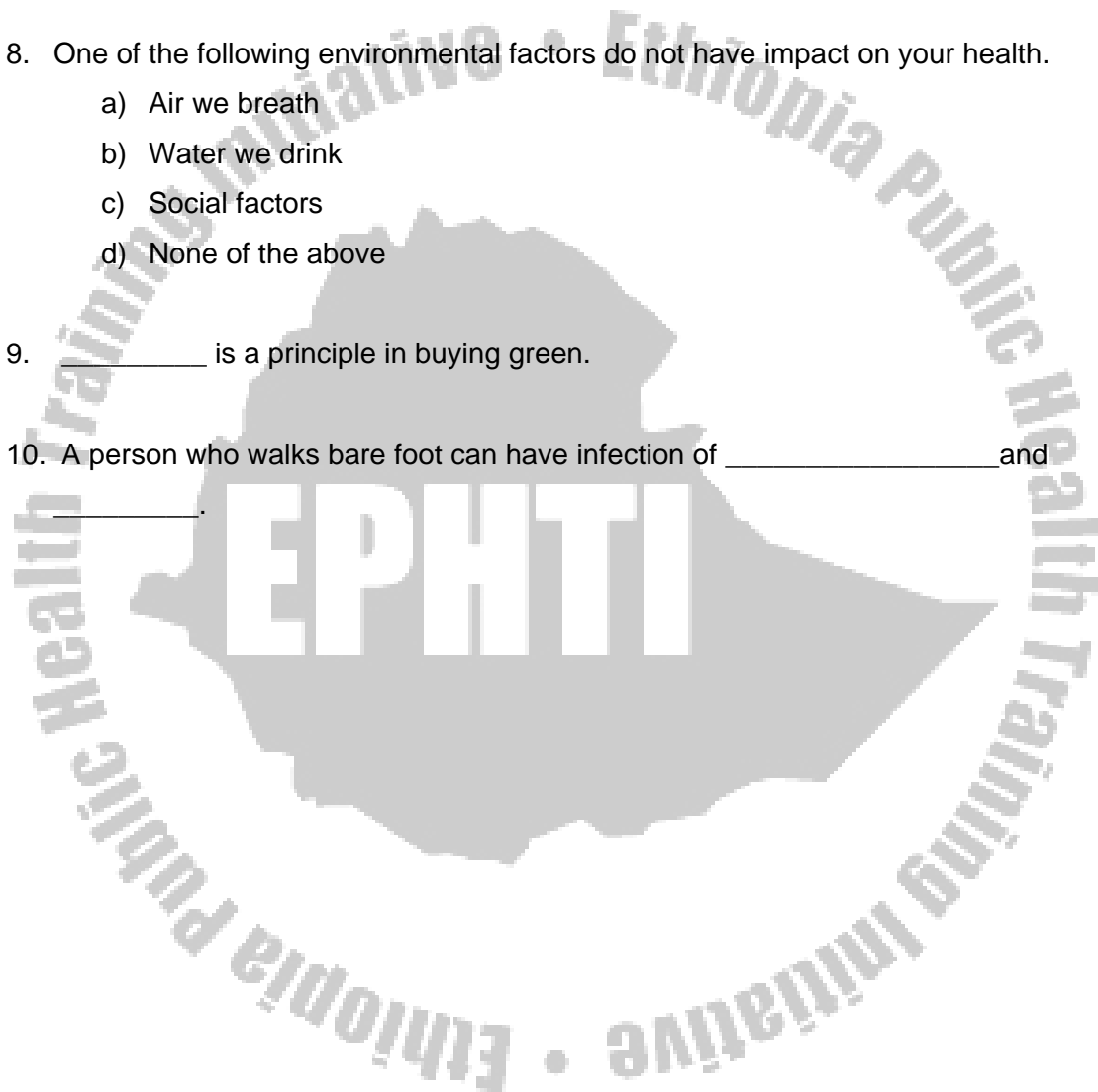
3. If you don't keep your gums clean, they may get sore and bleed. You call this condition
 - a) Gingivitis
 - b) Foot and mouth disease
 - c) Cavity
 - d) None

4. Spending time and money to buy items requires
 - a) Skill
 - b) Knowledge
 - c) Wise decision
 - d) All

5. It is always beneficial to buy cheaper items than expensive ones.
 - a) True
 - b) False

6. Advertisements usually indicate a high quality item that will be good for you.
 - a) True
 - b) False

7. Which one of the following is a wrong statement about personal health?
- a) Indiscriminate waste disposal doesn't have a relationship with personal health.
 - b) Personal health and lifestyle mean exactly the same thing.
 - c) Dressing in clean and well matched suit adds value to your personal health.
 - d) All except C
8. One of the following environmental factors do not have impact on your health.
- a) Air we breath
 - b) Water we drink
 - c) Social factors
 - d) None of the above
9. _____ is a principle in buying green.
10. A person who walks bare foot can have infection of _____ and _____.



2.2. Significance and Description of Lifestyle and Personal Health

It is too traditional and outdated to think of health as denoting freedom from diseases. In fact, such an understanding makes the concept of health very narrow and incomplete. Contrary to this, the modern conception of the term **health** implies complex dynamic qualities that allow satisfying your needs regarding the various dimensions of health. With this conception, health goes beyond treating diseases that involves an optimal state of well-being.

Health emphasizes the development of the whole person and thus, is multidimensional in nature. Its components include **physical health, mental health, emotional health, social health and spiritual health**. Practically, these components are interrelated with one another. A poor level of health in one component adversely affects one or more components, altering the balance so necessary for total health (well being). Attainment and maintenance of a high level of health requires that each of these components be balanced according to individual needs and goals.

Health, as a complex and dynamic phenomenon, depends to a great extent on the individual making responsible and appropriate lifestyle decisions. In its real sense, such decisions emphasize on making informed choices and taking thoughtful actions that will result in the prevention of diseases and the promotion of health. It is estimated that over 50% of illnesses can be prevented or their severity lessened by individuals taking responsibility for their health and making sound choices based on current medical knowledge. The choices individuals may often lengthen or shorten their lives and enhance or adversely affect their quality of life depending on whether their health habits are good or destructive in nature.

Human health, well-being, and survival are ultimately dependent on the integrity of the planet on which we live. Today, the natural world is under attack from the pressure of the enormous numbers of people who live on it, and the wide range of their activities. An informed citizen having a strong commitment to care for the environment is essential to the survival of our planet.

The number of people who view pollution as a pressing personal concern has tripled in the 1990s. Interest in depletion of the ozone layer and global warming; increasing problems with air, water, and solid waste pollution; deforestation; and destruction of habitat for endangered species have prompted a national call for environmental protection and pollution prevention.

The world population is increasing at unprecedented numbers. In early 1990s, it was nearly 5.3 billion and 23 babies were born every 5 seconds: that's 397,440 new people every day, or 145 million every year. This rate gives the planet an annual net population gain of 93 million people. Population experts believe that unless current birth and death rates change radically, 10.4 billion people will be competing for the world's diminishing resources by the year 2029.

The population explosion is not distributed equally around the world. The United States and Western Europe have the lowest birth rates. At the same time, these two regions produce more grain and other foodstuffs than their populations consume. Countries that can least afford a high birth rate in economic, social, health, and nutritional terms are the ones with the most rapidly expanding populations.

The vast bulk of population growth in developing countries, like Ethiopia, is occurring in urban areas. These cities' populations are doubling every 10 to 15 years, overwhelming their governments' attempts to provide clean water, sewage facilities, adequate transportation, and other basic services. As early as 1964, researcher Ronald Wraith described the Third World giant city plagued by pollution and shantytowns as, "megalopolis-the city running riot with no one able to control it."

As the global population expands, so does the competition for the earth's resources. Environmental degradation caused by loss of topsoil, pesticides, toxic residues, deforestation, global warming, air pollution, acid rain, a rapidly expanding population, and increasing poverty is exerting heavy pressure on natural resources and the capacity of natural resources to support human life and world health.

Some people today think of health as the responsibility of doctors, hospitals, clinics, insurance companies, and the government. They feel that health is someone else's responsibility, not their own. If they become sick, they reason that the doctor will prescribe the right medicine or will send them to the hospital or to a specialist who will provide the proper remedy. It is important to realize, however, that health cannot be purchased or the responsibility relegated to some other person or agency. Health is an obligation on the part of each individual, and it is erroneous to equate more health service with better health. Instead, individuals must take responsibility for their own health.

The decisions that presence, families and communities make will have an impact on their health. They are the ones who decide what to eat and when and if to exercise, drink, engage in drug abuse, smoke, or see a doctor. Thus, the decisions they make will leave their imprint on their health and well-being.

The challenge of attaining the optimal level of health for ourselves and our loved ones is a lifetime asset. No one can do the job for us. This is a responsibility each person should assume to the extent he or she is able, with conviction and diligence.

The HELP philosophy

The HELP philosophy can provide a basis for making healthy lifestyle change. HELP stands for:

H = Health

E = Everyone

L = Lifetime

P = Personal

1. The H in HELP stands for “*health*”. One theory that has been extensively tested indicates that people who believe in the benefits of healthy lifestyles are more likely to engage in healthy behaviors. The theory also suggests that people who state intentions to put their beliefs into action are likely to adopt behaviors that lead to health, wellness, and fitness.
2. The E in HELP stands for “*everyone*”. Accepting the fact that anyone can change a behavior or lifestyle means that YOU are included. Nevertheless, many adults feel ineffective in making lifestyle changes. Physical activity is not just for athletes, it is for all people. Eating well is not just for other people, you can do it too. All people can learn stress-management techniques. Healthy lifestyles can be made practical by everyone.
3. The L in HELP stands for “*lifetime*”. Young people sometimes feel immortal because the harmful effects of unhealthy lifestyles are often not immediate. As we grow older, we begin to realize that we are not immortal and that unhealthy lifestyles have cumulative negative effects. Starting early in life to emphasize healthy behaviors results in long-term health, wellness, and fitness benefits. Healthy lifestyles should be based on Personal needs.

4. The P IN HELP stands for “*personal*”. No two people are exactly alike. Just as there is no single pill that will cure all illnesses, there is no single lifestyle prescription for good health, wellness, and fitness. It is important for each person to assess personal needs and make lifestyle changes based on those needs.

A healthful behavior is an action that helps prevent illness and accidents, helps promote health for you and others, or improves the quality of the environment. Some examples of healthful or wellness behaviors are wearing a seat belt, exercising regularly, eating healthful foods, and getting sufficient rest and relaxation.

2.3. Learning Objectives

At the end of the module the learner will be able to:

1. Describe the effects and prevention methods of drug abuse;
2. State healthier coping style as alternatives to drug taking;
3. Identify and describe the effects and prevention methods of any misuse and abuse;
4. Describe the causes of accidents;
5. Provide health education in accident prevention;
6. Describe cause of smoking;
7. List the impacts of tobacco smoking;
8. Provide Health Education for the Community about smoking control;
9. Adopt personal hygiene principles in daily life activities;
10. Demonstrate how personal hygiene affects the lifestyle;
11. Become informed, discriminating consumers;
12. Provide individual contribution for keeping the environment safe for humans, plants and animals.

Case study I

Tenaw and Bedilu are new graduates who came to Jimma to serve as high school teachers. Both came from a families with different social and economic back grounds. Tenaw was born and received his education in Addis Ababa while Bedilu came from a peasant family in Northern Showa. They first met while they were receiving their assignments at the Ministry of Education.

They introduced each other at the time and decided to travel together to Jimma Town. During their trip to Jimma they had to break for lunch time in Wolkite. Tenaw ordered Yebeg Tibs and Bedilu ordered Kitfo lebleb. While eating, Bedilu said "it is delicious, you should have ordered Kitfo Lebleb, Please taste some from my dish." Tenaw did not want to.

They resumed their trip and some place near Kumbi the bus tire went flat and while changing, Bedilu looked for bushes to defecate. Tenaw was surprised once again to see this and asked himself, "what a lifestyle! I wonder if at all we could be good friends."

Latter on, when the two of them knew each other better. Tenaw learnt that Bedilu was a very honest and kind person. So he decided to try to influence Bedilu's lifestyle positively.

These young gentlemen were living in a fully furnished rented house. Bedilu observed that his friend used to take a shower every other day, wash his legs and socks every day, dress neatly and was very selective when purchasing items. It was very rare for him to see such a personality. He wanted to act in the same way. But the most difficult behavior for him to adapt was the eating habits of Tenaw. Tenaw used to have varied and balanced menu for different meals. But for Bedilu, the best food was 'Siga wat' or 'Kitfo'.

One day as they ware walking in town, Tenaw looked into a leaking water tap. He immediately rushed to tightly close the tap. Bedilu said, "It is none of your business! You are used to switching off every bulb that lights and every tap that drips. Does it cost you anything?" "Don't you think so?," asked Tenaw," We must learn to be economical and conserve our scarce resources."

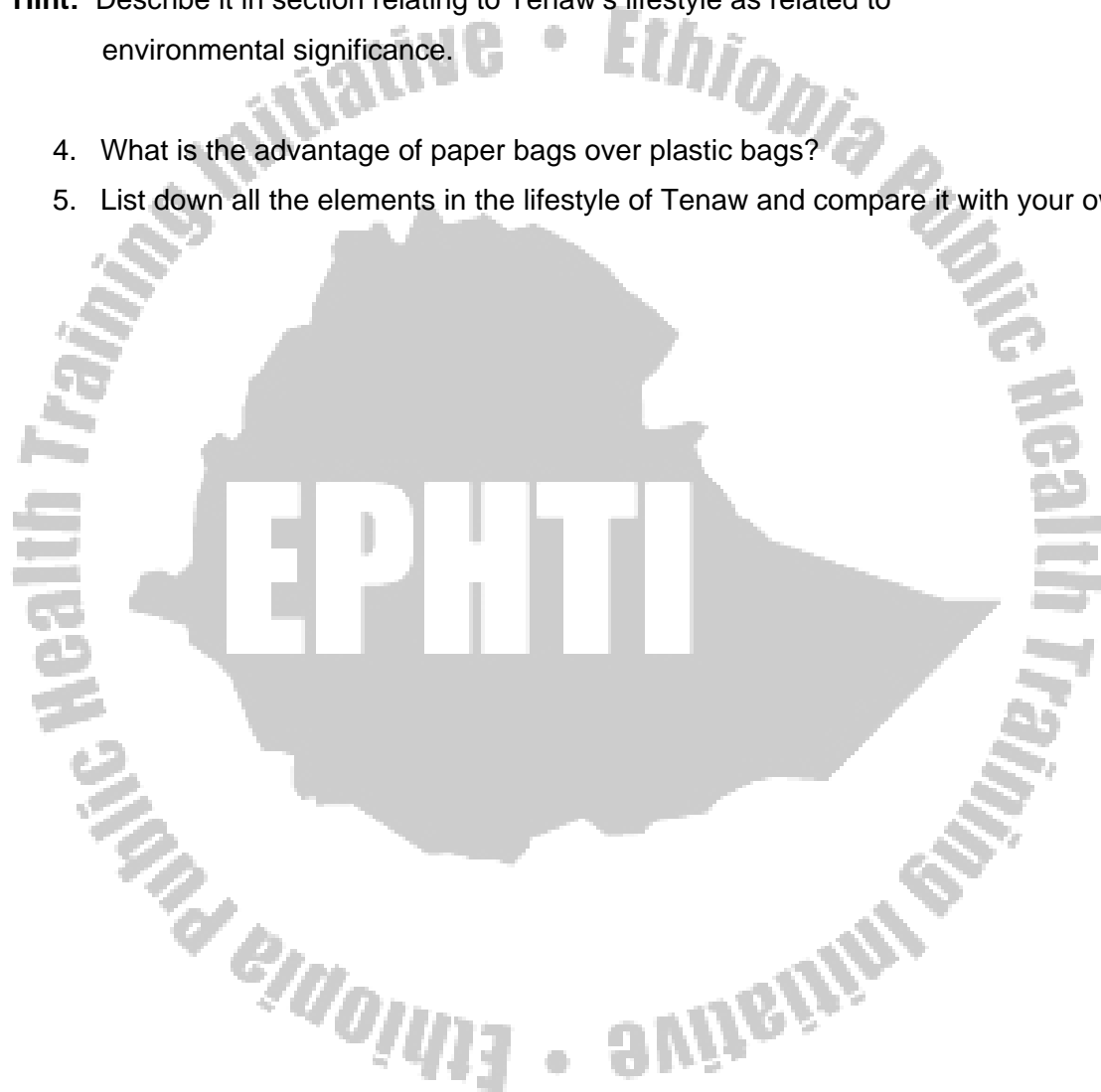
Finally, they went to a grocery to buy some bananas and oranges. Tenaw checked for their freshness. The salesman wrapped and gave them in a plastic bag. "No," said Tenaw, "please give me in a paper bag." We have to buy green.

Answer the following questions

1. Why do you think Tenaw has a better and more environmentally friendly lifestyle than Bedilu?
2. Describe the main reason why “Kitfo Lebleb” is not good to your health?
3. What is good about closing dripping faucets and putting lights off when not in use?

Hint: Describe it in section relating to Tenaw’s lifestyle as related to environmental significance.

4. What is the advantage of paper bags over plastic bags?
5. List down all the elements in the lifestyle of Tenaw and compare it with your own.



2.5. Physical Activity and Health

2.5.1. Definition of Basic Terms

Words such as exercise, physical activity, moderate physical activity and regular physical activity seem to be very similar. But in the professional literatures each of them has distinctive features that possibly differentiate one from the other. Hence it is important to briefly describe the meaning of such commonly used terms in order to avoid confusion in understanding them.

- **Exercise:** is a planned or structured physical activity done to improve or maintain one or more components of physical fitness.
- **Physical fitness:** is a measure of a person's ability to perform physical activities.
- **Physical activity:** is defined as any form of bodily movement produced by skeletal muscles that results in an expenditure of energy.
- **Leisure:** time physical activity: is physical activity that is performed during recreation or any additional time other than the regular job duties.
- **Moderate intensity physical activity:** is any activity that burns 3.5 to 7 calories per minute.
- **Occupational physical activity:** is any activity completed regularly as part of one's job. It includes lifting, pushing, carpentry, packing boxes etc.
- **Regular physical activity:** represents any physical activity that is performed 3 or more days of the week.
- **Transportation physical activity:** is gained while moving from one place to another, usually covering a reasonable distance. It includes walking, biking or similar activities used to get to work, school, place of worship, stores etc.
- **Vigorous intensity physical activity:** is any activity that burns more than 7 kcal/min. It may be intense enough to represent a substantial challenge to an individual and results in a significant increase in heart and breathing rate.
- **Calorie:** is the amount of heat required to raise the temperature 1°C. is also a measure of energy from food.
- **Kilocalorie:** is the amount of heat required to raise the temperature of 1kg of water 1°C.
- **Inactivity:** an individual state of not being engaged in any regular pattern of physical activity beyond daily functioning.
- **Sedentary:** is defined in terms of little or no leisure time physical activity.

2.5.2. Components of physical fitness and their meaning

Your overall physical fitness is composed of five components such as cardiorespiratory endurance, muscular strength, muscular endurance, flexibility, and body composition.

1. **Cardiorespiratory endurance-** is the ability to sustain vigorous activity that requires increased oxygen intake for extended periods of time. This component is important in many situations that demand you to resume working effort for a prolonged period of time.
2. **Muscular strength-** is the amount of force that your muscles exert to overcome a given resistance. Good muscle tone, which is the result of adequate muscular strength, is conducive to an erect bearing posture. For example, strong abdominal muscles help to prevent protruding abdomen and even lower back problems.
3. **Muscular endurance:** is the ability to perform repeated muscular movements for a long period of time without becoming tired. Having good muscular endurance helps you to continue doing a relatively hard and difficult task over a long period of time without complete fatigue or exhaustion.
4. **Flexibility-** is the ability to move freely throughout a full range of motion about a joint or a series of joints. Flexibility enables you to perform most active sports such as gymnastics. It is also important for maintaining good posture. Furthermore, it is essential in carrying on many daily activities and can help to prevent muscle strain and orthopedic problems, such as backaches.
5. **Body compositions** – is defined as the percentage of fat tissue and lean tissue in your body. Your body is made up of two types of tissues, that is, fat tissue and lean tissue. Lean tissue refers to that part of your body composition, which consists of muscles, bones, cartilage, connective tissue, nerves, skin, and internal organs.

In order to determine your level of fitness, you should evaluate all the five components together. You can use the tests and their interpretation stated in the annexes part of this module.

2.5.3. The Health Benefits of Physical Activities

The effects of physical activity on the total body functioning have been conclusively shown to be very beneficial. Irrespective of variation in sex, age, and ethnicity, participation in any form of physical activity will provide a number of health benefits. Some of the major ones are stated below.

Physical activity is important for the following reasons:

- To reduce the risk of premature death
- To reduce the risk of developing and/or dying from heart disease
- To reduce high blood pressure or the risk of developing high blood pressure
- To reduce high cholesterol or the risk of developing high cholesterol
- To reduce the risk of developing colon cancer and breast cancer
- To reduce the risk of developing diabetes
- To reduce or maintain body weight or body fat
- To build and maintain healthy muscles, bones, and joints
- To reduce depression and anxiety
- To improve psychological well-being
- To enhance work, recreation, and sport performance

How active do you need to be to gain some benefit?

Physical activity does not need to be hard to provide some benefit. Participating in moderate intensity physical activity is a vital component of a healthy lifestyle for people of all ages and abilities. Greater amounts of physical activity are even more beneficial, up to a point recommended for healthy living. However, excessive amounts of physical activity can lead to injuries, menstrual abnormalities, and bone weakening.

Research findings in the area of physical activity and health evidenced that on the average, regular participation in moderate intensity or vigorous intensity activity is required to burn a minimum of 150 calories of energy per day or a total of 1,000 calories per week. Although both moderate intensity and vigorous intensity activities have the potential to burn calories, they do not consume the same amount of time in order to do so. According to the American Center for Chronic Disease Prevention and Health Promotion report (2004), the time needed to burn 150 calories of energy in a day depends on the intensity of the activities chosen.

If you select moderate intensity activities like brisk walking, the time required to meet the minimum recommendation would be generally 30 minutes per day. However, if you select vigorous intensity activities like jogging or bicycling uphill, the time needed is reduced to around 20 minutes. Therefore, relatively speaking, moderate intensity activities demand longer duration of time while vigorous intensity activities requiring less time to burn the minimum of 150 calories per day. Still it is beneficial to do greater amounts of physical activity up to the level recommended for healthy living. However, performing excessive physical activity beyond the recommended level can lead to injuries, menstrual abnormalities, and bone weakening. Hence to avoid or prevent the occurrence of various health problems, it is quite essential to give emphasis on the recommendations given in this module.

Adolescents and young adults, both male and female, benefit from physical activity. The benefits of physical activities are not restricted to the normal populations only. It has been repeatedly evidenced that regular physical activity can help people with chronic, disabling conditions improve their endurance (stamina) and muscle strength and can improve psychological well being and quality of life by increasing the ability to perform activities of daily life. For example, as the American Center for Disease Control and Promotion recommended, significant health benefits can be obtained in longer sessions of moderate intensity activities such as 30-40 minutes of wheeling on self in a wheelchair or in shorter sessions of more vigorous activities such as 20 minutes of wheelchair basketball.

2.5.3. Types of exercise

Exercises for physical fitness include three categories:

- 1) **Aerobic exercise:** to burn calories and increase the body's ability to use fat as a fuel.
- 2) **Strength training:** to prevent loss of muscle mass when dieting or increase muscle mass to burn more calories.
- 3) **Stretching:** to prevent injury during exercise and to prevent or alleviate muscle soreness.

The Purposes of Aerobic exercise

- Increased maximal oxygen consumption
- Improvement in cardiorespiratory function (heart and lungs)
- Increased blood supply to muscles and ability to use oxygen
- Lower heart rate and blood pressure at any level of exercise
- Lower resting systolic and diastolic blood pressure in people with high blood pressure
- Increased HDL Cholesterol (the good cholesterol)

Some examples of Aerobic Exercises are listed below: walking, jogging, running, skipping rope, cycling, aerobic dance, and stair climbing (stepping)

The Purposes of Strength training

Strength training refers to any method of using resistance to improve muscular strength, muscular endurance, and muscle mass. The entire idea behind strength training is that the muscles contract against resistance. It can also produce extremely high resistance for those who need it. Free-weights and weight training machines are the most widely available strength training equipment and easiest with which to quantify improvements. It is also the method used by the overwhelming majority of strength trainers.

The Purposes of Stretching

Stretching helps elongate the muscles, reduce tension, increase the range of motion of joints, and prevent or alleviate delayed onset muscle pain. Tight low back and hamstring muscles are known risk factors for low back injury, as are weak abdominal muscles and fat accumulation at the waist.

Stretching recommended for everyday: spinal twist, hamstring stretch, calf stretch, chest stretch, shoulder stretch, quadriceps stretch, forearm stretch, triceps stretch, inner thigh stretch, and "Cat"(back) stretch. The illustrations for the following stretching exercises are found in the back pages of this module from Annex 1 to 7.

Case Study

Suppose walking is your favorite physical activity and you take a walk for about 30 minutes twice a week. Moreover, you do 10-15 push-ups and a few stretching exercises occasionally.

Questions for discussion

1. Which of these activities likely develop your flexibility?
2. Which of these activities develop your cardiorespiratory endurance?
3. Which one makes your hands strong?
4. If you are given a chance to supplement, what type of physical activities would you add?

Group Activity

Be in a group of 4-6 members and list out physical activities that you are familiar with. Then, try to determine the type and purposes of each of the activities listed in light with the information provided above.

2.5.4. Basic Considerations to Start Physical Activity

If you have not started doing physical activity yet, consider the following important precautions for a healthy start:

- To avoid soreness and injury, you should start out physical activity slowly and gradually build up to the desired amount to give your body time to adjust.
- Any one with chronic health problems, such as heart disease, diabetes, or obesity should first consult a physician before beginning a new program of physical activity.
- People with disabilities should first consult a physician before beginning a program of physical activity to which they are unaccustomed.
- men over age 40 and women over age 50 should consult a physician first before beginning a new vigorous physical activity program to be sure they do not have heart disease or other health problems.
- Similarly, if you are a man over 35 years old or a woman over 40 and have not been active for over six months or have any chronic diseases, you need a medical check-up before starting any exercise program.

2.5.5. Nutrition and Physical Activity

Good health depends up on many things-heredity, environment, lifestyle, attitude, mental health, and physical activity in addition to diet. But nutritional knowledge, coupled with good eating habits based on variety and moderation, are the cornerstones in a foundation of good health.

Basic Nutrition Principles

Nutrition is the science of the substances that are found in food that are essential for life. A substance is essential if it must be supplied by the diet. There are six classes of nutrients:

1. Carbohydrates,
2. Fats,
3. Proteins,
4. Vitamins,
5. Minerals, and
6. Water.

Nutrients are necessary for three major roles:

- Growth repair and maintenance of all tissues.
- Regulation of body processes.
- Providing energy.

Carbohydrates:

Carbohydrates are the body's most efficient source of energy and should be relied on to fill that need. For any individual, carbohydrates should account for 55% or more of caloric intake.

Fats:

Fats are another essential component of the diet. They are the most concentrated source of energy, providing more than twice the calories per gram when compared to carbohydrates or proteins. Fat is used as a primary source of energy. A minimal amount of fat is essential for normal growth and development.

Some dietary fat is needed to make food more flavorful and for sources of the fat-soluble vitamins. Fat represents approximately 30% of the total caloric intake.

Proteins:

Proteins make up the major structural components of the body. They are needed for growth maintenance, and repair of all body tissues. In addition, proteins are needed to make enzymes, many hormones, and antibodies that help fight infection. Protein intake should be around 12 to 15% of total calories. The body's need for protein increases during periods of growth, such as during infancy, adolescence, and pregnancy. Also breast feeding women have higher needs because proteins are being used to make the protein in their milk.

Vitamins:

Although they are required in very small amounts when compared to water, proteins, carbohydrates, and fats, vitamins perform essential roles primarily as regulators of body processes. Vitamins are classified in to two groups:

1. The fat-soluble vitamins (A, D, E, and K) are dissolved in fats and stored in the body.
2. The water-soluble vitamins (B-vitamins and C) are dissolved in watery solutions and are not stored.

Minerals

Minerals are often used in their elemental form such as calcium, phosphorous, or sodium. These essential obtaining minerals are necessary in most physiological functions. The range of safe blood levels for most minerals is very limited, and excesses can lead to toxic effects. Therefore, obtaining toxic level of intake is more likely when one misuses mineral supplements.

Water

Water is the most essential nutrient; one can exist for weeks, even months without protein, vitamins, minerals. Without water, one perishes in a few days. Most of the body is made up of water, approximately 60% of the adult's weight. Water is essential for all body processes since many of the other nutrients are dissolved in water. An adequate supply of water is needed for energy production, digestion, and maintaining the proper environment inside and out-side of cells.

It is also necessary for body temperature regulation and for elimination of many waste products from the hydration; severe dehydration leads to death. The average adult requires a minimum of 2.5 liters or water per day. Water is consumed from beverages and obtained from foods, especially fruits and vegetables.

Recommendations for Healthy Eating

There is no magic food for healthy eating. The only important thing is to get a balanced diet. The following suggestions seem to be valuable. What you need is try to keep some or all of them as far as possible.

- Eat a variety of foods, including plenty of vegetables, fruits, and whole grain products.
- Maintain desirable weight.
- Avoid too much fat, saturated fat, and cholesterol.
- Eat foods with adequate starch and fiber.
- Avoid too much sugar.
- Avoid too much sodium (salt).
- If you drink alcoholic beverages, do so in moderation.
- Drink lots of water.

People usually think of losing weight when they hear the word “diet.” Actually, **diet** refers to one’s usual food selections. However, for the purpose of losing weight what you choose to eat (diet) alone do not work. Here, in brief, are some reasons why diet alone do not work:

- Diets low in calories promote an initial large weight loss, but the loss is largely water.
- Too few calories, especially “starvation diets” (approximately 600 calories for women, and 800 for men), cause the body to go in to “Starvation response.” Metabolism- the body’s calorie-burning mechanism-slows down significantly.
- Strict diets have their psychological drawbacks. Too much denial, too little fun in one of life’s great pleasure.

Dieting and Physical Activity

The ultimate goal of any weight loss program should be the loss of body fat, not body weight. Physical activity will help you lose weight and/or redistribute your weight. Let’s look at how. But first, it’s important to understand some basics. The body is comprised of the bones, internal organs, muscles and fat. The bones (which provide the framework and structural strength for the body) and internal organs are not likely to vary much in weight over the short-term, whereas fat and muscle may.

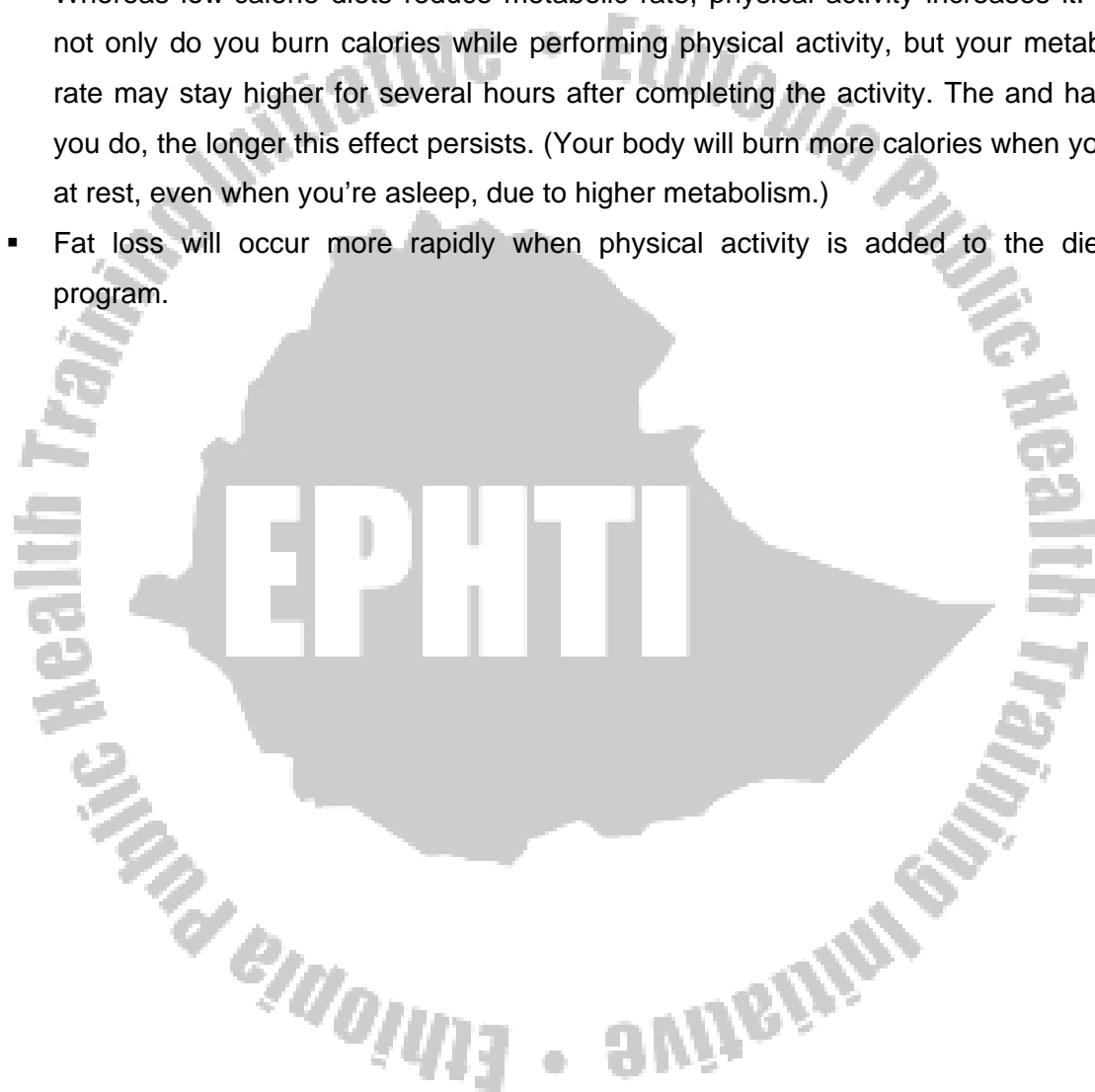
Fat provides insulation and cushions to internal organs and joints. It also is a storage form of energy and stores the fat-soluble vitamins A, D, E, and K. Muscles provide the means for movement of the bones and protection for internal organs.

Everyone has stored fat beneath the skin and around the internal organs. The number of fat cells a person has is determined at a very young age. Once the fat cells are formed, they never disappear but merely shrink in size when the amount of stored fat is lower. Females have more stored fat than men due to the reason that females accommodate hormonal and reproductive functions.

Too much and too little fats are potentially dangerous. There is a direct connection between high body fat and many chronic diseases. Similarly, an extreme low body fat has negative health consequences as well. Low body fat levels have been found to interfere with women’s menstrual cycles and production of estrogen and other female hormones. This can lead to reproductive problems and osteoporosis. Both genders face problems with temperature regulation in the body when body fat is too low. There is also some speculation that low body fat may cause lower levels of testosterone in men.

The main reason for most people overweight is **lack of physical activity, not overeating**. Hence if you are going to try dieting for weight reduction, think about what physical activity can do for you:

- Whereas dieting causes loss of both body fat and muscle, proper physical activity can preserve or even increase muscle. This fact is important since lean tissue (e.g. muscle) is metabolically active and burns calories.
- Whereas low-calorie diets reduce metabolic rate, physical activity increases it. And not only do you burn calories while performing physical activity, but your metabolic rate may stay higher for several hours after completing the activity. The and harder you do, the longer this effect persists. (Your body will burn more calories when you're at rest, even when you're asleep, due to higher metabolism.)
- Fat loss will occur more rapidly when physical activity is added to the dieting program.



THE AMOUNT OF CALORIES BURNED IN VARIOUS ACTIVITIES

Activity	Energy used
Sleeping	0.9 Kcal/min
Sitting	1.4 kcal/min
Standing	1.7 kcal/min
Slow walk	3.0 kcal/min
House work	3.5 kcal/min
Medium walk	5.0 kcal/min
Gardening	7.0 kcal/min
Dancing-	7.0 kcal/min
Walk hard step up hill walk	8.4 kcal/min
Climbing stairs	10.2 kcal/min
Heavy work	13.3 kcal/min
Climbing stairs with load	16.8 kcal/min
Walking (4-7km/h)	4-7 kcal/min
Jogging (7-9km/h)	7-10 kcal/min
Cycling (12-20km/h)	6-13 kcal/min
Swimming (35-50km/h)	8-14 kcal/min

THE NUMBER OF CALORIES FOUND IN VARIOUS TYPES OF FOOD

Food	Energy Value
Bread, one slice	50-80 kcal
Milk, med glass	80-120 kcal
Egg, one	80-100 kcal
Potato, egg sized	60-80 kcal
Carrot, medium	30-50 kcal
Butter, small spoon	100-120 kcal
Orange, medium	50-70 kcal
Cheese, slice	50-70 kcal
Chicken leg	100-120 kcal
Pork chop	250-300 kcal
Roast beef, portion	200-250 kcal
Piece of cake	150-250 kcal

Note 1 kcal = 4.18 KJ

The American College of Sports Medicine has published its position on weight loss programs. Here is a brief summary:

1. Prolonged fasting and extremely low-calorie diets can be medically dangerous. Along with rapid weight loss can come reductions in blood glucose, increased uric acid, and reduction in blood volume and body fluids.
2. The goal in any weight reduction program is to lose body fat while retaining lean body mass (bone and muscle).
3. Cutting down on calories alone as a means of weight loss causes “moderate losses of water and lean body mass” – not a desirable effect. Additional drawbacks to the diet only approach are reduced metabolism (your body burns less calories) and possible increase in LDL (the bad) cholesterol.
4. An exercise program involving “...dynamic exercise of large muscles...” will result in losing fat while retaining lean body mass.
5. A nutritionally sound diet with a reduction of 300 to 500 calories per day, together with an endurance exercise program, will promote fat loss and retention of lean body mass. You shouldn't lose any more than about two pounds a week.
6. Long-term weight loss involves a lifelong commitment, good eating habits, and frequent exercise. Crash diets and radical weight loss programs do not work.

2.6. Managing stress

Stress is defined as the nonspecific response of the body to any demand made upon it in order to maintain physiological equilibrium. Stress is known to be a major contributor to the development of disease. However, that is only part of the story. The body and mind actually require a certain amount of stress to function optimally. Too little stress makes people slow-moving and too much stress has a wide range of harmful effects on the body and mind.

2.6.1. The Positive and Negative aspects of stress

The positive or negative responses of stress results from emotions that are accompanied by biochemical and physiological changes directed at adaptation.

Eustress (positive stress) refers to the amount of stress that you can adapt to comfortably. This kind of stress is mentally or physically stimulating. **Distress** (negative stress) deals with the excessive level of stress that contributes to health problems.

Exercise can be a positive stress if it is within the capabilities of the exerciser to recover. Exercising too hard, too often, or too long does not allow the body to recover sufficiently before the next workout.

When the body experiences stress, it has a built-in-mechanism that helps it respond and adapt. Adaptive responses are the physiological and emotional effects of stress that assist the body in adjusting to the stress. The body's adaptive and protective mechanism stimulates the adrenal glands to secrete adrenaline. And the secretion of adrenaline prepares the body for a fight-or-flight response.

Adaptation refers to the body's efforts to maintain physiological equilibrium. In this regard, you might expect that moderate level of stress produces moderate adaptation, while high level of stress produces high adaptation. However, this is not the case. For a better understanding of the relationships between stress level and adaptation, see the figure below.

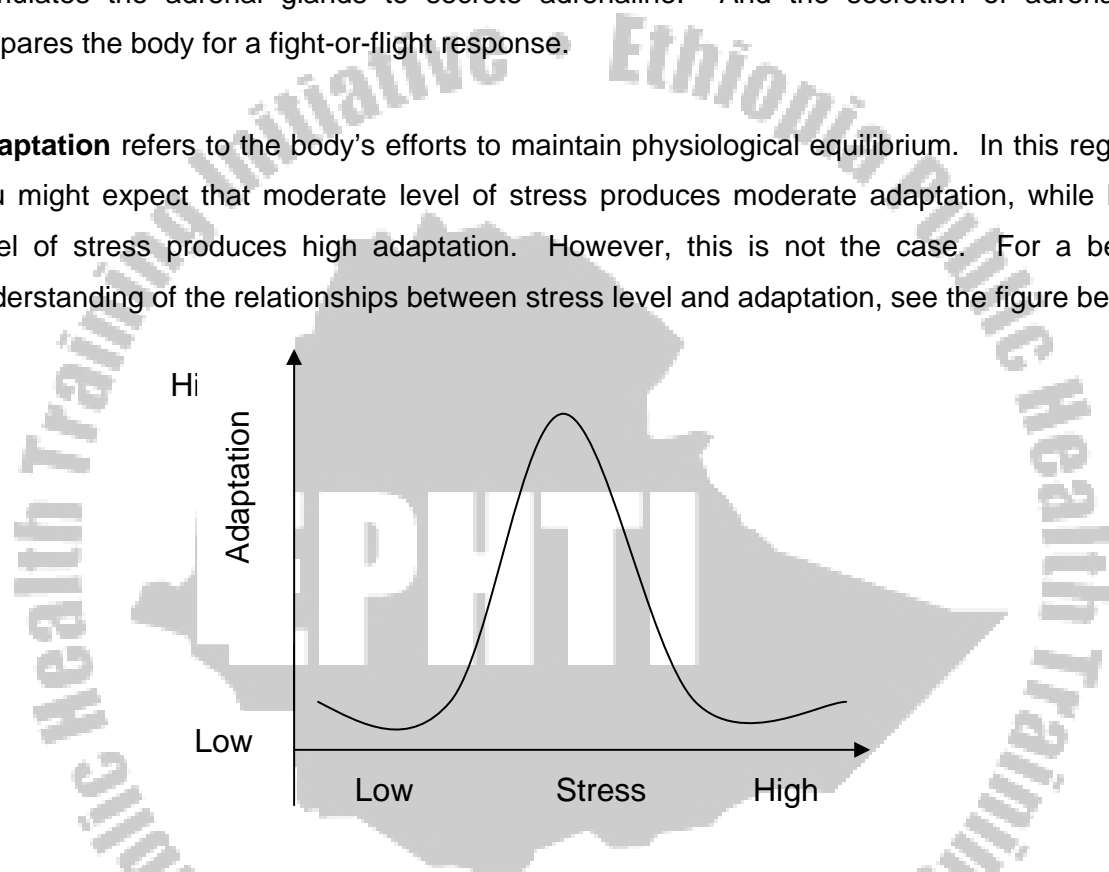


Figure 3.2. Stress and adaptive responses

As it is clearly illustrated in the above figure, there exists low adaptation when the stress level is low or high. On the other hand, the figure also depicts that adaptation reaches to the peak as the level of stress is optimal. The final analysis is that too little stress and too much stress are equally undesirable since both of them produce low adaptation.

What one person finds stressful may not be stressful to another. What do we mean by this statement? By this statement we mean that individuals react and adapt differently to the same stress. Stress mobilizes some to greater efficiency, while it confuses and disorganizes others. For example drinking coffee in between prolonged study sessions would have a relaxing effect for some people, but for others it would be a very stressful and unpleasant

experience. Similarly, consider if difference exists between you and your friend in the way of reacting to the same examination? This can also give you an insight into the descriptions made above.

2.6.2. The Causes and Effects of Stress

Anything that places a greater than routine demand on the body is known as **Stressor**. Examples include: financial problem, tobacco, work area conflicts and overload, family illness, death of relatives, friends and loved ones and disagreement over family issues.

There are many kinds of stressors. For the purpose of simplicity, we divide them into three categories as stated below.

- **Environmental Stressors**- includes heat, noise, overcrowding, climate (altitude), and terrain.
- **Physiological Stressors**- may be such thing as drugs and illicit drugs, caffeine, tobacco, injury, infection or disease, and physical effort.
- **Emotional Stressors**- are the most frequent and important stressors affecting human beings. Some people refer to these as “[psychological]” stressors. These include life-changing events, such as a change in work hours or line of work, family illnesses, problems with superiors, death of relatives or friends or loved ones, and increased responsibilities. In school, pressures such as tests, examination, low grades, term papers, and oral presentations may induce stress.

The challenges caused by stress may lead to a variety of effects. The following list may help you much in dealing with the most common effects.

1. **Physical effects:** such as increasing heart rate and blood pressure increased glucose in blood and sweaty palms, headaches etc.
2. **Mental and emotional effects:** imply impaired concentration and attention span. For instance, anxiety is an emotional response to stress that is characterized by tension disorder. Because the response usually involves expending a lot of nervous energy, anxiety can lead to fatigue and muscular tension.
3. **Changes in Behavior:** Stress can cause people to adopt nervous habits like biting their nails. It can also cause normally calm people to become irritable and short-tempered. Other behavioral responses to stress include altered eating and sleeping patterns.

4. **Reduced effectiveness of the immune system:** Research on the immune system indicates that stress can reduce the function of your body's immune system. With an inefficient immune system, it is more difficult to fight with bacterial infections and to recover from medical treatments. An altered immune function also increases person's susceptibility to all allergies. Therefore, allergies attacks may be more severe under periods of high stress.

2.6.3. Stress Management

Stress management skills are techniques used to help you cope with or lessen the harmful effects produced by stress response. One of the most healthful ways to cope when you are faced with difficult problems involves engaging in a regular exercise programme.

Why exercise is important to reduce or avoid the negative effects of stress?

In fact, there are two major reasons for this first, exercise uses adrenaline and sugar in the blood and helps homeostasis to return sooner. Second, exercise prompts the release of Beta-endorphins, which are substances produced in the brain that relieve pain and create a feeling of well-being.

Top Ten Strategies for Effective Stress Management

1. **Organize Yourself.**

Take better control of the way you're spending your time and energy so that you can handle stress more effectively.

2. **Control Your Environment by controlling who and what is surrounding you.**

In this way, you can either get rid of stress or get support for yourself.

3. **Love yourself by giving yourself positive feedback.**

Remember, you are a unique individual who is doing the best you can.

4. **Reward yourself by planning leisure activities into your life.**

It really helps to have something to look forward to.

5. **Exercise Your Body since your health and productivity depend upon your body's ability to bring oxygen and food to its cells.**

Therefore, exercise your heart and lungs regularly, a minimum of three days per week for 15-30 minutes. This includes such activities as walking, jogging, cycling, swimming, aerobics, etc.

6. **Relax yourself by taking your mind off your stress and concentrating on breathing and positive thoughts.**

Dreaming counts, along with meditation, progressive relaxation, exercise, listening to relaxing music, communicating with friends and loved ones, etc.

7. **Rest yourself as regularly as possible.**

Sleep 7-8 hours a night. Take study breaks. There is only so much your mind can absorb at one time. It needs time to process and integrate information. A general rule of thumb: take a ten minute break every hour. Rest your eyes as well as your mind.

8. **Be Aware of Yourself.**

Be aware of distress signals such as insomnia, headaches, anxiety, upset stomach, lack of concentration, colds/flu, excessive tiredness, etc. Remember, these can be signs of potentially more serious disorders (i.e., ulcers, hypertension, and heart disease).

9. **Feed Yourself / Do Not Poison Your Body.**

Eat a balanced diet. Avoid high calorie foods that are high in fats and sugar. Don't depend on drugs and/or alcohol. Caffeine will keep you awake, but it also makes it harder for some to concentrate. Remember, a twenty minute walk has been proven to be a better sedative than some prescription drugs.

10. **Enjoy Yourself.**

It has been shown that happier people tend to live longer, have less physical problems, and are more productive. Look for the humor in life when things don't make sense. Remember, you are very special and deserve only the best treatment from yourself.

Group activity

With a partner have a role-playing activity during which either of you being a stressed person and the other a consultant. Demonstrate for the other groups and obtain feedback.

2.7. DRUGS AND LIFESTYLES

2.7.1. Why do people use drugs?

For millions of people, the discovery of certain drugs has improved the quality of their lives. Many drugs prevent and treat disease that otherwise would interfere with the physical, mental and social health. While the responsible use of drugs promotes optimum health for most persons the improper use of drugs interferes with the achievement of optimum health for others. The first stage in the drug use process involves deciding whether a drug of some kind would be appropriate in a specific situation. Therefore, as life skills objectives, one has to follow responsible decisions when using over the counter (OTC) and prescription drugs; identify the types of illegal drugs and avoid their use; and follow lifestyle behaviors that prevent drug misuse and abuse and addiction.

Regardless of the health questions involved and the legal status of certain drugs, a large segment of people use drugs for social and recreational purposes that leads to drug abuse resulting in inability to control use and impairment in social or occupational functioning of the user.

It is not simple to distinguish between social drug use and drug abuse? Useful variables in distinguishing social drug use from drug abuse are: the dose of the drug, the frequency and route of drug administration, and conditions under which drugs are consumed.

Not all drugs manufactured are liable for abuse. Unless a drug affects the central nervous system, it will produce no changes in perception or mood. Drug abusers and social drug users choose from three classes of drugs: those that depress (alcohol, barbiturates, tranquilizer and narcotics/opioids) and stimulants (tobacco, tranquilizers, caffeine, Khat, cocaine) the central nervous system, and those that produce changes in normal perception so that the world is viewed in a novel way (cannabis, lysergic acid diethylamide).

2.7.2. The process of drug abuse

Exposure: drug abuse can begin after a person is exposed to a drug that he or she finds pleasurable. This initial pleasure gradually (or in some cases quickly) becomes a focal point in the person's life.

Compulsion: frequently, repeated exposure to the drug continues despite the negative consequences, such as the gradual loss of family members, loved ones and friends, unpleasant physical symptoms after drug taking and problems at work.

Loss of control: over time, the search for high changes to a search to avoid the effects of withdrawal from the drug. Addicted people lose their ability to control their behavior and continue to behave in ways that make their lives worse.

Physical Dependence: Continued use of the drug is required because body tissues have adapted to its presence. The person's body needs the drugs to maintain homeostasis, or dynamic balance.

Psychological dependence: people who are psychologically dependent on a drug believe that they need to consume the drug to maintain a sense of well-being. They crave the drug for emotional reasons in spite of having persistent or recurrent physical, social or occupational problems that are caused or worsened by the drug use.

Tolerance: the user needs larger doses of the drug to receive previously felt sensations. The continued use of drugs, for example, depressants can cause users to quickly develop a tolerance to the drug. Furthermore, tolerance developed for one drug may carry over to another drug within the same general category and known as cross-tolerance. The heavy abuser of alcohol, for example, might require a larger dose of a preoperative sedative to become relaxed before surgery than the average person.

2.7.3. Effects of drug abuse

Virtually all drugs that produce dependence can cause varying degree of economic, socio-cultural and health problems depending on the quantity of drug consumed per occasion, the frequency with which it is consumed at that quantity and the duration of consumption in months or years.

Economic Consequences:

- Unemployment, resulting in losses in national manpower and productivity;
- Expenditure of drug addicts for buying illicit drugs;
- The transfer of illicitly acquired assets to other countries;

- Cost of violent and property crimes associated with drug abuse and dependence;
- Vast areas of land which would otherwise be used for the cultivation and production of useful economic crops and food are used for the illicit cultivation of drugs;
- Heavy cost due to accidents to drug abuse and road traffic accidents are some of most important economic consequences among others.

Social-cultural Consequences:

- Divorce which results in broken families and prostitution;
- Unemployment;
- Involvement in violent crimes (theft, robbery, organized crime hijacking, rape, burglary, forgery);
- Violence;
- Accidents;
- Deviation from social norms.

Health consequences:

- Mental disorder;
- Intoxication organ damage (stomach, liver, pancreas, etc) ;
- HIV/AIDS, Hepatitis and other diseases transmission in IV drug users.

2.7.4. Prevention of drug abuse

Every individual must aim to be some body during his lifetime by avoiding petty things that interfere with healthy values of lifestyle. There is no quick and easy solution to the complex problem of drug abuse, so the government strategy builds on prevention efforts.

Different grades of drug abuse prevention:

Primary prevention: attempts to discourage the initiation of drug use, especially by children and adolescents. Successful primary prevention reduces the incidence of drug abuse.

Methods: Information, Education, Communication (IEC).

Secondary Prevention: discourages the escalation of drug consumption by occasional or experimental users and encourages them to return to non-use. Successful intervention reduces the prevalence of drug abuse.

Methods: counseling and education where education can be carried out through school curricula, public presentation and mass media campaigns.

Tertiary Prevention: provides treatment, rehabilitation and after care to help people get off and stay off drugs to save casualties of drug use. Successful treatment and rehabilitation reduces the prevalence of drug abuse.

Methods: detoxification, clinical care, use of antagonists, treatment of secondary health complications and nutritional deficiencies, rehabilitation and social reintegration.

Prevention Programmes:

- **Recognizing the problem:** the existence, extent, pattern and magnitude of drug abuse should be recognized at a particular place and period to start primary prevention.
- **Information dissemination through the mass-media:** since the recipients are found at different levels of knowledge the quality of information to be passed on should at least be understood by the majority of the population and it has to put more emphasis on the economic, social and health aspects of drug abuse than its deep scientific aspects.
- **Enforce anti-drug laws and regulations:** for the control of licit and illicit narcotic drugs and psychotropic substances.
- **Community involvement:** drugs are found in the community, the abusers and dealers are also members of the community. Therefore, if a given community is well informed about the hoards of drugs, it can be the best tool to fight against the evils of drug abuse.
- **Set up treatment and rehabilitation centers:** Ethiopia has only one psychiatric hospital at the moment. After completing the course of treatment there is neither rehabilitation programme nor follow-up activities which consequently lead to high rate of relapse.

2.7.5. Alternatives to drug taking

On an individual level stemming the tide of drug use comes from the willingness to use a variety of outlets other than drugs in order to meet basic needs in various stressful situations. Developing a healthier coping style than those who consistently choose drug taking is an effective programme to avoid drug abuse.

- **Relaxation and stress management skills:** are used to control excess anxiety, excess anger, stressful lifestyle, low self-esteem, depression and inability to relax all of which directly or indirectly could lead to choosing drug use.

- **Diet:** this is an especially important life-style component for drug users. Therefore paying close attention to diet and offering diet and weight management counseling is essential.
- **Exercise:** exercise is not only an integral part of a healthy lifestyle, it also may be an essential part of a drug taking cessation programme as it builds confidence and self esteem, reduces anxiety and excess stress and burns calories.

2.8. Tobacco smoking

Tobacco is a common name that relates to a family of plants that are cultivated for their leaves, which when cured, are used for smoking, chewing and as snuff. The leaves of the plant are treated in several ways are used for smoking. Smoking is used as a stimulant.

Tobacco contains certain alkaloids with the main one is nicotine, which is a mild stimulant and addictive drug. More than over 4000 different toxic chemicals have been identified as products of tobacco smoke. Over 43 of these chemicals are carcinogenic (cancer promoting), especially drug cancer.

The use of tobacco in public is now a disputed issue centering on an individual's rights. The scientific studies clearly showed that non smokers (passive smokers) in the presence of smokers (active smokers) are also affected by the smoke. As the danger of passive smoking become apparent, non-smokers began to demand a smoke free environment and they have been getting it. In some countries cigarette smoking is legally prohibited in restaurants, city parks and conference rooms, transports, bars, workplaces and there are also smoking area bedrooms and non-smoking area bedrooms in the hotels. In the interest of public health, most airlines have recently introduced strict non-smoking flights.

Causes of Smoking

The literature states different opinions about the cause of smoking. The following are some of the causes for smoking.

- Habit
- Stimulation
- Occupying one's Hands
- Pleasurable relaxation
- Crutch for tension reduction
- Craving involving physiological addiction

Impacts on Health

Most people realize that cigarette smoking is a threat to health, both now and in later years. Several decades of epidemiological research have identified cigarette smoking as the major cause of preventable mortality in developed countries. For individual smokers, the magnitude of risk increases with increasing duration of smoking.

Data from the mid-1980s confirm that, among smokers aged 35 – 69, the death rate is three times that of non-smokers and that there is at least a two-fold excess mortality from all causes in old age. This excess mortality of smokers is substantially higher than previous estimates (based on a shorter duration of follow-up) and suggests that at least 50% of regular smokers who begin smoking during adolescence will eventually be killed by tobacco (WHO: 1998:43).

The holistic consequences of cigarette smoking (Meeks & Heit 1991:362).

- **Mental health** –smoking impairs the ability to concentrate and relax.
- **Family and social health** –smoke from a cigarette can harm all persons in the same room.
- **Growth and development:** pregnant women who smoke have babies of lower birth weight.
- **Nutrition**– smoking harms the taste buds on the tongue and impairs the sense of taste. Thus decreasing appetite.
- **Exercise and fitness**- smoking decreases cardiovascular endurance.
- **Drugs**- smoking produces physical and psychological dependence.
- **Disease and disorders**- smoking increases the risk of lung and heart disease.
- **Consumer and personal health**- cigarette smoking causes teeth yellow discoloration and breathe to smell.
- **Safety and first aids**- cigarette smoking especially in bed is a major cause of home fires.
- **Community and environmental health**- cigarette smoking is a major source of indoor pollution.

In addition to the above impacts, it has also been shown that the smokers have a higher mortality rate from peptic ulcers than do non – smokers. (Worthy, et al: 1987: 156). Nicotine has been found to inhibit pancreatic bicarbonate secretions and it is believed that this mechanism is responsible for the potentiation of acute duodenal ulcer formation.

The following elements, derived from World Health Organization resolutions and recommendations from other international and intergovernmental bodies, should be part of comprehensive national tobacco control programmes. The items are in no particular order of priority.

National tobacco control programme:

1. Establishment and maintenance of an active national focal point to stimulate, support and coordinate tobacco control activities
2. Establishment of an adequately financed and staffed national coordinating organization on tobacco and health issues.
3. Monitoring of trends in smoking and other forms of tobacco use, tobacco-related diseases and effectiveness of national smoking control action.
4. Effective promotion and education programmes aimed at smoking prevention and cessation of smoking.
5. Effective protection from involuntary exposure to tobacco smoke in transit vehicles, public places and workplaces
6. Health care institutions that are smoke-free, and health care workers who set a good example by not smoking, and through their own training, and counseling and advocacy activities, emphasize the benefits of a smoke-free life.
7. Tobacco taxes that increase faster than price and income growth.
8. Use a portion of tobacco taxes to finance tobacco control measures and to sponsor sports and cultural events.
9. A ban on all forms of tobacco advertising, promotion and sponsorship.
10. A legal requirement for strong, varied warnings on cigarette packages.
11. Restriction of access to tobacco products, including a prohibition on sale of tobacco products to young people.
12. Effective and widely available support of cessation of smoking.
13. Limitations on the levels of tar and nicotine permitted in manufactured cigarettes.
14. Mandatory reporting of toxic constituent levels in the smoke of manufactured tobacco products.
15. Strategies to provide economic alternatives to tobacco agricultural workers.
16. Education aimed at young children related to the use of tobacco and active teaching learning strategies about decision-making options.

Summary

The public health service strategy reflects the view that smoking is not only a medical problem but also a major social, economic and psychological phenomenon that has profound health implications. By choosing not to smoke, people can increase their potential for leading a healthy life. Smoking is the single most preventable cause of death.

2.9. Accident Prevention

Answer the following questions on a separate sheet

1. What is an accident?
2. What are the major causes for an accident?
3. What are the most causes of accidents at home?
4. Define poison.
5. State several measures for riding a bicycle safely and preventing accidents?

Unintentional injuries are one of the major public health problems all over the world today. Almost all accidents can be prevented. The best way to prevent an accident is to be aware of their causes, so that you can follow preventive behaviors. Most accidents do not simply happen, but people cause them to happen. If one probably would discover the causes of certain accidents and make changes in behavior, accidents could have been prevented.

2.9.1. Causes of accident

Stress:

According to Meeks and Heit (1991: 493), stress is a major cause of accidents. Research shows that people who are not coping with stress do not concentrate fully and thus, they increase their risks of having accidents. People who are extremely upset often become careless and are not aware of changing condition. A person with stress can create problems other than losing the ability to concentrate and can develop fatigue. When you are fatigued you are less alert less active and less productive. A fatigued person does not respond or react as quickly as usual. A delay in reaction time may create a dangerous situation. Therefore stress can be a major factor in the cause of accidents.

Drug and alcohol use:

Generally drugs impair reflexes, perception, balance coordination, concentration and judgment. Drugs are implicated in injuries and deaths due to fire, falls, drowning and

accidents involving the use of tools, machines, and firearms. Drugs are also involved in over half of all fire fatalities and drownings and in almost half of all deaths in the workplace (Meeks, 1991: 493).

Nighttime and weekends:

Some accidents occur at night with greater frequency than during the day because of reduced visibility. Other kinds of accidents have a tendency to occur during weekends rather than during the week, because they may be related to leisure activities. Yet, other accidents may occur with greater frequency during the week because they are related to environmental factors in the work place. During holidays the incidence of accidents also increases due to stress during such time.

Illness:

Some people are considered to become more susceptible to accidents than other people due to illness that causes changes in the body, which result in an ability to perform tasks optimally. Others may get into accidents because they like the excitement of a challenge, regardless of the risks involved.

Attitude:

One's attitude can be a cause of accidents. A person may have a known attitude and not be concerned about specific hazards.

Age:

Elderly people may experience change in muscular strength and coordination. They may take medicines that interfere with the ability to think clearly and respond quickly. This may result in a person taking unwise risks.

2.9.2. Vehicle accident prevention

In developed countries efforts are being made towards preventing motor vehicle accidents and reducing the risk of injury and death. Those efforts focus on factors involving vehicles, highways, drivers and law. Vehicles factories had designed automobiles to reduce injuries and fatalities when automobile bumpers, front ends and steering columns were designed to absorb the impact from a crash. Passenger compartments that have recessed knobs and heavy padding are important for safety. Air bags are a requirement on the driver's side and an option on passenger side in some countries. In most cases a safety belt must be hooked up by the driver. The effectiveness of safety belt has been proven but still many drivers do not use safety belts. According to Meeks (1991: 497), 10,000 to 16,000 lives in the USA would be saved each year if drivers and their passengers would use safety belts.

Highway factors play a role in automobile safety. Studies show that certain road features promote automobile accidents. Among these are sharp curves, steep grades, pot-holes and lack of physical median that separates opposing traffic. On city streets shielded signs, missing signs and poor lighting increase accident rates.

Alcohol is responsible for half of all automobile related accidents in the USA. Many groups that are against drunk driving have pressured lawmakers to enact stricter laws concerning those who fail to follow the laws related to alcohol and driving. The use of drugs such as barbiturates, amphetamines and marijuana is implicated suspected in many motor vehicle accidents. The effect of these drugs can be dangerous to both the driver and others.

Tips for promoting traffic safety:

- Do not use alcohol or other drugs especially prior to and when operating a motor vehicle;
- Always wear seat restraints belts even near your home;
- Drive according to the speed limit and weather and road condition;
- Have enough stopping distance between your vehicle and the one in front of you;
- Be sure your car doors are locked to prevent you from being thrown out of the car in an accident;
- Wear a helmet when driving a moped or motorcycle since many deaths result from head injuries. Also follow local laws regarding the safe operation of these kinds of vehicles. (*Reproduced from: Meeks and Heit 1991:496*)

In addition to automobile, other motor vehicles are also responsible for many injuries and deaths. Drivers of motorcycle greatly increase their risks of dying in an accident. Motorcycle drivers need to drive defensively. They must regard every car as a potential hazard. Wearing a helmet is essential, so that they can reduce the risk of head injuries.

With an increase in bicycling there has been an increase in injuries, following are suggestions for safety while riding a bicycle:

- Always wear an approved protective helmet and other protective gear.
- Use a bicycle that is the correct size.
- Follow the same traffic rules that automobile drivers follow. Observe all traffic signs and signals.
- Ride in the same direction as automobile traffic.
- Use hand signals when turning or stopping.
- Be sure that your bicycle and all safety equipment such as brakes, tires, lights and reflectors are in good operating conditions.

2.9.3. Preventing home accidents

The accidents caused in the house could include falls, fires, burns, electricity accidents and poisoning. The greatest number of injuries and deaths in the home is caused by falls. To prevent oneself from falling, the walking surface should be dry, clear and well lighted. Furniture and other objects should be placed, so that they are not where people least expect them. If someone must climb to reach an object he/she must use a secure ladder, rather than a chair that may be less secure or have a tendency to tip over.

The second leading cause of accidental injury and death in the home is caused by improper use and disposal of cigarettes, improper storage of gasoline and cleaners, over-heated cooking oils, children playing with matches, lighters and overloaded electrical wiring.

Overloaded wires in old houses with original wire can cause fire. Faulty electrical wiring can also cause fire. To prevent electrical fires people who move into older homes should have the electrical wiring checked by a professional.

Tips of reducing risks of burns due to fire:

- Keep the telephone number of your fire department near all phones;
- Have a fire escape plan and practice it.
- If your home is on fire, test the door of the room you are in. Do not open a warm door. If you can leave the room, close the door behind you to prevent the fire from spreading.
- If you cannot get out by the door exit, keep the door closed and stuff the cracks so that smoke will keep out of the room. Stand by the window and signal or scream for help.
- If you must leave through a window without a rope or ladder drop to the ground feet first.

In advanced areas the following could be used:

- Be sure your place of residence is equipped with smoke detectors to warn you of fire.
- Be sure your home is equipped with a fire extinguisher that is in good working condition.
- Keep a rope ladder in rooms that are on the second floor.

(Reproduced from: Meeks and Heit 1991:500)

Most cases of poisoning in a home occur in children. Substances most commonly associated with poisoning are medicine and pesticides. To prevent poisoning in the house, all medicine and poisons should be kept out of the reach of children. If some one you know has taken poison, immediately take him/her to the nearest health institution. If at all possible give information about the type of poison. Often the poison will be near the victim to show you what was taken. That will help the health worker to take action to save the life of the person. In an emergency give the person water to drink so as to dilute the poison. Never

induce vomiting unless you are sure the poison that was swallowed was a non-caustic chemical.

2.9.4. Preventing accidents in the workplace

It is important that the time you spend in a workplace is as safe as possible. Naturally, some occupations are safe and others are not. For example, firefighters are more likely to become injured than workers who sit at desks in an office. In the workplace work hazards that are causing or may cause serious physical harm or death must be eliminated. A new employee should be trained and made aware of hazards. In a country where there is no occupational safety and health act (OSHA), there must be a governmental consideration, as a law that can help to reduce occupational accidents.

Wherever some one works, he/she should be trained in all safety aspects of the job. The supervisor should keep the person aware of potential occupational hazards and inform the worker of any new safety rules. The worker should be trained on how to operate new equipment before usage.

Take the responsibility to follow safety rules on the job, and promote a safer working environment for yourself and others.

2.10. Other aspects of personal health

2.10.1. Personal Hygiene

Personal hygiene is a health behavior that is reflected in our daily practices. A person who is accustomed to be neat and clean is likely to do so even under scarce facilities. However, a person who is careless about his personal hygiene is always the same even if you provide him the best facilities. This shows that personal hygiene is a behavior attached to us. The degree of our personal hygiene depends on how much we give value to it.

Personal hygiene is important to us in various ways

1. It helps to prevent diseases of the eye (trachoma, conjunctivitis, etc), skin (scabies, fungal infections etc) and other communicable diseases like Typhus, Typhoid, Relapsing fever, etc.
2. It promotes our sense of self respect and esteem
3. It helps us look good and healthy
4. It increases acceptance and respect we will have in society.

If personal hygiene is such an important and influential component in our lifestyle, we have to strive to achieve the best practices. In personal hygiene attention is given to the following body parts:

- The Hands, nails
- The Feet
- The Skin
- The Mouth, gums and Teeth
- The Head, Nose Eyes, ears

1. The Hands

Think of how frequent your hands come in contact with different items. Is there a moment that you can eat or handle food equipment and items safely without washing hands? Actually not. You shake hands with people that you don't know what they have handled. You exchange money, yet you don't know to what extent it has been contaminated by different people. You come in contact with various articles which are soiled etc., etc. It is therefore important to wash hands thoroughly with soap and water.

What do we mean by hand washing?

Hand washing is effective if we:

- > Wash hands with running water and soap for 10-15 seconds and dry with an individual clean towel, paper towel or allow hands to air dry or

- > Rub hands with 3-5 ml of an alcohol based solution until the hands are dry (if hands are not visibly soiled).

Think of a locally made hand washing device in the absence of running water and describe how we can effectively utilize it.

When do we wash our hands?

- > Before and after eating
- > After visiting a toilet
- > Before handling food utensils
- > Nails also must be cut short

For completeness, Nails must be cut short. You can't have good hand washing practice when your nails grow because bacteria will remain in the space between your nails and fingers.

2. The feet

Wearing shoes protects you from injury but it also has a risk in that your feet become odorous if not taken care of. People who wear shoes develop sweating of the skin between the toes. This sweat makes a good breeding ground for spores of fungus infection called *Tinea*, known by many local names such as: athlete's foot, Singapore foot, etc. You can discourage such disease by:

- Frequent washing of the feet with soap
- Dusting with Boracic powder
- Wearing socks to absorb sweat and to prevent the shoes chafing the skin.

Tinea is not the only infection of the feet. There are two other kinds of infection that enter the body by way of the feet. They are Hook worm and Chigoe or 'Jigger'. These parasites are picked up from the ground when walking with bare foot. Both Hook worm and Jigger are very common in Ethiopia.



Fig. 2. Problems of walking bare foot

Bad shoes may cause a bad posture which in turn may cramp internal organs and prevent the body developing full health. If the heels of shoes are too high, the weight of the body is thrown forward, thus straining the muscles of the back and the abdomen. Toe nails should be kept well trimmed and clean. If the nails become in-grown cotton wool placed under the nails will help to remedy the defect.

3. The skin

Your skin is a sense organ. It can help you to become aware of what is around you. There are five different types of nerve cells in your skin. These nerve cells are sensitive to pain, pressure, touch, heat, and cold. Skin on different parts of your body may have different amounts and kinds of nerve cells. The tips of your finger have fewer nerve cells that detect pain than does a similar area on your arm. This is one reason a doctor or nurse sticks the tip of your finger with a special instrument to get blood to determine your blood type or make a blood film for malaria parasite investigation.

If you are sunburned, you can apply ice or towels soaked in cold water to the affected area. Cold baths and some lotions are helpful. Severe sunburn can cause fever and blisters. Medical help may be required.

Sweat and oily secretions from the skin cause dust to stick to them readily, resulting in blocked pores of the skin and weakening of the ability of the skin to carry out its natural functions. Bacteria can also breed readily in these conditions. Warm water and soap are

best for cleaning the skin and removing dirt and bacterial spores. A cold shower after a warm bath invigorates the body and improves the circulation of blood. In tropical countries, at least one thorough bath should be taken every day. Bathing should not be done immediately after a heavy meal, as the digestive system of the body is interfered with. Cold baths should not be taken when the body is hot with sweat, as this can cause a chill or diarrhea.

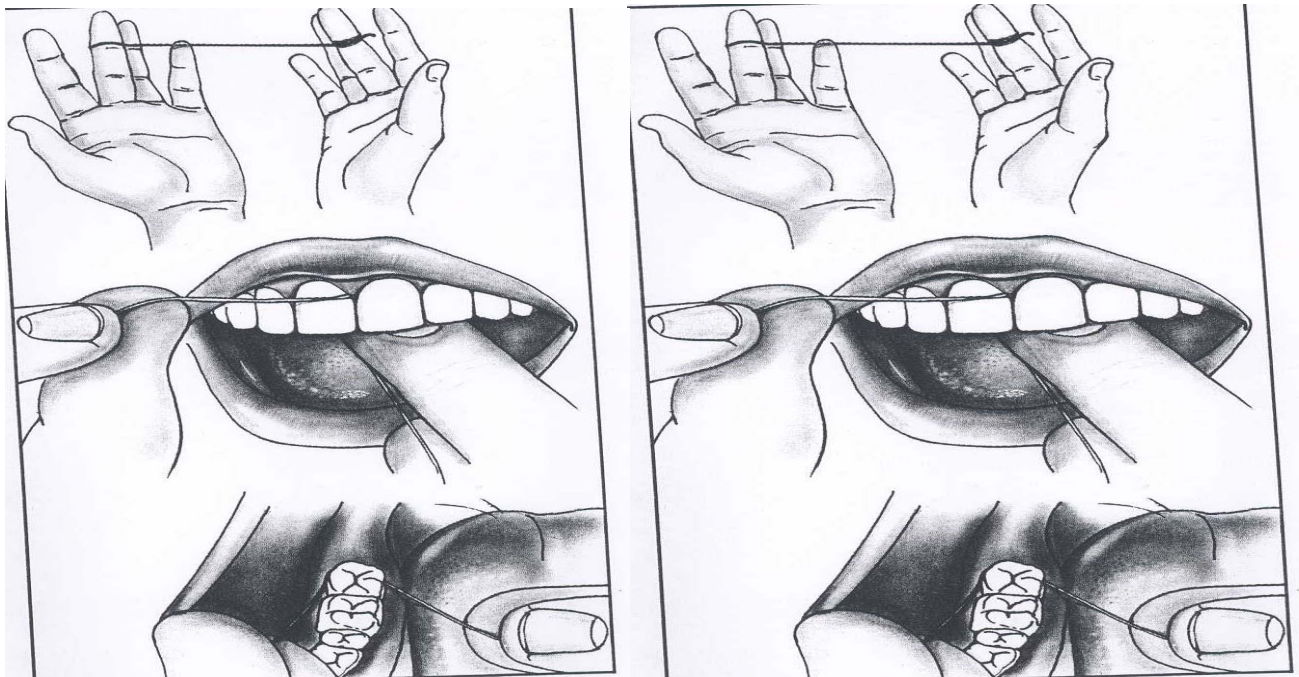
Fresh air and sunlight are beneficial to the skin, but care should be taken to prevent too great an exposure leading to sunburn unless the skin has become accustomed to long exposure.

4. The Mouth and Teeth (Oral Hygiene).

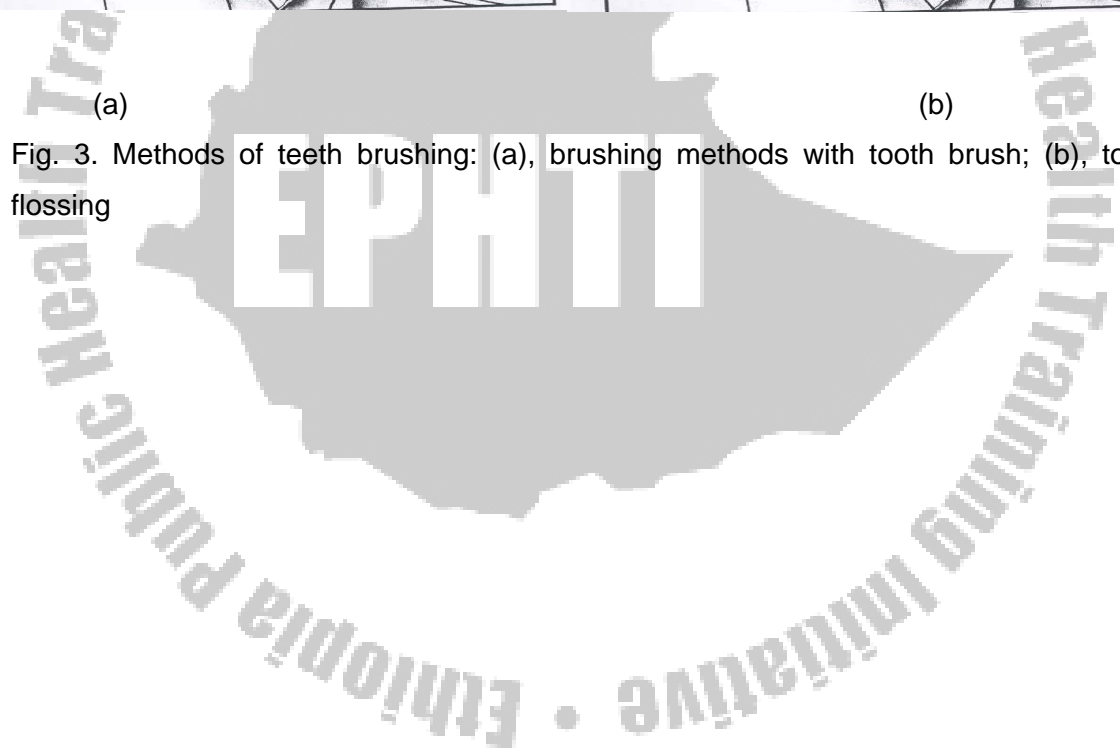
Oral hygiene is the hygiene of the mouth and teeth. Oral hygiene is one of the most important requirements in personal hygiene.

Here are some tips about what you can do to keep your mouth and teeth clean.

- Food particles caught in between the teeth will decay very quickly.
- Avoid very hot or very cold foods, otherwise, the enamel protection of the teeth may become chipped and allow decay to enter.
- Immediately after eating a meal, the teeth should be brushed and the mouth rinsed out. Use clean water or water with little salt dissolved in it.
- A soft toothbrush should be used in an up and down motion, not crosswise, to remove food particles. Brushing sideways tends to wear out the enamel.
- Vigorous tooth brushing with a hard brush, or the use of hard tooth picks, injures the gums and sets up inflammation.
- Care should be taken to avoid puncturing the gums when cleaning the teeth.
- Decayed teeth may lead to insufficient mastication of food, and may also discharge poison to the system.
- Bad teeth and inflamed gums can give rise to certain diseases and generally cause ill-health.
- A dentist should be regularly consulted wherever possible and badly decayed teeth should be removed.
- Add content on the use of chewing sticks to clean teeth.



(a) (b)
Fig. 3. Methods of teeth brushing: (a), brushing methods with tooth brush; (b), tooth flossing



How to deal with Tooth decay

Tooth decay is a very common health problem. There are various forms of tooth decay. A sticky substance called plaque is always forming on your teeth. Plaque forms near the gum line and between your teeth. It tends to stick to the grooves and curves on your teeth. Plaque contains bacteria. You need to remove the plaque from your teeth each day. If the plaque is not removed, it becomes hard. When plaque becomes hard it is called **Calculus**. You can't remove calculus by yourself. You need to visit the dentist. What happens if you don't remove the plaque and calculus?

- When you eat foods that contain sugar, the sugar and the bacteria in plaque form an acid.
- The sticky plaque will hold this acid on your tooth. This acid may make holes called cavities in the enamel that covers your teeth.
- Once you have a cavity, it is only the dentist that can repair your teeth. He will put in a filling. A **filling** is material that repairs the cavity in a tooth.

The head, nose, ear and eyes

The Head

Your head can be infested with a variety of disease causing organisms. Louse/lice infestation, fungal and other skin infections are the main problems arising due to poor hygienic practices on the head. You need to wash your head as frequently as your body. Cutting your hair short and combing it will give you good look and also helps you to avoid louse infestation

The Nose

The nose is part of the respiratory system. The hairs in the nostrils filter dirt and germs from the air. For this reason breathing should not be through the mouth, as then unfiltered air containing bacteria may enter the body. The nose should be blown at intervals, using a handkerchief (which should be changed daily), to remove the accumulated dust and germs. It is necessary to do this more frequently in towns because the air will not be as clean as the air of the countryside.

Bacterial spores that pass the nose or enter through the mouth, settle on the soft mucous lining of the throat, where they have ideal conditions for breeding. Many diseases start with an infection of the throat, and then are passed on to the rest of the body.

The Eyes

The eyes should be kept clean by washing, especially in countries where flies are a menace. Germs carried on the flies' legs can be deposited in or near the eyes and may cause diseases which eventually lead to blindness. Eyestrain such as that caused by reading in a poor light should be avoided. Glasses should be used if the sight is not good enough to see objects clearly refracted, but the glasses must be suitable to cure the defect of the eyes. It is foolish and dangerous to wear glasses, if they are not needed, as a means of improving the appearance. Towel must not be shared to avoid trachoma.

The Ear

Inflammation in the ears can be caused by colds and sore throats. Blows on the ear should be avoided, as this may rupture the ear drum. The ear drum can also be broken by loud noises, or by diving into water. When the ear drum is ruptured, dirt can enter and set up infection. Fungus can also enter the ear. These diseases are usually transmitted by dirty fingers. Sharp-pointed instruments should not be used to clean wax out of the ear. If the ear needs cleaning, it is best done by a doctor or nurse who uses a syringe to wash out the wax, and not by any other method.

2.10.2. Consumer Health

Every consumer spends both time and money. Spending time and money wisely is a skill requiring self knowledge and self discipline. In order to spend time and money wisely you should be aware of two things.

1. Your wants
2. Your needs

If you are aware of your wants and needs then you can understand how advertisers try to appeal to what motivates you.

Your wants and needs must be balanced with your values. A product may appeal to you, but your values may tell you that spending time or money on this product is wasteful. When you decide to buy and use an item or a product, it is not only in terms of time or money that you are taxed. A wrong decision to buy a product may also endanger the environment you live in and threaten life and the life of future generations.

Self discipline is important to help you uphold your values when you spend time, money, and respect for your environment. When you make a wise decision, you feel good about yourself.

Some helpful suggestions for a consumer

1. Clothing

- Compare prices at several stores
- Learn the store's policy on returned clothes
- Find out when the clothing sale is during the year.
- Read the labels and tags before you purchase clothes
- Select clothes that will fit for a long time.
- Try to buy color co-coordinated outfits to mix and match
- Take care of your clothes so that they will last as long as possible.
- Avoid bias about national product and imported items. Some times a national product is more durable and good looking. When you buy a national product you feel proud about your self and assist the national economy.

2. Medical and dental care

- Have regular check-ups to avoid serious health problems
- Keep all your appointments or call at least one day ahead if you have to cancel it.
- Ask physician or dentist questions and follow directions
- Practice preventive health habits between visits

- Seek advice from your physician about a health eating habit so that your teeth in particular and your health in general is protected.

3. Cosmetics

- Read labels to check ingredients
- Compare unit prices of different brands
- Write the manufacturer when you have questions
- Read the directions to learn the safe way to use cosmetics
- Observe the warnings and check for side effects
- Test products by testing small amounts at a time

4. Groceries

- Read labels and compare unit prices
- Avoid shopping when you are hungry
- Make a grocery list and purchase only those items that you have listed
- Use coupons only for things on your grocery list
- Do not buy goods that are in opened, bent, or bulging cans
- Do not buy frozen foods that are soft or that show signs of leaking
- Anything on buying meat from open air shops in Ethiopia

2.10.3. Abstinence

Abstinence: The responsible choice

Healthy sexuality occurs when you consistently make responsible choices. The evidence is clear. **ABSTINENCE IS THE RESPONSIBLE CHOICE FOR YOU.**

Suppose you are pressured to be sexually active, how can you maintain your values when you are pressured? Here are some refusal skills you can use.

1. State reasons that you do not want to be sexually active

- It is against my values
- I do not want to disappoint myself or my parents
- I want to have a good reputation
- I want to practice my religious beliefs
- I do not want to have feelings of guilt
- I want to be able to meet my life goals
- I do not want to become a parent until I am older
- I do not want to risk getting AIDS or other STDs.

2. Use behavior to reinforce what you mean
 - Do not get involved with petting. Petting results in strong sexual feelings
 - Avoid being alone with someone who pressures you to be sexually active
3. Discuss your limits
 - Discuss your limits for expressing physical affection, saying that you want to limit your expression to holding hands, hugging, and casual kissing
4. Take a definite action
 - Say NO and act in ways to stay with your decision
5. Break off a relationship with someone who pressures you to become sexually active
 - If someone does not respect your limits, end the relationship. Remember, a person who does not respect your limits cares more about himself or herself than you.
6. Change your behavior if you have been sexually active in the past
 - It is never too late to change behavior. Give reasons to the person with whom you were sexually involved. Avoid tempting situations. Set new limits. If the other person does not cooperate, break off the relationship

2.10.4. Spiritual health

Health is a dynamic state in which an individual adapts to his or her internal and external environment so that there is a state of physical, emotional, intellectual, social and spiritual well being. The definition of health includes five dimensions.

The fifth dimension of health is the spiritual dimension. Although you certainly could include your religious beliefs and practices in this category, we would extend it to include your relationship to other living things, the role of a spiritual direction in your life, the nature of human behavior, and your willingness to serve others.

The spiritual dimension of health is so significant that some health professionals believe it to be the actual “core of wellness.”

Case study III

Cancer specialist Dr. Girma is gazing at a patient in Tikur Anbessa hospital. The patient, Aster, had been fighting bone cancer. An operation removed one tumor, but when another growth attached itself to her spine, Aster prepared for death.

Then in October 1999 something strange happened: scans showed the growth was shrinking. Now it has disappeared completely.

“It’s amazing,” Dr. Girma tells her “Do you have an explanation?” Aster, a psychiatrist and mother of two small children, says there is something beyond medical care that she credits for her life.

Aster is convinced that prayer, and the peace it brought her, made her well again.

“I’ll buy that,” the consultant says. Spirituality of all kinds, not just organized religion, is starting to command the attention of specialist doctors. “Religion, spirituality and medicine are inextricably linked,” says Professor Kinfe, whose classes in healing through therapeutic touch at Addis Ababa University, have been attended by specialist doctors and nurses. “Spirituality affects all of us. It’s what gives your life meaning.”

Based on the above case study, attempt the following questions.

1. What do you suggest to Aster regarding her cures from cancer?
2. Does spirituality affect all persons?
3. Discuss the relationship between religion, spirituality, and medicine?

The link between spirit and body may be age old, but as healing became viewed as a science, many western practitioners moved away from spirituality and religious faith. Now, scientific studies correlating faith with good health are starting to convince a sceptical medical community.

It is all part of a general revival of interest in spirituality. For example, three quarters of British population say that they are aware of a spiritual dimension as their parents-and themselves are getting older, and they are searching for depth and meaning.

Awareness of recent studies is chipping away at the wall that has for decades stood between spirituality and science. Research has shown, for example, that people who attend religious services more than once a week live, on average, seven years longer than those who do not. A 1998 study by doctors at Duke University, North Carolina, found that people who attended church weekly were less likely to be hospitalized than those who went to church less often. (Koenig, Mccallough, and Zarson 2001)

These differences can be partially explained by the fact that church goers are less likely to smoke or drink and are more likely to have a community of support. People who are isolated are more likely to do poorly, both psychologically and physically.

But a recent British review of 31 studies on the effects of prayer has found that people who pray lead happier lives even if they never go to church. Two studies of patients at coronary care units showed that those who were prayed for recovered earlier than those who were not even though they had no idea that anyone was praying for them.

“This finding is astonishing,” says the review’s co-author, Professor Leslie Francis, a psychologist at the University of Wales, Bangor, and an Anglican priest. “It has left me as puzzled as any one else about how prayer works.”

Equally mysterious is the impact of spiritual healing. Healer Gill Michael Dixon in his Devon practice, describes what she does: “I wait until I feel a current flowing through me. Sometimes the patient feels it too. My hands move around their head and body, mostly without touching, tuning into this energy.”

When Dr Dixon studied the effect of healing on 27 chronically ill patients, the results, published in the Journal of the Royal Society of Medicine, showed that the symptoms of 22 had improved. “The healer facilitates self-healing, helping the patient’s immune system to work,” says Dr Dixon, “Doctors call this the placebo effect and tend to dismiss it. I say it’s the strongest medicine we have.”

A full explanation of spirituality’s positive effect on health may not even be important. “Companies put new drugs on the market without always knowing quite how they work. “ It’s the same with prayer.”

Clearly belief is a very powerful force. Then again, so is guilt. Even doctors who include spirituality in their medicine bag agree that it is crucial to use faith as part of medical care only if the patient is open to talking about his or her beliefs. “If you take the position that devotion is good for your health, people who pray but don’t recover might blame themselves,” says Professor Wright.

Total treatment

When Penny Roberts from Stocton, West Yorkshire, Great Britain, was paralyzed from the neck down in a skydiving accident in Florida, in March, 1995, she felt her life had come to an end. Transferred to Pinderfields General Hospital near her home, she spent months under going treatment. “I was very depressed and angry,” she recalls.

“Then people from my local church began visiting me. We prayed together and I felt calm and reassured. There was no bolt of lightning to her legs. But she continued to seek medical help. A physical therapist gave her a set of exercises to do at home. “And I have a child, Peter, who is four. My faith has complemented my medical treatment-the two go hand in hand,” said Mrs. Roberts.

Many doctors foresee a subtle shift in the practice of medicine, from treating a disease to treating the whole person. Healing may come in the form of dealing with yourself and others in a different way or maintaining a sense of peace in the face of affliction.

“Certainly in terms of disease, science has been incredible,” Assistant Professor of Medicine at George Washington University said, “We increased life expectancy by almost two-thirds in the twentieth century, mostly because of science. But we’ve put all our eggs in one basket. Science is not the total picture”.

“There is a bond of trust that may not occur when you are only focusing on someone’s physical aspects,” she adds. It doesn’t take more of a doctor’s time. It’s a question of approaching the patient with your heart open.



UNIT THREE

SATELLITE MODULES

3.1. Satellite module for pharmacy professionals

3.1.1. Directions for using this module

- Before reading this satellite module be sure that you have completed the pretests and studied core modules
- Continue reading this satellite module

3.1.2. Learning objectives

At the end of this module the learner will be able to:

- Define the healthy lifestyle;
- Describe why people use drugs;
- Understand drugs of misuse and abuse;
- Define drug dependence;
- Understand the effects of drug misuse and abuse;
- Know the prevention, intervention and treatment methods of drug abuse.

3.1.3. Questions for discussion

- 1) What are the components of a healthy and unhealthy lifestyle?
- 2) What are psychoactive drugs?
- 3) Explain what drug dependence means?
- 4) Differentiate between drug misuse and drug abuse?
- 5) What is the active ingredient in Khat? What are its common effects on the user?
- 6) What are the effects of drug abuse?

3.1.4. Drugs and lifestyle

3.1.4.1. Why do people use drugs?

Drugs are used as medications to ease pain, prevent illness and diagnose health conditions since earliest times. Moreover, drugs have many uses and serve some other functions for human motives which strongly reflect the pervasive influence of drugs in human beings (see Table 3.1.1 below). For millions of people, the discovery of certain drugs has improved the

quality of their lives. Many drugs prevent and treat disease that otherwise would interfere with the physical, mental and social health. While the responsible use of drugs promotes optimum health for most persons the improper use of drugs interferes with the achievement of optimum health for others. The first stage in the drug use process involves deciding whether a drug of some kind would be appropriate in a specific situation. The effects that a drug will have on a person are dependent on factors such as how a drug enters the body, what kind of drug is taken, how much of a drug is taken, a person's health status, and mood at the time the drug is taken. Responsible decision making regarding the use of over-the-counter (OTC) and prescription drugs, is based on life skills objectives that include:

1. identify the types of illegal drugs and avoid their use
2. follow lifestyle behavior that prevent drug misuse and abuse.

To date there are 131 internationally controlled drugs which are to be used under strict medical prescription and/or for scientific research. If used for purposes otherwise, they are called illicit drugs. The history of drug abuse in Africa is relatively short. However, the abuse of drugs in Africa is escalating rapidly from cannabis and khat abuse to more dangerous drugs; and from limited groups of drug users to a wide range of users. Studies on substance abuse in selected urban areas in Ethiopia showed that 82% of street children, commercial sex workers, and street vendors as having used addictive drugs or substances. They also reported that khat, alcohol, cannabis, tobacco, and solvents were the most abused substances. Heroin and cocaine, and other narcotic drugs were not considered to be important. The government of Ethiopia considers drug misuse and abuse as a serious and emerging problem. However, little attention has been given to the understanding of the factors related to drug misuse and abuse. Yet this understanding is critical to the successful implementation of the drug control strategies. The recent sharp increase in khat and cannabis production and consumption may not only affect the health of individuals but also has serious socio economic consequences.

Table: - 3.1.1 Human motives and functions of drugs

Function	Motive
Therapeutic function	Prevent, treat and cure disease, relieve pain and discomfort.
Psychological support function	Relieve feelings of personal failure, grief, stress, fear, loneliness, sadness or inferiority.
Recreational function	Relax and enjoy company of others, experience pleasurable sights, sounds, tastes, smells and feelings; satisfy curiosity or desire for new and unusual experiences.
Instrumental function	Relieve fatigue and improve academic, athletic, or work performance that is to work better and to be alert because of boredom.
Social control function	Manage or control the behavior of demanding patients, disruptive children, and political dissidents.
Cosmetic function	Beautify the skin, hair or body image
Religious function	Seek religious meaning, salvation, or transcendent experiences.
Research function	Gain knowledge and understanding of human behavior.
Expressive symbolic function	Express feelings, values, preferences, interest or concern.

3.1.4.2. Drug use, misuse and abuse

After discussing why people use drugs, the types of drug use situations needs to be understood. Four types of drug use situations have been identified; namely, therapeutic drug use, religious drug use, cultural drug use and social drug use. Regardless of the health questions involved and the legal status of certain drugs, a large segment of people will continue to use drugs for social and recreational purposes that they find bring them pleasure and enjoyment.

Drug use: relative to legal substances (alcohol, nicotine, caffeine, some other psychoactive substances, etc.) implies that a person is in control of his/her use of the substance. Responsible drinking and responsible medical use of psychoactive substances is using it in a manner not harmful to health with social or occupational impairment from its use. However, use of illegal substances, for example, heroin, amphetamine, marijuana, cocaine, etc.

implies that although the individual may be in control of his/her use of substances by using it in a manner compatible with health, and without apparent social or occupational impairment, he/she is liable for possession/use of a substance prohibited by law.

Drug misuse: Refers to inappropriate use of legal drugs intended to be medications. It can be because of misunderstanding the directions for the use of prescription or OTC drugs or because a patient shares a prescription with a friend or family member for whom the drug was not prescribed, or when a patient takes the prescription or OTC drug for a purpose or condition other than that for which it was intended or a dosage other than that recommended.

Drug abuse: is the use of drugs under one of the following circumstances that over time leads to dependence which implies a pathological pattern of use, inability to control use and impairment in social or occupational functioning:

- A. In amounts sufficient to create a hazard to one's own health or to the safety of the community, that is, use of illegal drugs or any use of legal drug when it is detrimental to health and wellbeing;
- B. When one obtains drugs through illicit channels;
- C. When one takes drugs on one's own initiative rather than on the basis of professional advice.

Most cases of drug abuse result from social drug use that gets out of control. Humans have been using drugs socially at least since the discovery of fermentation process; drug abuse has been with us for the same amount of time. It is not simple to distinguish between where does social drug use ends and drug abuse begins? Useful variables in distinguishing social drug use from drug abuse are: the dose of the drug, the frequency of drug administration, route of drug administration (therapeutic agents meant for oral administration are injected in case of drug abuse) and conditions under which drugs are consumed.

Not all drugs manufactured are liable for abuse. Unless a drug affects the central nervous system, it will produce no changes in perception or mood. Drug abusers and social drug users choose from three classes of drugs: those that depress the central nervous system, those that stimulate it, and those that produce changes in normal perception so that the world is viewed in a novel way.

3.1.4.3. Drugs of abuse

Drugs of abuse include the prescription drugs, OTC drugs and host of street drugs that have no medicinal values but are potent psychoactive agents and are classified as:

- Stimulants
- Depressants
- Hallucinogens

Psychoactive drugs alter the user's feelings, behavior, perceptions or moods. They have a strong potential for the development of dependence.

A. Stimulants: in general, stimulants excite or increase the activity of central nervous system (CNS) by increasing heart rate, blood pressure, and the rate of the brain function. Most stimulants produce the psychological dependence and tolerance relatively quickly, but they are unlikely to produce significant physical dependence when judged by life threatening withdrawal symptoms. The exception is cocaine, which seems to be capable of producing psychological dependence and withdrawal so powerful that continued use of the drug is inevitable in some users.

Tobacco: contains certain alkaloids, the main one being nicotine, that are most capable of producing central nervous system mediated behavioral effects. Nicotine is a mild stimulant and addictive drug (refer to Core Module).

Therefore, tobacco smoking is not only a medical problem but also major social, economic and psychological phenomena that have profound health implications. By choosing not to smoke one could lead a healthy lifestyle.

Caffeine: Is tasteless drug found in chocolate, coffee, tea and some soft drinks. Many coffee drinkers believe that they cannot start the day successfully without the benefit of a cup or two of coffee in the morning. Excessive consumption (equivalent to 10 or more cups of coffee daily) could lead to anxiety, diarrhea, restlessness, delayed onset of sleep or frequent awakening, headache and heart palpitation.

K'hat: also known as K'hat in English and Arabic, is an evergreen plant that exists as a tree in the wild and as a shrub in its cultivated form. Although the scale of production and utilization varies greatly, k'hat is cultivated in Ethiopia in almost all regions. It is known to be addictive with negative physical, socio-economic and public health connotations, which is

associated with the active constituent called (-) Cathinone, Phenylalkylamine alkaloid. This constituent has pharmacological properties analogous to those of (+) Amphetamine and is of similar potency and the same mechanism of action, for example inducing release at physiological catecholamine storage sites. The chewing of K'hat causes a certain degree of euphoria and hyperactivity accompanied by sympathomimetic side effects.

Cocaine: cocaine, perhaps the strongest of the stimulant drugs, has received much media attention. It is the primary psychoactive drug found in the leaves of coca plant. There is overwhelming scientific evidence that users quickly develop a strong psychological and physical dependence. However, physical dependence does not lead to death on withdrawal. Indeed, the personal and social cost of cocaine use is enormous, for instance, promoting the spread of HIV infection and other serious diseases which are associated with its route of administration. Chronic use can lead, among others, to the damage of the nervous system. Negative mental effects include extreme restlessness, anxiety, irritability and psychosis, a serious mental illness in which the patient develops distorted view of reality.

B. Depressants: depressants (or sedatives) sedate the user, slowing down CNS function. Depressants produce tolerance in abusers, as well as strong psychological and physical dependence. They produce brief euphoria, temporary relief from psychological and physical discomfort of anxiety, and resultant escape from pressures of life in the real world.

Alcohol: chemically, an alcohol is an alkyl group with a hydroxyl (OH) group attached. The representative of this chemical group that has produced a good deal of social and medical concern and detailed study is ethanol, which is contained in all commonly ingested alcoholic beverages and has the chemical power to depress the action of the central nervous system. Thus, it can definitely be classified as a mind-altering drug. With chronic use of ethanol, an individual's tolerance grows and he/she becomes physically and psychologically dependent on it.

The effects of alcohol on an individual are dependent upon amount consumed, rate of consumption, rate of absorption where most of the alcohol is absorbed by the small intestine, rate of oxidation, mood and setting, and tolerance.

Drinking alcohol would affect one's mental health, physical health, body organs (cirrhosis of the liver, cardiovascular disorders), cognitive impairment, and endocrine disorders. For instance, alcohol depresses testosterone levels acutely and chronically. Moreover,

excessive alcohol ingestion interferes with appetite, digestion and absorption of vitamins which result in nutritional deficiencies.

The effect of alcohol is particularly dangerous when taken concomitantly with other prescription drugs, such as:

- **Antihistamines:** makes people drowsy and sleepy;
- **Barbiturates:** can cause death below lethal dose;
- **Tranquilizers:** cause dizziness and clumsiness at low doses;
- **Aspirin and other non steroidal anti-inflammatory agents:** cause and aggravate gastro-intestinal irritation and bleeding;
- **Narcotics:** depress the brain and respiratory center which could cause coma and death at optimal dose.

Whom do you call problem drinker? The one who

- Drinks in order to function or cope with life;
- Frequently drinks to intoxication;
- Often goes to work or class intoxicated;
- Drives while intoxicated;
- Does something while under the influence of alcohol that he/she would never do otherwise.

Barbiturates: sleeping compounds that function by enhancing the effect of inhibitory neurotransmitters. They depress CNS to the point where the user drops off to sleep or, as is the case with surgical anesthetics, the patient becomes anesthetized. Medically, barbiturates are used in widely varied dosages as anesthetics and for treatment of anxiety, insomnia, and epilepsy. Regular use of barbiturates quickly produces tolerance, eventually such a high dose is required that the user still feels the effects of the drug throughout the next morning. Abrupt withdrawal from barbiturate use frequently produces a withdrawal syndrome that can involve seizures, delusions, hallucinations, and even death.

Tranquilizers: depressants that are intended to reduce anxiety and to relax people who are having problems managing stress. Unfortunately, some people become addicted to these tranquilizers.

Narcotics/Opiates/opoid: the class of opoid includes opium and its derivatives (morphine and heroin) and its synthetic substitutes such as methadone. Medically, they are used to relieve pain and induce sleep and are the most dependence producing drugs.

C. Hallucinogens: These drugs induce perceived distortions of reality. They are also known as psychedelic drugs or phantasticants. Synesthesia, a sensation in which, users report hearing a color, smelling music, or touching a taste, is produced with hallucinogen use. They lead to various degrees of psychological dependence and occasionally to significant (but not life threatening) physical dependence.

Lysergic Acid Diethylamide (LSD): Is a laboratory developed drug that can produce a psychedelic (mind viewing) effect that includes altered perception of shapes, images, time, sound, and body form. Synesthesia is common to LSD users. Users can injure or kill themselves accidentally during a bad trip. Dangerous side effects include panic attacks, flash backs, and occasional prolonged psychosis.

Cannabis: cannabis (marijuana) produces mild effects like those of stimulants and depressants. Marijuana is actually a wild plant (cannabis sativa), which grows in many parts of Ethiopia and is also illegally cultivated where the leafy material and small stems are dried and crushed so that users can smoke the mixture in rolled cigarettes or pipes. The resins collected from scraping the flowering tops of the plant yield a marijuana product called hashish, commonly smoked in a pipe. The potency of marijuana's hallucinogenic effect is determined by the percentage of the active ingredient Tetrahydrocannabinol (THC) present in the product.

Long-term marijuana use is associated with damage to the immune system, reproductive system, birth defects in babies born to mothers who smoke marijuana, etc.

Prescription drug misuse/abuse:

According to Drug Enforcement Administration, 12 of the top 20 most abused controlled substances are prescription drugs. These drugs fall into:

Opioid: prescribed to relieve acute or chronic pain;

Stimulants: usually prescribed for appetite suppression, attention deficit disorder, and narcolepsy;

Sedatives: frequently used to treat anxiety, panic disorder, and insomnia.

Under certain conditions, nearly anybody could wind up abusing a prescription drug, but there are particular groups of people who are at high risk for prescription drug abuse. People with a family history of depression, smokers, and excessive drinkers are more likely to become addicted to prescription drugs, as are those with a history of abusing illegal drugs.

Stress from traumatic experiences can also make a person more likely to abuse prescription drugs, and people who are hyperactive, obese, or who suffer from chronic pain are also at risk.

Abuse is often caused or continued because of deliberate deception on the part of the patient, but misuse of a prescription drug can start innocently enough. Sometimes communication problems between patients, physicians and pharmacists cause errors in prescription dispensing. The patient may unintentionally use the prescription incorrectly. One of these situations or a combination of factors can start prescription drug abuse. As abuse of a drug continues, the tolerance of the body to that drug increases, which can lead to stronger self-dosing.

3.1.4.4. The Process of Addiction

Addicted people, when deprived of their drug, experience abstinence syndrome, typified by weight loss, cardiovascular changes, gastrointestinal distress, psychosis and seizure.

A. Exposure: An addiction can begin after a person is exposed to a drug that he or she finds pleasurable. Perhaps this drug temporarily replaces an unpleasant feeling or sensation. This initial pleasure gradually (or in some cases quickly) becomes a focal point in the person's life.

B. Compulsion: Overpowering desire or need to continue taking the drug and to obtain it by any means. Frequently, repeated exposure to the drug continues despite the negative consequences, such as the gradual loss of family members, loved ones and friends, unpleasant physical symptoms after drug taking and problems at work. During the compulsion phase of the addictive behavior, a person's "normal" life is likely to degenerate while he or she searches for increased pleasures from the drug. An addicted person's family life, circle of friends, work, or study patterns become less important than the search for more and better "high".

C. Loss of control: Over time, the search for “highs” changes to a search to avoid the effects of withdrawal from the drug. Addicted people lose their ability to control their behavior. Despite the overwhelming negative consequences (for example, deterioration of health, alienation of family members and friends, or loss of all financial resources), addicted people continue to behave in ways that make their lives worse.

D. Dependence: when users take a psychoactive drug, the patterns of nervous system function are altered. If these altered functions provide perceived benefits for the user, drug use may continue, perhaps at increasingly larger dosages. If persistent use continues, the user can develop a dependence on the drug.

Physical Dependence: addiction when body cells have become reliant on a drug. Continued use of the drug is then required because body tissues have adapted to its presence. The person’s body needs the drugs to maintain homeostasis, or dynamic balance.

If the drug is not taken or suddenly withdrawn, the user develops a characteristic withdrawal illness, which ranges from mild to severe irritability, depression, nervousness, digestive difficulties, and abnormal pain. It can be life threatening as in the case of abrupt withdrawal from barbiturates.

Psychological dependence: Referred to as “habituation” when a person possesses a strong desire to continue a particular drug. People who are psychologically dependent on a drug believe that they need to consume the drug to maintain a sense of well-being. They crave the drug for emotional reasons in spite of having persistent or recurrent physical, social or occupational problems that are caused or worsened by the drug use. Abrupt withdrawal from a drug by such a person would not trigger the fully expressed withdrawal illness, although some unpleasant symptoms of withdrawal might be felt.

E. Tolerance: an acquired reaction to a drug in which continued intake of same dose has diminishing effects. The user needs larger doses of the drug to receive previously felt sensations. The continued use of drugs, for example depressants, can cause users to quickly develop a tolerance to the drug. Furthermore, tolerance developed for one drug may carry over to another drug within the same general category and is known as cross-tolerance. The heavy abuser of alcohol, for example, might require a larger dose of a preoperative sedative to become relaxed before surgery than the average person.

3.1.4.5. Effects of drug abuse

The abuse of psychoactive drugs can be tremendously disruptive in many people's lives, from tragic deaths to the loss of employment opportunities and to the deterioration of personal relationships.

The most important drug property relevant to the likelihood of abuse is the dependence potential of a drug. The dependence potential is also important to assess the harm potential of a drug. Virtually all drugs that produce dependence can cause varying degrees of economic, socio-cultural and health problems depending on the quantity of drug consumed per occasion, the frequency with which it is consumed at that quantity and the duration of consumption in months or years. Other factors that determine the occurrence of damage and the reaction of individual to a drug are sex, body size, personality, speed with which the drug is taken, the route of administration and simultaneous use with other drugs.

A. Economic Consequences:

- Unemployment, resulting in losses in national manpower and productivity;
- Economic costs for health and social consequences;
- Expenditure of drug addicts for buying illicit drugs;
- The transfer of illicitly acquired assets to other countries;
- Cost of violent and property crimes associated with drug abuse and dependence;
- Vast areas of land which would, otherwise be used for the cultivation and production of useful economic crops and food are used for the illicit cultivation of drugs;
- Heavy cost due to accidents to drug abuse and road traffic accidents are some of most important economic consequences among others.

B. Socio-cultural Consequences:

- Divorce which results in broken families and prostitution;
- Unemployment;
- Crime (theft, robbery, organized crime hijacking, rape, burglary, forgery);
- Violence;
- Deviation from social norms;
- Accidents.

C. Health consequences:

- Mental disorder;
- Intoxication organ damage;

- Nutritional disturbances;
- HIV/AIDS, hepatitis and other related diseases transmission in IV drug users.

In general, the major effects of drug abuse could be suffering from a feeling of insecurity, fear and psychological maladjustment, unhappy and unbearable life; exposure to other diseases; direct physiological, physical and mental disorders; involvement in illegal drug trafficking, which produces a severe social and economic crisis and involvement in violent crimes in a desperate attempt to get hold of the drugs.

3.1.4.6. Prevention of Drug Abuse

The best policy to prevent problems connected with drugs abuse is to avoid conditions that will lead to the abuse. This requires a strong principle for life, which is based on high moral standards. Every individual must aim to be somebody during his/her life time by avoiding petty things that interfere with healthy values of lifestyle.

Applicability of prevention program in Ethiopia: In most cases, the victims of drug abuse are those in the youth generation. Due to various reasons: psychological, cultural, availability of drugs, peer pressure, etc. the youth population is the most exposed group to this phenomenon. In Ethiopia the youth generation constitutes about half of the total population. This group lives in different cultural groups. In some cultures alcohol/khat use is not discouraged while in others alcohol drinking and khat chewing is sinful act. When the magnitude of drug abuse in Ethiopia is compared with other countries, the problem is at grass root level. However, there are certain conditions which indicate that there is no reason why the country can not enter into era of drug abuse soon unless control measures are taken.

There is no quick and easy solution to the complex problem of drug abuse, so the government strategy builds on prevention efforts. The people closest to the potential drug user can provide the most effective prevention effort including decision-making, peer (social group) support, confrontation and family, school, and community involvement for behavioral intervention. The pharmacy personnel should participate in preparing and disseminating information pertaining to drugs that are under international and national control, rational use of drugs, consequence of irrational drug use, recording and reporting of drug consumptions.

Different grades of drug abuse prevention:

A. Primary prevention: attempts to discourage the initiation of drug use, especially by children and adolescents. Successful primary prevention reduces the incidence of drug abuse.

Methods: Information, Education, Communication. The information has to put more emphasis on the economic, social, and medical aspects of drug abuse than its deep scientific aspects. Since the recipients are found at different levels of knowledge the quality of information to be passed should at least be understood by the majority of the population.

B. Secondary Prevention: discourages the escalation of drug consumption by occasional or experimental users and encourages them to return to non-use. Successful intervention reduces the prevalence of drug abuse.

Methods: counseling and education where education can be carried out through school curricula, public presentation and mass media campaigns.

C. Tertiary Prevention: provides treatment, rehabilitation and after care to help people get off and stay off drugs to save casualties of drug use. Successful treatment and rehabilitation reduces the prevalence of drug abuse.

Methods: detoxification, clinical care, use of antagonists, treatment of secondary health complications and nutritional deficiencies, rehabilitation and social reintegration.

Treatment and rehabilitation approaches for dysfunctional drug users, regardless of which drug or combination of drugs are being used at a particular time, focus attention on the user and his behavior rather than on the drug and consist of efforts undertaken to alleviate and reduce physical, psychological and social problems in order to involve the individual in a positive programme of social and vocational integration within the community. Therefore, the negative consequences of drug abuse tend to occur in four major life function areas: interpersonal relations, productivity, self concept, and health. If self directed attempts to quit have been unsuccessful, one may seek professional intervention.

Prevention Programmes:

- **Recognizing the problem:** the existence, extent, pattern and magnitude of drug abuse should be recognized at a particular place and period to start primary prevention.

- **Information dissemination through the mass-media:** since the recipients are found at different levels of knowledge the quality of information to be passed should at least be understood by the majority of the population and it has to put more emphasis on the economic, social and health aspects of drug abuse than its deep scientific aspects.
- **Enforce anti-drug laws and regulations:** for the control of licit and illicit narcotic drugs and psychotropic substances.
- **Community involvement:** drugs are found in the community, the abusers and dealers are also members of the community. Therefore, if a given community is well informed about the hoards of drugs, it can be the best tool to fight against the evils of drug abuse.
- **Set up treatment and rehabilitation centers:** Ethiopia has only one psychiatry hospital at the moment. After completing the course of treatment there is neither rehabilitation programme nor follow-up activities which consequently lead to high rate of relapse.

Drug use must be addressed in the control of a range of problems that threaten young people and their families such as health hazards, unemployment, and alienation from community authority. Therefore,

- Major thrust of education and prevention efforts must be instituted;
- Accurate and credible information about the effects of drugs must be readily available:
- Federal Government should have a role of leadership, encouragement and support;
- Health professionals should find ways to reduce the dangers of inappropriate use of prescription drugs;
- There should be willingness to use a variety of outlets (alternative ways) other than drugs to meet basic needs and achieve highs, for instance, relaxation technique to calm down, learning positive social skills to avoid social awkwardness.
- Education and counseling programmes that work towards the end of establishing greater self-esteem are appropriate preventive and interventive plans of action to fight drug abuse.

3.1.4.7. Alternatives to Drug Taking

On an individual level stemming the tide of drug use comes from the willingness to use a variety of outlets other than drugs in order to meet basic needs in various stressful situations. Developing a healthier coping style than those who consistently choose drug taking is an effective programme to avoid drug abuse.

- **Relaxation and stress management skills:** which are used to control excess anxiety, excess anger, stressful lifestyle, low self-esteem, depression and inability to relax which all directly or indirectly could lead to decision of drug taking.
- **Diet:** this is an especially important life-style component for drug users. Therefore paying close attention to diet and offering diet and weight management counseling is essential.
- **Exercise:** exercise is not only an integral part of a healthy lifestyle, it also may be an essential part of drug taking cessation programme as it builds confidence and self esteem, reduces anxiety and excess stress and burns calories.

3.2. Satellite module for Health Officers and Public Health Nurses

3.2.1. Directions for using this module

- Before reading this satellite module be sure that you have completed the pre- test and studied the core module.
- Continue reading this satellite module.

3.2.2. Learning Objectives

After reading this module the reader will be able to:

- State the causes of accident.
- Discuss the causes for vehicle accidents.
- Explain the methods of keeping medicine and poisons in the home to protect children.
- Write the methods of vehicle accident prevention.
- Conduct nursing assessment to identify the common causes of accidents and apply methods of prevention in the community.
- Issuing regulations to use helmets while riding motorcycles and bicycles.
- Design strategies to control smoking.
- Teach the preventive and control measures for accident.

- Provide health education to individuals, families, and the community about the health impacts of cigarette smoking.
- To promote the concept of tobacco free society.

3.2.3. Accident and accident prevention

Motor vehicle accidents involving automobiles, buses, trucks as well as accidents from drowning, fire, burns, falls, bicycles accidents or ingestion of foreign bodies are the most serious health problems. At highest risk for accidents are people and or children in low income, poorly educated families, who live in sub standard housing. In addition the younger the mother, the higher the risk of an accidents to the child.

3.2.3.1. Nursing Diagnosis

Health officer and Public Health Nurse see the community in urban, suburban and rural areas and can easily assess situations where accidents are likely to occur. The nursing diagnoses that are important for accident prevention include potential for trauma, potential for poisoning, potential for suffocation and knowledge deficit.

3.2.3.2. Planning

The Health Officer and Public Health Nurse need to develop accident prevention and risk identification strategies for communities. These activities should be done with the community members, because they are the ones who know the causes for accidents in the community. These activities may include educational seminars based on primary prevention, development of literature for families to follow and community outreach projects.

3.2.3.3. Implementation

Health Officer and Public Health Nurses provide health education emphasizing safety in all areas. The high activity level of infants, toddlers, pre-school and elementary school-aged children increase the likelihood that accidents will occur. Falls, burns, poisoning and other accidents may occur in many settings, such as homes, schools, day care centers, working areas and, in general anywhere. Therefore, steps should be taken by all caretakers and the community members to prevent the occurrence of accidents.

The Health Officer and Public Health Nurse must assess the home for apparent dangers and then teach safety measures as part of health promotion. In developed countries, the

community (public) health nurse needs to look for functioning smoke alarms and determine the family's fire evacuations plan. If there is no functioning smoke detectors the nurse should intervene immediately by providing smoke alarms and/ or batteries and developing an evacuation plan with family (Cook fair, 1996: 291)

In a developing country like Ethiopia, there are no such modern materials like smoke detectors. Therefore, the nurse needs to teach the community how to protect fire-causing materials, such as kerosene stove, old and over loaded electric wires and wood burning places in the house especially in rural areas. Education should always be based on the living standards and cultural learning styles of the people.

Poison control interventions must include educating parents to lock and or seal medicine, cleaners' pesticides, and detergents because these could be the potential source of poisoning for young children must be kept out of reach of children.

Kitchen safety needs to be addressed. Caretakers should be taught on how to handle materials that cause accidents in the kitchen. Some of these are all type of cooking vessels that contain hot or boiling fluids such as coffee makers, teapots and kettles which pose serious threats to children. Young children can easily pull the containers down on them, causing serious burns.

Children are prone to injury while playing even in the presence of adult supervisors. The community health nurses should make sure that play apparatus is safe and that no sharp edges on wooden or metal structures are unshielded. It is also important to teach the drivers and the passengers in the community to use safety belts while driving. Children should be secured in child-sized car seats with seats belts while they are in automobiles.

The Health Officer and Public Health Nurse should teach the community how to cross the street safely. People can also be seriously injured in bicycle and motorcycle accidents in which they either fall off the bicycle or are hit by other vehicles. Even if it is not common to use helmets in Ethiopia, all people riding bicycles or motorcycles should be advised to wear helmets.

The Health Officer and Public Health Nurse in the community are the logical ones to lobby for legislation in this area. The government of Ethiopia should accept responsibility for the safety of the people who use motorcycles and bicycles and require the use of helmets. The

prevention of accidents is an ongoing process for the Community Health Nurses as they promote education and legislation in an effort to be proactive rather than reactive.

3.2.4. Cessation of Smoking and Health Promotion

Tobacco contains a chemical substance called Nicotine. Nicotine is a psychoactive substance that produces feelings of well being, increased mental acuity and ability to concentrate and heightens one's sense of purpose. Nicotine may also exert a calming effect on the smoker. Unfortunately, Nicotine also contributes to a host of adverse physical effects including heart disease, several forms of cancer and chronic respiratory disease.

In developing countries like Ethiopia, people may not get information about the health impacts of cigarette smoking. Therefore, considerable efforts are needed to ensure that relevant messages are constantly brought to the public attention. To promote cessation of smoking and health, the Public Health Nurse should play a role as stated below.

3.2.4.1. Nursing Assessment

The Public Health Nurse conducts an assessment of individual, family and the community in private and governmental working areas about consumption patterns related to tobacco. The Public Health Nurse should ascertain the frequency and amount of tobacco use.

3.2.4.2. Nursing Preventive strategies

Strengthening tobacco control strategies is a complex and serious matter. To be successful, it requires careful planning and the plans need to be kept up – to – date. Three types of strategies can be used, in each of the three prevention levels to accomplish healthy lifestyles.

- **Educational strategies:** inform and educate the public about issues of concern, such as the danger of cigarette smoking. Education can be given anywhere that the community is available. These places could be in the health institutions waiting room, schools, prisons, churches, mosques, and community gathering places.

- **Automatic – protective strategies:** control environmental variables such as increasing tax on cigarette price, restricting smoking in people gathering areas such as restaurants, city parks, meeting halls, hotels, work places.

- **Coercive strategies:** employ legal and other formal sanctions to control a person who does not respect the rule and regulations about restricted smoking areas.

3.2.4.3. Prevention and control

The Public Health Nurse, particularly in the control and prevention of smoking, functions as a team member with other health professionals in the following aspects:-

- Providing health education about the danger of cigarette smoking in the areas where people gather, such as health institutions, waiting room, community gathering places, schools, and prisons.
- Organizing the community to take legal action related to those who smoke in restricted areas.
- Providing health education to the family to influence their adolescents not to smoke cigarettes and to understand the health consequences.
- Convincing employers to set policies related to smoking in the workplace, which will help as a sanction against cigarette smoking in workplaces.
- Providing health education for employees in any occupational settings.

Now you are through with the core and satellite modules, but there are still some activities remaining as stated below.

1. Read the task analysis of respective categories.
2. Do the question of pretest as a posttest and compare your answers of pre test with answer keys given in the annex 7.1 and evaluate your progress.

3.3. Satellite module for Environmental Health Professionals

3.3.1. Introduction

Once we thought pollution was fouling our local nests, now we realize that there is only one nest. Our problems are global: the greenhouse effect, ozone depletion, acid rain, the destruction of the rain forests and toxic wastes. In such a web, it is hard to know how an individual should act. But each of us must find a personal way to connect to the world that gave us birth and may yet live in it.

3.3.1.1. Purpose and use of the module

The main purpose of this module is to sensitize Environmental Health Professionals with information about hazards to the environment imposed upon it due to irresponsible personal

habits and destructive lifestyle pattern and show the mechanisms by which these professionals can influence the health center team by becoming a model themselves.

3.3.1.2. Directions for using the module

For a better understanding of this module, you are advised to follow the following directions

- Do the pre-test pertinent to your field in the core module.
- Go through the core module and to this module
- Evaluate yourself by doing post-tests and comparing your score with the pre-tests.

3.3.1.3. Learning Objectives

At the end of reading this module you will able to:

- List and explain the major hazards to the environment
- Explain how to save and protect the environment
- Assess yourself whether you are helping or harming the environment.
- Discuss strategies for educating the public about lifestyle and health promotion issues related to the environment.

3.3.2. Lifestyle and the Environment

Everything in your environment-the air you breathe, the water you drink, the social conditions in your city or town, has an impact on your well-being. In turn, your decisions and actions, the method of transportation you choose, the products you use, the waste you create, the political choices you make, can have an impact on your environment.

Some of the major threats to the environment are the shrinking ozone layer, acid rain, air and water pollution, chemical risks, and radiation. Detailed discussion about these threats is beyond the scope of this module but specific guidance on what you can do about them is provided. It is also worth noting to explore about key issues in social health, such as overpopulation, hunger, the health problems of minorities and homelessness.

These problems, which affect both you and your environment, may seem so overwhelming that you may think that one individual can't make a difference in solving them. Yet if you don't become part of the solution, you end up as part of the problem. And the fact is you can help find solutions. The first step is realizing that you have a personal responsibility for safeguarding the health of your environment.

3.3.2.1. Saving the Environment

The planet earth – once taken for granted as a ball of rock and water that existed for our use for all time – now is seen as a single, fragile **ecosystem** (a community of organisms that share a physical and chemical environment. Increasingly, we are realizing how important the health of this ecosystem is to our own well-being and survival.

Our environment is a closed ecosystem, powered by the sun; the materials needed for the survival of this planet must be recycled over and over again. The three major threats to the environment are pollution, overpopulation, and depletion of resources.

You can create a minimum – impact lifestyle. You can do a great deal to lower your demands for energy and natural resources and to lessen the amount of waste you leave behind. Here are some ideas:

- Wear sweaters, socks, or other warm clothes in cooler temperatures rather than turning up the heat.
- Use glass or reusable plastic containers rather than plastic wrap or aluminum foil.
- Use compact-fluorescent bulbs that require 75% less energy than incandescent bulbs. Use lamps rather than overhead lights for reading.
- Use cold water for laundry and rinsing dishes – anything that does not require hot water.
- Turn off all electrical appliances (TVs, CD players, radios, lights) when you are not in the room or paying attention to them.
- Use rechargeable batteries rather than disposable ones.
- Beware of claims about “biodegradable” products. Studies of dozens of plastic products labeled biodegradable, such as disposable diapers and garbage bags, found that they do not disintegrate into their natural elements as manufacturers claim.

Pollution

Any change in the air, water, or soil that could reduce its ability to support life is a form of pollution. Natural events, like smoke from fires triggered by lightning, can cause pollution. However, most pollution is a by-product of human activities.

The effects of pollution depend on the concentration (amount per unit of air, water, or soil) of the pollutant, how long it remains in the environment, and its chemical nature. An acute effect is a severe immediate reaction, usually after a single large exposure. For example, pesticide poisoning can cause nausea and dizziness. A chronic effect may take years to develop or may be a recurrent or continuous reaction, usually after repeated exposures. The development of cancer after repeated exposure to radiation is an example of a chronic effect.

Global warming

The earth is becoming warmer, possibly because of changes in atmospheric gases that have altered the natural heat-retaining phenomenon known as the **greenhouse effect**. Atmospheric changes result from the use of carbon (fossil) fuels like oil and gas, the burning of tropical forests, and methane emissions, produced mainly by cattle and rice. The world's average temperature has risen by 1⁰C over the last 100 years. Five of the hottest years in a century occurred in the 1980's; the average temperature in 1990 was the warmest ever recorded.

No one can predict exactly what effects a continuing temperature rise may have, but some experts have predicted severe drought and a rise of 2-20 feet in ocean levels, conditions that would affect everyone on earth.

The shrinking ozone layer

The **ozone layer** is a region of the upper atmosphere where **ozone**, created by the energy of sunlight acting upon ordinary oxygen, traps the most dangerous ultraviolet radiations. **Chlorofluorocarbons (CFCs)**, gases used in fire extinguishers, refrigerators, and air-conditioning units, rise into the atmosphere and damage this protective layer.

Scientists estimate that as much as 7% of the ozone belt has been destroyed. One result has been a dramatic increase in skin cancer, particularly its deadliest form: malignant melanoma.

Most of the world's industrialized nations have agreed to cut production and use of ozone depleting chemicals. However, some experts believe that the chemicals and technologies intended as replacements are more powerful greenhouse gases that also may contribute to global warming.

The vanishing rainforests

Another concern is the loss of tropical rainforests, which play a vital role in regulating of global climate. According to the report called World Resources, 1990 -1991, prepared in collaboration with the United Nations, these forests are disappearing much more rapidly than had been estimated. Each year 40-50 million acres of trees – an area the size of the state of Washington in USA – are cut up for timber or to clear land for agriculture and other development. Every second of every day an acre and a half of forestland is lost. As tropical rainforests shrink, their capacity to absorb carbon dioxide declines, hastening the onset and increasing the magnitude of global warming.

In helping to save the rainforests, here are some suggestions from the Rainforest Book:

- Don't buy furniture or other products made from tropical lumber, unless you can be sure they are not endangered species. Among the woods that come from rainforests are ebony, mahogany, rosewood, and teak.
- Buy products whose manufacturers provide support for the rainforest. Some companies use nuts or plants from the rainforest or give a percentage of the price to environmental groups working to save the rainforest.
- Visit rainforests in your area. "Ecotourism" – travel to see natural resources – offers an attractive financial alternative to logging and can convince lawmakers how important rainforests are.
- Plant a tree in a rainforest.

3.3.2.2. What you can do to protect the Planet

By the choices you make and the actions you take, you can improve the state of the world. No one expects you to sacrifice every comfort or spend great amounts of money. However, for almost everyone, there's plenty of room for improvement. If enough people make small individual changes, they can have an enormous impact.

As a consumer, you have a great deal of influence on manufacturers and distributors. When making purchases, consider their environmental impact. A simple switch – from plastic wrap to wax paper, for example, or from disposable plastic diapers (which can take as long as 500 years to decompose) to cloth diapers you wash at home – can make a difference.

Reusing everyday items has become a necessity for several reasons. We have run out of space for all the garbage we produce; waste sites are often health and safety hazards; recycling is cheaper than landfill or incineration (which is a major source of air pollution); and recycling helps save energy and natural resources.

Some people describe compost as nature's way of recycling. Organic products, such as leftover food and, vegetable peels, are mixed with straw or other dry material and kept damp. Bacteria eat the organic material and turn it into a rich soil. Some people keep a compost pile (which should be stirred every few days) in their backyards, others take their organic garbage (including mowed grass and dead leaves) to community gardens or municipal composting sites.

3.3.2.3. Are You Helping or Harming the Environment?

The purpose of this assessment is to promote personal responsibility for environmental conditions by identifying specific environmental problems that are susceptible to individual influence.

Check the items that are applicable to you. If you have at least 4 of the 14 behaviors you are harming the environment. Try to correct it.

1. I smoke cigarettes.
2. I sometimes litter.
3. I sometimes waste electricity.
4. I sometimes use phosphate detergents.
5. I sometimes like to play music as loud as possible.
6. I buy only blemish-free farm produce.
7. I sometimes use aerosol spray cans.
8. I throw away aluminum cans and returnable bottles.
9. I sometimes burn leaves or trash.
10. I sometimes idle my car needlessly.
11. I use colored toilet paper and/or napkins.
12. I waste water by taking lengthy showers.
13. I purchase liquids packaged in opaque white-plastic containers.
14. I use paper products instead of cloth handkerchiefs, napkins, and towels.

Making changes: how you can make a difference

If you checked any of these items, you should consider how to modify your behavior to improve the environment around you.

1. The inhalation of smoke increases your risk of lung disease, and also pollutes the air.
2. Litter may be classified as either solid waste or visual blight. Only through individual effort can this form of pollution be managed. Recycling is an important approach to its containment.
3. Electric consumption affects the thermal-water-pollution loads at electricity-generating plants. One simple way to lower your electricity consumption is to switch to bulbs of lower wattage any light bulbs not used for reading.
4. A great deal of pollution comes from detergent phosphates. The new biodegradable detergents still contain phosphates, which fertilize algae and, in turn, reduce the supply of oxygen necessary to support life in streams, lakes, and oceans.

5. Learn to enjoy music at lower volumes. Excessively loud noises over a period of time may lead to irreversible hearing losses.
6. The use of pesticides merely saves the appearance, and not the food value, of farm produce. The long-term effects of these pesticides on human health are disastrous.
7. Chlorofluorocarbon propellants are depleting the ozone layer, which absorb the solar ultraviolet rays known to cause skin cancer. Variations in weather, food supply, and disease will be inevitable if use of these propellants can cause skin cancer.
8. Most communities have recycling centers for both aluminum cans and glass. Use them and promote them.
9. Rather than burning leaves, start your own compost pile to return the nutrients in leaves to the soil. Trash is solid waste, which should be handled through the sanitary landfill.
10. The automobile is the single greatest source of air pollution. If you will be waiting more than 1 minute, turn off the engine.
11. When colored paper products enter the water system, dyes are released. Dyes pollute water visually and biologically.
12. Ethiopia has a limited supply of fresh water to conserve water, take shorter showers, use drought-resistant landscaping, and conserve rinse water during dishwashing.
13. Opaque white-plastic containers consist of polyvinyl chloride. It is a hazardous substance; when burned it can destroy nearby vegetation, the insides of incinerators, and the lining of your lungs.
14. Excessive use of paper products places an unusual burden upon our national forests. Take the time to use cloth handkerchiefs, napkins, and towels. Conserve the general use of paper.

3.4. Take home messages

- Lifestyle behavior that prevents drug misuse and abuse is important for health, social and economic well-being of individuals and society at large.
- Misuse and abuse of some drugs threatens the health of user and may cause behaviors that threaten the health and safety of others unless quick and proper action is taken.
- You have to identify and engage in health activities that help avoid drug misuse and abuse.
- Prescription drugs can be misused and lead to dependence.
- Many accidents results from stress, and drug and alcohol abuse.
- Safety rules should be followed when driving any vehicle, swimming and in the work places.
- Puffing and coughing, yellow stained fingers, bad breath and possible lung disease can be yours for the price of a regular cigarette habits. Love yourself and those around – don't smoke!
- Any form of exercise is better than being sedentary though it is not in line with the principles of exercise.
- Do walking than watching TV to relief from stress.
- Consult your doctor before beginning any exercise program.
- You should include warming up and cooling down exercises in all training programmes.
- When you exercise for health and physical fitness focus on duration than intensity of exercise as it takes long time to see the effect.
- You can obtain best result in exercise programme if you combined with behavior modification and knowledge dietary planning.
- Caring for the environment is caring for yourself
- You can contribute to the well being of the environment by saving energy at home and the work place. Close all the water pipes and put off all the light when not in use.
- Be a good consumer and promote your health
- If you can't be part of the solution to an environmental problem, you end up to causing a problem.
- Follow all personal hygiene practices and make them part of your behavior.

UNIT FOUR

ROLES AND TASK ANALYSIS

Table 4.1. Roles and task analysis of Pharmacy professionals.

Learning objectives	Learning activity
<ul style="list-style-type: none"> ▪ To describe healthy lifestyle 	<ul style="list-style-type: none"> ▪ Define healthy lifestyle, components of healthy and unhealthy lifestyle
<ul style="list-style-type: none"> ▪ To describe why people use drugs 	<ul style="list-style-type: none"> ▪ Define drugs, Study the human motives and drug function
<ul style="list-style-type: none"> ▪ To describe drug misuse and abuse 	<ul style="list-style-type: none"> ▪ Define drug misuse and abuse and differentiate the two components.
<ul style="list-style-type: none"> ▪ To describe drugs of misuse and abuse 	<ul style="list-style-type: none"> ▪ Identify drugs of misuse and abuse and discuss their classification
<ul style="list-style-type: none"> ▪ To understand drug dependence 	<ul style="list-style-type: none"> ▪ Define drug dependence, types of drug dependence and their impact
<ul style="list-style-type: none"> ▪ To describe effects of drug misuse and abuse 	<ul style="list-style-type: none"> ▪ Social impact, health impact, economic impact
<ul style="list-style-type: none"> ▪ To understand prevention and treatment method 	<ul style="list-style-type: none"> ▪ Define prevention methods, basic understanding of pharmacology principles: dose-response relationships, pharmacokinetics, side effects, adverse effects.
<ul style="list-style-type: none"> ▪ To participate in prevention and treatment activity 	<ul style="list-style-type: none"> ▪ Provide health education, keep drugs of narcotic antagonists, keep records of patient medication profile, mobilize community, parents for prevention of drug misuse.

Table 4.2. Learning objectives and activities for Public Health Nurses and Health Officers.

Learning objectives	Learning activities
<ul style="list-style-type: none"> ▪ To describe lifestyle and personal health 	<ul style="list-style-type: none"> ▪ Define lifestyle and personal health ▪ Study factors that leads a person to unhealthy lifestyle
<ul style="list-style-type: none"> ▪ To state the methods of promoting healthy lifestyle 	<ul style="list-style-type: none"> ▪ Provision of health education ▪ Increasing public awareness about healthy lifestyle ▪ Improve the health fitness of quality of life of all people through adoption and Maintenance of regular, daily physical activities ▪ Promote health by avoiding unhealthy lifestyle practices such as smoking, substance abuse etc.. ▪ Promote health by improving dietary factors and nutritional factors
<ul style="list-style-type: none"> ▪ To describe the WHO smoking control programme 	<ul style="list-style-type: none"> ▪ Recognize the control methods ▪ Case detection ▪ Provision of health education
<ul style="list-style-type: none"> ▪ To describe the risk factors in the unhealthy lifestyle 	<ul style="list-style-type: none"> ▪ Identify and enumerate risk factors
<ul style="list-style-type: none"> ▪ To describe the treatment strategies of the affected individuals to unhealthy lifestyle practices 	<ul style="list-style-type: none"> ▪ Study the treatment strategies and regimens, dosage side effects and contra-indication of the drugs ▪ Study drug resistance and of defaulting
<ul style="list-style-type: none"> ▪ To describe the methods of prevention of unhealthy lifestyle practices 	<ul style="list-style-type: none"> ▪ Identify the proper unhealthy lifestyle practices preventive methods ▪ Provision of for affected person are to un health practices, ▪ Improving housing conditions ▪ Keeping all medicines and poisons out of reach of children. ▪ Assess the house for apparent dangers and teach safe measures ▪ Teach how to protect from fire causing materials ▪ Teach the drivers to use safely belts while driving ▪ Use helmets while riding motorcycle and bicycle ▪ To lobby the government for legislation in using safety belts and helmets ▪ Involve the community for prevention and control

<ul style="list-style-type: none"> ▪ To describe the psychosocial impacts of unhealthy practice 	<ul style="list-style-type: none"> ▪ Advocate the social and economical health impacts of unhealthy lifestyle practices ▪ Discuss how people perceive unhealthy lifestyle practices ▪ Describe some of the ethical issues related to unhealthy lifestyle practices <p>Discuss ways of overcoming such an unhealthy practices among your groups and instructors</p>
<ul style="list-style-type: none"> ▪ To clarify your reasons for making an unhealthy lifestyle change 	<ul style="list-style-type: none"> ▪ Set realistic and achievable goals ▪ Select unhealthy lifestyle to plan to change ▪ Increase quality of healthy life
<ul style="list-style-type: none"> ▪ To accept unhealthy lifestyle as a major public health problem 	<ul style="list-style-type: none"> ▪ Give emphasis to diagnosis and treatment ▪ Give emphasis to prevention and control ▪ Stress on health education
<ul style="list-style-type: none"> ▪ To appreciate unhealthy lifestyle practices are preventable 	<ul style="list-style-type: none"> ▪ Stress on health education ▪ Early detection and treatment ▪ Prevention of complications

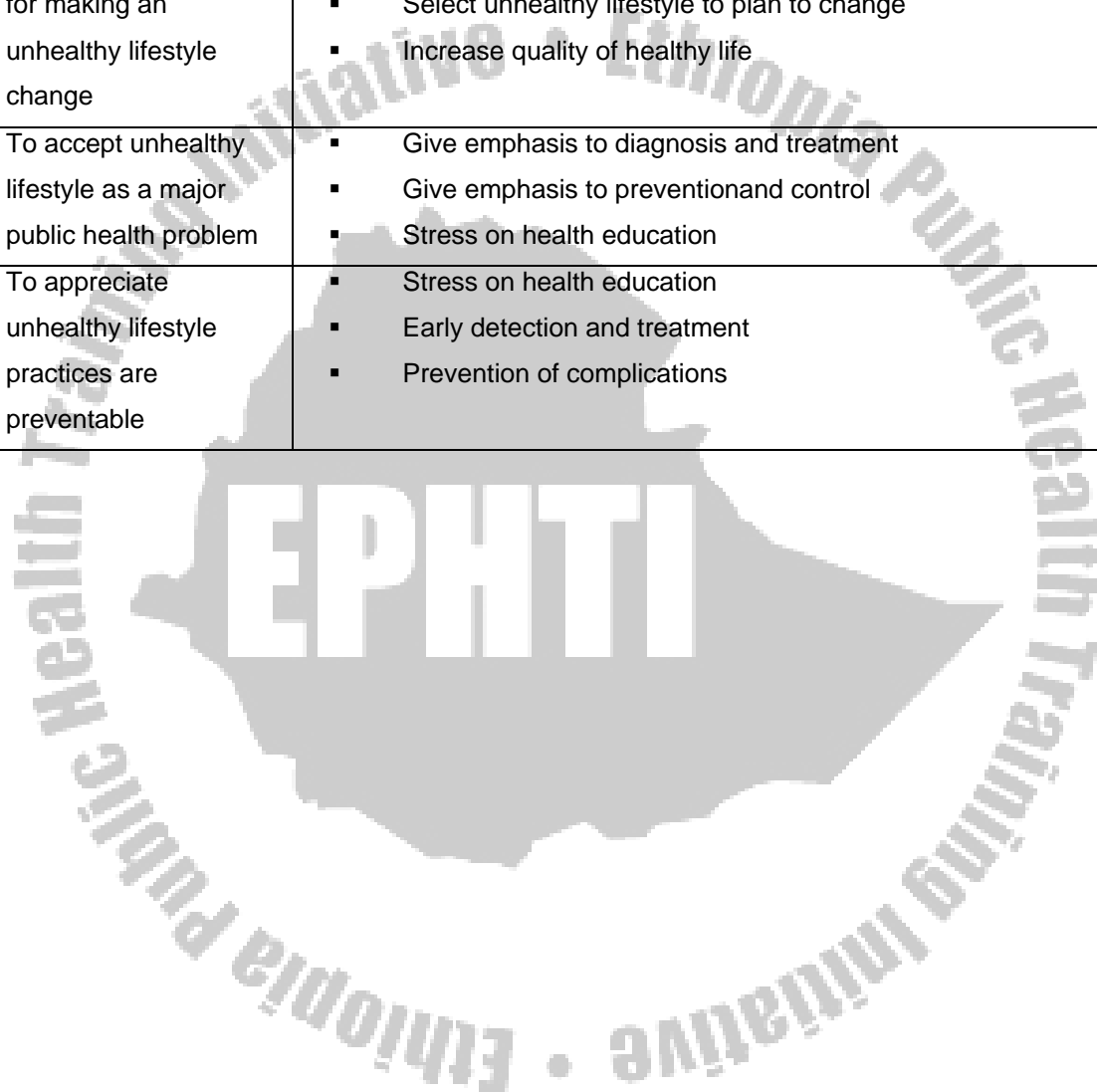
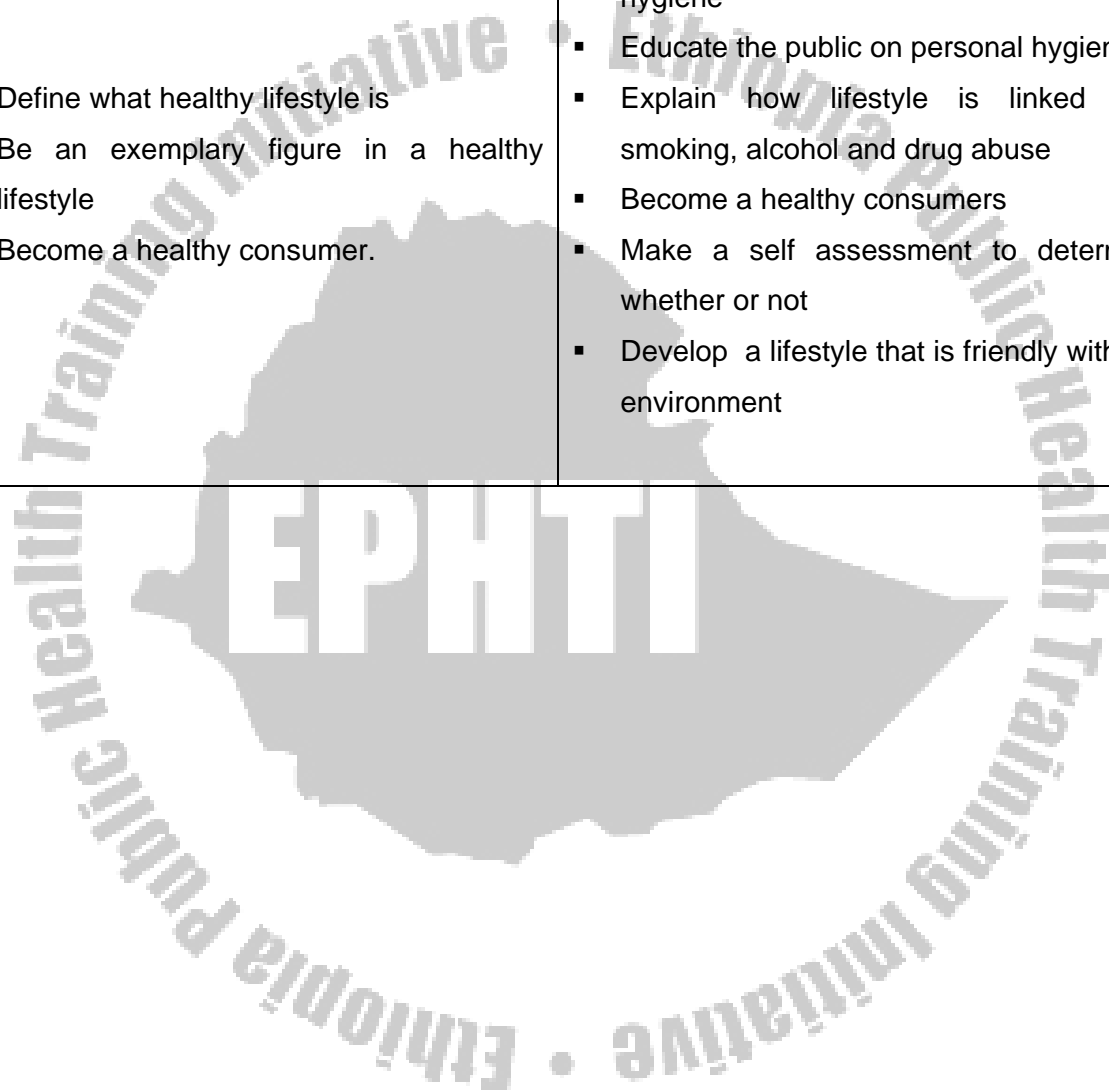


Table 4.3. Task analysis for Environmental health workers

Learning objectives (expected outcome)	Learning activities
<ul style="list-style-type: none"> ▪ Practice personal health principles in daily activity ▪ Define what healthy lifestyle is ▪ Be an exemplary figure in a healthy lifestyle ▪ Become a healthy consumer. 	<ul style="list-style-type: none"> ▪ Define lifestyle and personal health ▪ Describe the components of lifestyle ▪ Demonstrate how personal hygiene affects health ▪ Become exemplary figure in personal hygiene ▪ Educate the public on personal hygiene ▪ Explain how lifestyle is linked with smoking, alcohol and drug abuse ▪ Become a healthy consumers ▪ Make a self assessment to determine whether or not ▪ Develop a lifestyle that is friendly with the environment



UNIT FIVE

GLOSSARY

Accident prevention: the mechanism of preventing an accident before it happens.

Accidents: a sudden unanticipated, unintentional occurrence that may or may not produce a human injury or death and property damage.

Active smoker: actively smoking cigarette on self.

Adaptation: the body's efforts to maintain physiological equilibrium.

Addiction: unhealthy, continued involvement with a mood altering object or activity that creates harmful consequences.

Aerobic exercise: is a type of exercise during which the body requires large oxygen supply

Alkaloids: chemical ingredients that affect central nervous system.

Anaerobic exercise: short burst of activities during which the body requires rapid supply of oxygen.

Body composition: the proportion of lean tissue and fat tissue in the body

Cardio respiratory endurance: is the ability to sustain vigorous activity that requires increased oxygen intake for extended periods of time.

Dependence: general term that refers to the need to continue using a drug for

Distress: is negative stress that contributes to health problems

Drug abuse: the deliberate, excessive, non-therapeutic use of a drug, measured by either dose or frequency or route of administration, which proves detrimental to the individual, either physically, or psychologically.

Drug misuse: inappropriate use of legal drugs intended to be medications, for instance, when a patient misunderstands the directions for use.

Drug: a non food substance that is deliberately introduced into the body in order to produce some specific physiological or psychological effect.

Duration: How long you exercise

Eustress: is positive stress that you can adapt to it comfortably.

Flexibility: is the ability to move freely throughout a full range of motion about a joint or a series of joints

Frequency: How often you exercise

Habituation: a pattern of compulsive drug use that arises from psychic dependence but doesn't usually involve tolerance.

Intensity: How hard you exercise

Lifestyle: the way you live

Muscular endurance: is the ability to perform repeated muscular movements for a long period of time without fatigue.

Nicotine: it is a mild stimulant and an addictive drug that is found in tobacco

Overload: Refers to the ability of handling a task that is more than normal.

Passive smoker: involuntary inhalation of smoke because of proximity to a smoker.

Personal health: refers to all activities and behavior performed by an individual to keep himself clean and healthy.

Physical activity: any form of body movement produced by major muscle groups like hand, leg, and abdomen etc.

Physical activity: any form of body movement produced by major muscle groups like hand, leg, and abdomen etc.

Physical dependence: a condition on which presence of a drug becomes normal and necessary for cells to continue functioning in the same they way functioned before.

Physical fitness: refers to the ability of an individual to have enough energy for daily activity with some reserve energy to be engaged in leisure and meet some sudden challenges.

Poison: It is a chemical substance or agent that results in illness or death if it is ingested, inhaled, injected or absorbed. Psychological and/ or physical reasons.

Psychological dependence: strong desire to repeat the use of a drug for emotional reasons.

Strength: the ability to overcome a given resistance

Stress: is nonspecific response of the body to any demand made upon it in order to maintain physiological equilibrium

Tobacco: A family of plant that are cultivated for their leaves, which, are used for smoking, chewing and as a snuff.

Tolerance: a physical adaptation to a drug so that larger and larger doses are needed to produce the original desired effect.

Withdrawal syndrome: it is unpleasant and possibly painful condition that an individual who is physically dependent on a drug experiences when deprived of the drug.



UNIT SIX

REFERENCES

1. Dorthy, E. et al, 1987 *Drugs. A factual account*. 4th ed. Newberg Award Records Inc. U.S.A.
2. Meeks, L.and Heit, p. 1991. *Health: A wellness approach*. Glencoc. Mc Graw-hill. New York
3. Robyn, R. 1996. *Educating medical students about tobacco: planning and implementation*. South wood press pvt limited. Paris
4. WHO, 1998. *Guideline for controlling and monitoring the tobacco epidemics*. Geneva
5. WHO, 1997. *Tobacco or Health: A global statement report*. Geneva
6. WHO, 1993. *Legislative action to combat the world tobacco epidemics* 2nd ed. Macmillan/clays-6500. England.
7. Mickey C. Smith, David A Knap 1992, *Pharmacy, Drugs and medical care*, 5th ed, Williams and Wilkins.
8. ALFONSO and Gennaro, Remington, *the Science and practice of Pharmacy* 20th ed. Volume II, 2000. Lippincott Williams and Wilkins, New York, U.S.A.
9. Koenig, H; Cullough, M; - Larson D. 2001. *Handbook of Religion and Health*. London; Oxford University Press.
10. Armstrong, N. and Welsman, J.(1992). *Young People and Physical Activity*. Oxford University Press.
11. Bra, M. (2001). *Easy Way to Lose Weight*. Time Life Books.
12. Cooper, K.(1982). *Aerobics Program for Total Well-being*. Batam Books.
13. Corbin, C. and Lindsey, R.(1994). *Concepts of Physical Fitness:Active Lifestyles for Wellness*. Tenth Edtion Mc Graw-Hill Companies Inc.
14. Meeks-Mitchell and Heit, P. (2000). *Health a WELLNESS Approach*. Merill Publishing Company
15. Prentice, w.(1994). *Fitness for College and Life*. Fourth Edition. MSBY Publisher.

UNIT SEVEN

ANNEXES

7.1. Determining Cardiorespiratory Function

Purpose: To determine the current level of cardiorespiratory function.

Cooper Test (the 12- Minute run test).

Required resources:

- A stopwatch
- A running track

Procedures:

- Measure the distance in meter that you can run in a set time of 12 minutes over a flat course and
- Review the result against the table below.

Table 2 Cooper test result analysis

Fitness Value	Age in Year							
	Less than 30		30-39		40-49		50 and above	
	Men	Women	Men	Women	Men	Women	Men	Women
V. Poor	<1600	<1400	<1500	<1300	1300	<1100	<1200	<1000
Poor	1600	1400	1500	1300	1300	1100	1200	1000
Average	2000	1800	1800	1600	1600	1500	1500	1300
Good	2400	2100	2200	2000	2000	1900	1900	1600
Excellent	2800	2600	2700	2400	2500	2300	2300	2100

7.2. Determining body composition

The most common method for determining the percentage of body fat is the Body Mass Index (BMI). In this method a person's weight in kilograms is divided by the square of height in meters.

According to the American Dietetic Association a BMI range of:

- 20-25 - Normal
- >30 - Obese
- >40 - Morbidly obese

Using the BMI Formula

Step 1. Multiply the metric height by itself (square the height measurement).

Step 2. Divide the metric weight in Kilograms by the metric height in meter squared.

For example. A 1.75 meter tall individual whose weight equals to 70 kg wants to know his body mass index.

Step 1. 1.75×1.75 (height in meters squared) = 3.35

Step 2. $\frac{70 \text{ (weight in kilogram)}}{3.35 \text{ (height in meters squared)}}$
= **22.9** (Body Mass Index)

This number is within the normal range.

7.3. Determining Muscular strength and endurance

a) Sit up test

Purpose: to monitor the development of abdominal muscles.

Required resources:

- flat surface
- mat
- a partner to hold the feet

Procedures:

- Lie on the mat with the knees bent, feet flat on the floor and the arms folded across the chest
- Start each sit up with back on the floor.
- Raise yourself to the 90 degree position and then return to the floor
- The feet can be held by a partner
- Record the number of sit-ups completed in 30 seconds and
- Review the result against the table below.



Table 2. Sit up test result analysis

Gender	Excellent	Above Average	Average	Below Average	Poor
Male	>30	26-30	20-25	17-19	<16
Female	>25	21-25	15-20	9-4	<8

Press Up Test

Purpose: to assess the endurance of the upper body muscles.

Required Resources:

- flat surface
- mat
- a partner



Procedures:

The Press up Test is conducted as follows:

- Lie on the mat, hands shoulder width apart and fully extend the arms - see Figure 1
- Lower the body until the elbows reach 90° - see Figure 2
- Return to the starting position with the arms fully extended - see Figure 1
- The feet are not to be held
- The push up action is to be continuous with no rest
- Record the total number of full body press ups
- Review the result against the push ups table below.



Table 2. Full Body Push Ups test result analysis (Male)

Age	Excellent	Good	Average	Fair	Poor
20 – 29	>54	45 - 54	35 - 44	20 - 34	<20
30 – 39	>44	35 - 44	25 - 34	15 - 24	<15
40 -49	>39	30 - 39	20 - 29	12 - 19	<12
50 – 59	>34	25 - 34	15 - 24	8 - 14	<8
60+	>29	20 - 29	10 - 19	5 - 9	<5

Females tend to have less relative strength in the upper body and therefore can use the modified press up position to assess their upper body strength. The test is then performed as follows:

- Lie on the floor, hands shoulder width apart, bent knee position and fully extend the arms - see Figure 2. below
- Lower the upper body until the elbows reach 90° - see Figure 2. below
- Return to the starting position with the arms fully extended - see Figure 2.
- The feet are not to be held
- The push up action is to be continuous with no rest
- Record the total number of modified press ups
- Review the result against the modified push ups table below.



Figure 2



Figure 1

Table 2. Modified Push Ups test result analysis(Females)

Age	Excellent	Good	Average	Fair	Poor
20 – 29	>48	34 – 38	17 - 33	6 - 16	<6
30 – 39	>39	25 – 39	12 - 24	4 - 11	<4
40 -49	>34	20 – 34	8 - 19	3 - 7	<3
50 – 59	>29	15 – 29	6 - 14	2 - 5	<2
60+	>19	5 – 19	3 - 4	1- 2	<1

Curl-Up Test

Purpose: to assess the endurance of the abdominal muscles.

Required Resources

- flat surface
- mat
- a partner

Procedures:

The Curl- Ups Test is conducted as follows:

- Lie on the mat with the knees bent, feet flat on the floor, the hands resting on the thighs and the back of the head on the partner's hands- see Figure 2.

- Curl up slowly using the abdominal muscles and slide the hands up the thighs until the finger tips touch the knee caps - see Figure 2
- Return slowly to the starting position - see Figure 2
- The feet are not to be held
- A complete curl-up is to take 3 seconds - that is 20 repetitions/minute
- Repeat as many curls as possible at this rate
- Record the total number of curls
- Review the result against the curl-up table below.



Curl-Up Test result analysis (Male Standards)

Age	Excellent	Good	Fair	Poor
<35	60	45	30	15
35 – 44	50	40	25	10
>45	40	25	15	5

Curl-Up Test result analysis (Female Standards)

Age	Excellent	Good	Fair	Poor
<35	50	40	25	10
35 – 44	40	25	15	6
>45	30	15	10	4

7.4 Key to pre and post test questions

7.4.1. Answers of questions to all categories.

Answer Key (for Physical activity and health)

1. False
2. True
3. True
4. True
5. False
6. b
7. d
8. c
9. a
10. b
11. e
12. b
13. c
14. e
15. Stress could mean nonspecific response of the body to any demand made upon it in order to maintain physiological equilibrium. Simply put, stress in the body's natural response to environmental and social stimuli. As external conditions change, the body's internal systems react to allow you to adapt to those changes and survive. These internal reactions are often called the "flight or fight response".
16. Yes it is true. Because too little stress makes people slow-moving and too much stress has a wide range of harmful effects on the body and mind.
17. Moderate-intensity physical activity refers to any activity that burns 3.5 to 7 Calories per minute (kcal/min) (Ainsworth et al., 2000). These levels are equal to the effort a healthy individual might burn while walking briskly, dancing, swimming for recreation, or bicycling.
18. Vigorous-intensity physical activity refers to any activity that burns more than 7 Calories per minute (kcal/min) (Ainsworth et al., 2000). These levels are equal to the effort a healthy individual might burn while jogging, engaging in heavy yard work, participating in high-impact aerobic dancing, swimming continuous laps, or bicycling uphill.

19. It is a sudden, unanticipated, unintentional occurrence that may or may not produce a human injury or death and property damage.

20. Causes of accident

- Stress
- Drug and alcohol use
- Night time and weekends
- Illnesses
- Attitude and
- Age

21. Vehicle accident prevention

- Do not use alcohol while driving
- Use seat restraints/belts always
- Drive according to the speed limit
- Be sure your motor vehicle is in good condition
- Be sure your car doors are locked

22. Accidents caused at home

- Falls
- Fire
- Burn
- Poisoning

23. Common causes of smoking

- Habits
- Stimulation
- Handing
- Pleasurable relaxation
- Tension reduction
- Physical addiction

24. Nicotine is a mild stimulant and an addictive drug that is found in tobacco.

25. Health impacts:

- Decrease ability to concentrate and relax
- Causes physical and psychological dependence
- Increase the heart and lung diseases
- Decrease the cardio vascular endurance and others (refer core module for more).

26. Answers

- A. Exposure
- B. Compulsion
- C. Loss of control
- D. Dependence

27. Answers

- A. Relaxation and stress management skills
- B. Diet
- C. Exercise

7.4.2. Answers to questions for pharmacy professionals.

Part I

- 1. True
- 2. False
- 3. False
- 4. False
- 5. True
- 6. True
- 7. False
- 8. False
- 9. True
- 10. True

Part II

- 1. D
- 2. D
- 3. D
- 4. C
- 5. D

7.4.3. Answers to questions for Health Officer and Public Health Nurses

- 1. True
- 2. True
- 3. True
- 4. True
- 5. False

6. True

7. True

7.4.4. Answers to questions for Environmental Health Technicians.

1. D

2. A

3. A

4. D

5. B

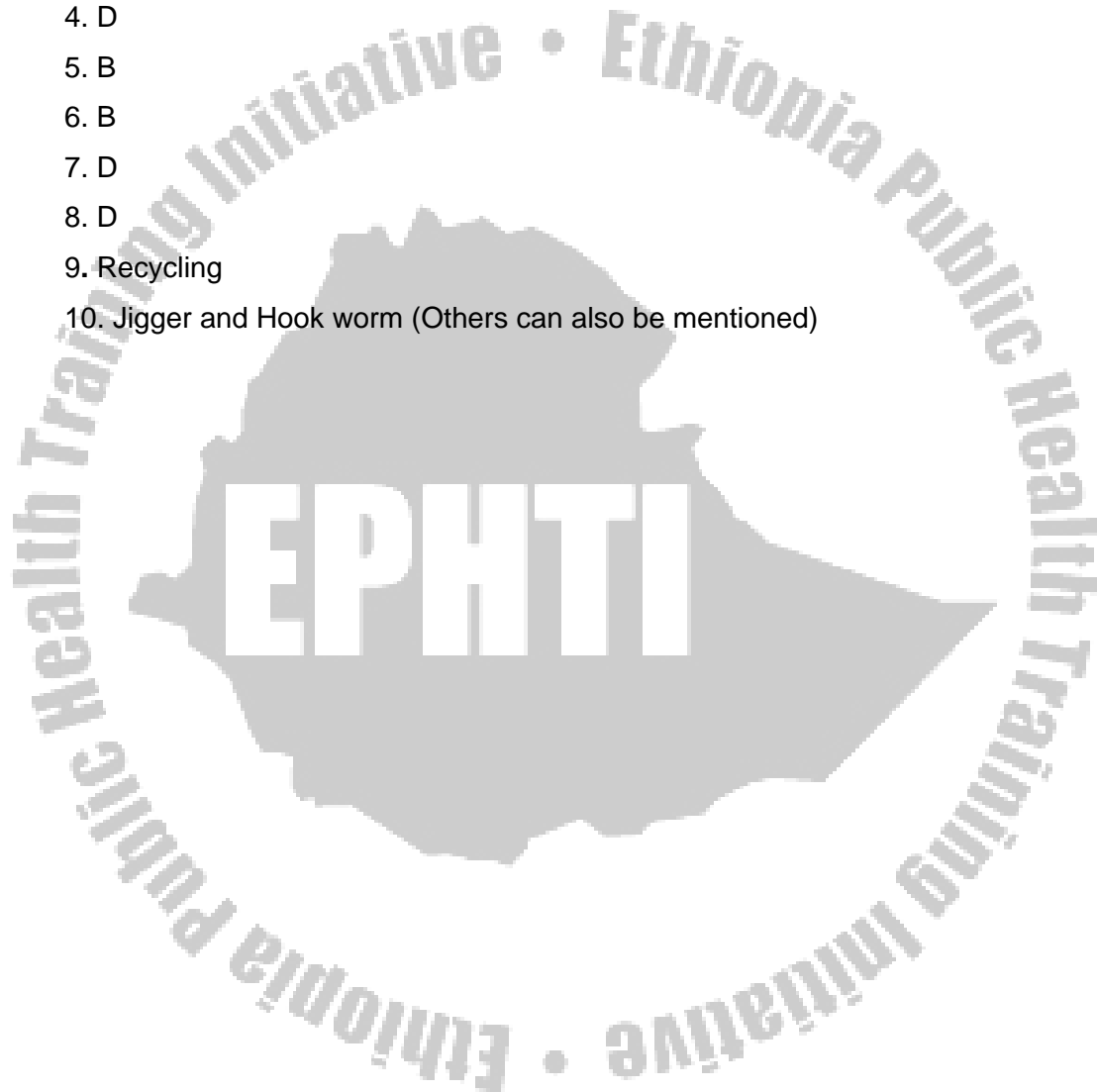
6. B

7. D

8. D

9. Recycling

10. Jigger and Hook worm (Others can also be mentioned)



7.5. The Authors

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