ALAGAPPA UNIVERSITY

COURSE MATERIAL ON

COMMUNITY HEALTH

(MSW - PG LEVEL)
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UNIT I – HEALTH AND HYGIENE

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1.1 INTRODUCTION

In this unit you will be introduced to the important concepts that are used in health and hygiene. Starting with a brief description of the importance of health, we will describe the links between health and hygiene. Health can be defined as the physical, social, psychological and spiritual well-being of individuals. Overall health of the population is determined by people’s income, education, employment and housing, as well as a combination of preventive and rehabilitative approaches and services.

1.2 OBJECTIVES

In this unit you will be able to,
- Understand the concept and the underlying philosophy of Health
- Distinguish the changing concepts of health
- Know the various dimensions of health
- Recognise the numerous factors influencing health
- Understand the notion of public health and primary health care

1.3 HEALTH AND HYGIENE

HEALTH

Health is a common theme in most cultures. In fact, all communities have their concepts of health, as part of their culture. Among definitions still used, probably the oldest is that health is the "absence of disease". In some cultures, health and harmony are considered equivalent, harmony being defined as "being at peace with the self, the community, god and cosmos". The ancient Indians and Greeks shared this concept and attributed disease to disturbances in bodily equilibrium of what they called "humors".
HYGIENE

The world "hygiene" is derived from Hygeia, the goddess of health in Greek mythology. She is represented as a beautiful woman holding in her hand a bowl from which a serpent is drinking. In Greek mythology, the serpent testifies the art of healing which symbol is retained even today.

Hygiene is defined as "the science of health and embraces all factors which contribute to healthful living".

1.4 HEALTH

1.4.1 DEFINITION

The widely accepted definition of health is that given by the World Health Organization (1948)

"Health is a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity"

1.4.2 CONCEPT OF HEALTH

The concept of health is viewed as being of two orders. In a broad sense, health can be seen as "a condition or quality of the human organism expressing the adequate functioning of the organism in given conditions, genetic or environmental" In a narrow sense - one more useful for measuring purposes - health means:

(a) there is no obvious evidence of disease, and that a person is functioning normally, i.e., conforming within normal limits of variation to the standards of health criteria generally accepted for one's age, sex, community, and geographic region; and

(b) the several organs of the body are functioning adequately in themselves and in relation to one another, which implies a kind of equilibrium or homeostasis a condition relatively stable but which may vary as human beings adapt to internal and external stimuli.

1.4.3 CHANGING CONCEPTS

An understanding of health is the basis of all health care. Health is not perceived the same way by all members of a community including various professional groups (e.g., biomedical scientists, social science specialists, health administrators, ecologists, etc) giving rise to confusion about the concept of health. In a world of continuous change, new concepts are bound to emerge based on new patterns of thought. Health has evolved over the centuries as a concept from an individual concern to a worldwide social goal and encompasses the whole quality of life.

1. Biomedical concept

Traditionally, health has been viewed as an "absence of disease", and if one was free from disease, then the person was considered healthy. This concept, known as the"biomedical concept" has the basis in the "germ
theory of disease" which dominated medical thought at the turn of the 20th century. The medical profession viewed the human body as a machine, disease as a consequence of the breakdown of the machine and one of the doctor's task as repair of the machine. Thus health, in this narrow view, became the ultimate goal of medicine.

2. Ecological concept
Deficiencies in the biomedical concept gave rise to other concepts. The ecologists put forward an attractive hypothesis which viewed health as a dynamic equilibrium between man and his environment, and disease a maladjustment of the human organism to environment. Dubas defined health saying: "Health implies the relative absence of pain and discomfort and a continuous adaptation and adjustment to the environment to ensure optimal function".

3. Psychosocial concept
Contemporary developments in social sciences revealed that health is not only a biomedical phenomenon, but one which is influenced by social, psychological, cultural, economic and political factors of the people concerned. These factors must be taken into consideration in defining and measuring health. Thus health is both a biological and social phenomenon.

4. Holistic concept
The holistic model is a synthesis of all the above concepts. It recognizes the strength of social, economic, political and environmental influences on health. It has been variously described as a unified or multidimensional process involving the well-being of the whole person in the context of his environment. This view corresponds to the view held by the ancients that health implies a sound mind, in a sound body, in a sound family, in a sound environment. The holistic approach implies that all sectors of society have an effect on health, in particular, agriculture, animal husbandry, food, industry, education, housing, public works, communications and other sectors. The emphasis is on the promotion and protection of health.

1.4.4 PHILOSOPHY OF HEALTH

In recent years, we have acquired a new philosophy of health, which may be stated as below:

- health is a fundamental human right
- health is the essence of productive life, and not the result of ever increasing expenditure on medical care
- health is intersectoral
- health is an integral part of development
- health is central to the concept of quality of life
- health involves individuals, state and international responsibility
- health and its maintenance is a major social investment
- health is a worldwide social goal.

1.4.5 DIMENSIONS OF HEALTH
Health is multidimensional. The WHO definition envisages three specific dimensions - the physical, the mental and the social. Many more may be cited, viz. spiritual, emotional, vocational and political dimensions. Etc.,

1. Physical dimension

The state of physical health implies the notion of "perfect functioning" of the body. It conceptualizes health biologically as a state in which every cell and every organ is functioning at optimum capacity and in perfect harmony with the rest of the body.

2. Mental dimension

Mental health is not mere absence of mental illness. Good mental health is the ability to respond to the many varied experiences of life with flexibility and a sense of purpose. More recently, mental health has been defined as "a state of balance between the individual and the surrounding world, a state of harmony between oneself and others, a coexistence between the realities of the self and that of other people and that of the environment".

3. Social dimension

Social well-being implies harmony and integration within the individual, between each individual and other members of society and between individuals and the world in which they live. It has been defined as the "quantity and quality of an individual's interpersonal ties and the extent of involvement with the community".

4. Spiritual dimension

Proponents of holistic health believe that the time has come to give serious consideration to the spiritual dimension and to the role this plays in health and disease. Spiritual health in this context, refers to that part of the individual which reaches out and strives for meaning and purpose in life. It is the intangible "something" that transcends physiology.

5. Emotional dimension

Historically the mental and emotional dimensions have been seen as one element or as two closely related elements. However, as more research becomes available a definite difference is emerging. Mental health can be seen as "knowing" or "cognition" while emotional health relates to "feeling". Experts in psychobiology have been relatively successful in isolating these two separate dimensions.

6. Vocational dimension

The vocational aspect of life is a new dimension. It is part of human existence. When work is fully adapted to human goals, capacities and limitations, work often plays a role in promoting both physical and mental health. Physical work is usually associated with an improvement in physical capacity, while goal achievement and self-realization in work are a source of satisfaction and enhanced self-esteem.

7. Others
A few other dimensions have also been suggested such as:

- philosophical dimension
- cultural dimension
- socio-economic dimension
- environmental dimension
- educational dimension
- nutritional dimension
- curative dimension
- preventive dimension.

A glance at the above dimensions shows that there are many "non-medical" dimensions of health, e.g., social, cultural, educational, etc.

**Check your Progress – 1**

**Note:** a. Write your answer in the space given below

b. Compare your answer with those given at the end of the unit.

1. Define Health

2. Define Hygiene

**1.5 PRIMARY HEALTH CARE**

This is the first level of contact between the individual and the health system where "essential" health care (primary health care) is provided. A majority of prevailing health complaints and problems can be satisfactorily dealt with at this level. This level of care is closest to the people.

In the Indian context, this care is provided by the primary health centres and their subcentres, with community participation.

The concept of primary health care came into lime-light in 1978 following an international conference in Alma-Ata, USSR. It has been defined as:

"Essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self determination"

The primary health care approach is based on principles of social equity, nation-wide coverage, self-reliance, intersectoral coordination, and people's involvement in the planning and implementation of health programmes in pursuit of common health goals. This approach has been described as "Health by the people" and "placing people's health in people's hands".
The Declaration of Alma-Ata stated that primary health care includes at least:

- Education about prevailing health problems and methods of preventing and controlling them;
- Promotion of food supply and proper nutrition; an adequate supply of safe water and basic sanitation;
- Maternal and child health care, including family planning;
- Immunization against infectious diseases;
- Prevention and control of endemic diseases;
- Appropriate treatment of common diseases and injuries; and
- Provision of essential drugs.

The concept of primary health care involves a concerted effort to provide the rural population of developing countries with at least the bare minimum of health services. The list can be modified to fit local circumstances. For example, some countries have specifically included mental health, physical handicaps, and the health and social care of the elderly. The primary health care approach integrates at the community level all the factors required for improving the health status of the population.

As a signatory to the Alma-Ata Declaration, the Government of India, has pledged itself to provide primary health care. Obstacles to the implementation of primary health care in India include shortage of health manpower, entrenchment of a curative culture within the existing health system, and a high concentration of health services and health personnel in urban areas.

**Check your Progress – 2**

**Note:**

a. Write your answer in the space given below

b. Compare your answer with those given at the end of the unit.

3. Define Primary Health Care

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1.6 PUBLIC HEALTH

The term "public health" came into general use from the need to protect "the public" from the spread of communicable diseases. Later, it appeared in the Public Health Act in England to crystallize the efforts organized by society to protect, promote, and restore the people's health. The WHO Expert Committee on Public Health Administration, adapting Winslow's earlier definition, has defined public health as
"the science and art of preventing disease, prolonging life, and promoting health and efficiency through organized community efforts for the sanitation of the environment, the control of communicable infections, the education of the individual in personal hygiene, the organization of medical and nursing services for early diagnosis and preventive treatment of disease, and the development of social machinery to ensure for every individual a standard of living adequate for the maintenance of health, so organizing these benefits as to enable every citizen to realize his birth right of health and longevity".

Whereas in developing countries, public health has not made much headway in terms of sanitary reforms and control of communicable diseases, it has made tremendous strides in the industrialized western countries resulting in longer expectation of life and significant decline in death rates. As a result of improvements in public health the developed countries has moved from sanitation and control of communicable diseases (which have been largely controlled) to preventive, therapeutic and rehabilitative aspects of chronic diseases and behavioural disorders.

A EURO symposium in 1966 suggested that the definition of public health should be expanded to include the organization of medical care services. This was endorsed by another Expert Committee of WHO in 1973. Thus modern public health also includes organization of medical care, as a means of protecting and improving the health of people. Since the organization of public health tends to be determined by cultural, political and administrative patterns of the countries, there is a wide mosaic of organizational arrangements.

Public health, in its present form, is a combination of scientific disciplines (e.g., epidemiology, biostatistics, laboratory sciences, social sciences, demography) and skills and strategies (e.g., epidemiological investigations, planning and management, interventions, surveillance, evaluation) that are directed to the maintenance and improvement of the health of the people.

With the adoption of the goal of "Health for All", a new public health was evident worldwide, which may be defined as: "the organized application of local, state, national and international resources to achieve "Health for All", i.e., attainment by all people of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life".

Although the term "public health" has lost its original meaning, the term is still widely used. Terms like preventive medicine, social medicine and community medicine are used as synonyms for public health. Public health is not only a discipline but has become a "social institution" created and maintained by society to do something about the death rate and sanitary conditions and many other matters relating to life and death. In this sense public health is both a body of knowledge and also a means to apply that knowledge.
1.7 FACTORS INFLUENCING HEALTH

Health is multifactorial. The factors which influence health lie both within the individual and externally in the society in which he or she lives. It is a truism to say that what man is and to what diseases he may fall victim depends on a combination of two sets of factors his genetic factors and the environmental factors to which he is exposed. These factors interact and these interactions may be health promoting or deleterious. Thus, conceptually, the health of individuals and whole communities may be considered to be the result of many interactions. Only a brief indication of the more important determinants or variables are shown in Fig.1

![Fig.1 Determinants of Health](image-url)
1. **Biological determinants**

The physical and mental traits of every human being are to some extent determined by the nature of his genes at the moment of conception. The genetic make-up is unique in that it cannot be altered after conception. A number of diseases are now known to be of genetic origin, e.g., chromosomal anomalies, errors of metabolism, mental retardation etc. The state of health, therefore depends partly on the genetic constitution of man.

2. **Behavioural and socio-cultural conditions**

The term "lifestyle" is rather a diffuse concept often used to denote "the way people live", reflecting a whole range of social values, attitudes and activities.

Health requires the promotion of healthy lifestyle. A considerable body of evidence has accumulated which indicates that there is an association between health and lifestyle of individuals.

3. **Environment**

Environment is classified as "internal" and "external". The internal environment of man pertains to "each and every component part, every tissue, organ and organ system and their harmonious functioning within the system". Internal environment is the domain of internal medicine.

The external or macro-environment consists of those things to which man is exposed after conception. It is defined as "all that which is external to the individual human host".

4. **Socio-economic conditions**

Socio-economic conditions have long been known to influence human health. For the majority of the world's people, health status is determined primarily by their level of socio-economic development, e.g., per capita GNP, education, nutrition, employment, housing, the political system of the country, etc.

5. **Health services**

The term health and family welfare services cover a wide spectrum of personal and community services for treatment of disease, prevention of illness and promotion of health. The purpose of health services is to improve the health status of population. For example, immunization of children can influence the incidence/prevalence of particular diseases. Provision of safe water can prevent mortality and morbidity from water-borne diseases.

6. **Ageing of the population**

Although the elderly in many countries enjoy better health than hitherto, a major concern of rapid population ageing is the increased prevalence of chronic diseases and disabilities, both being conditions that tend to accompany the ageing process and deserve special attention.
7. Gender

The 1990s have witnessed an increased concentration on women's issues. In 1993, the Global Commission on Women's Health was established. The commission drew up an agenda for action on women's health covering nutrition, reproductive health, the health consequences of violence, ageing, lifestyle related conditions and the occupational environment. It has brought about an increased awareness among policy-makers of women's health issues and encourages their inclusion in all development plans as a priority.

8. Other factors

We are witnessing the transition from post industrial age to an information age and experiencing the early days of two interconnected revolutions, in information and in communication. The development of these technologies offers tremendous opportunities in providing an easy and instant access to medical information once difficult to retrieve. It contributes to dissemination of information worldwide, serving the needs of many physicians, health professionals, biomedical scientists and researchers, the mass media and the public.

Other contributions to the health of population derive from systems outside the formal health care system, i.e., health related systems (e.g., food and agriculture, education, industry, social welfare, rural development), as well as adoption of policies in the economic and social fields that would assist in raising the standard of living. This would include employment opportunities, increased wages, prepaid medical programmes and family support systems.

1.8 LET US SUM UP

Thus the concept of health emphasises on the “whole person concept.” In other words, health refers to the outcome of the interaction between the individual and his environment. So, to say, he/she is healthy who is well adjusted with environment. Understanding of the philosophy, dimensions and determinants of health gives us an overview of health. The importance of community action in the promotion of health and the prevention and treatment of disease, and is expressed in the concept of public health and primary health care services.

1.9 UNIT – END EXERCISES

1. List out the factors influencing health
2. Write about the changing concepts of health

1.10 ANSWERS TO CHECK YOUR PROGRESS

1. Health is a state of complete physical, mental and social well-being and not merely an absence of disease or infirmity
2. The science of health and embraces all factors which contribute to healthful living
3. Primary Health Care is defined as, Essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and the country can afford to maintain at every stage of their development in the spirit of self determination
4. Public health is defined as "the science and art of preventing disease, prolonging life, and promoting health and efficiency through organized community efforts for the sanitation of the environment, the control of communicable infections, the education of the individual in personal hygiene, the organization of medical and nursing services for early diagnosis and preventive treatment of disease, and the development of social machinery to ensure for every individual a standard of living adequate for the maintenance of health, so organizing these benefits as to enable every citizen to realize his birth right of health and longevity”.

1.11 SUGGESTED READINGS

UNIT II – SOCIAL & PREVENTIVE MEDICINE

Structure
2.1 Introduction
2.2 Objectives
2.3 Social Medicine
2.4 Preventive Medicine,
2.5 Levels of disease prevention
2.6 Comprehensive health indicators
   2.6.1 Vital health statistics
   2.6.2 Uses of Vital Records and Vital Statistics
   2.6.3 Definitions of Selected Vital Events
2.7 Community Mental Health
2.8 Community Psychiatry.
   2.8.1 Types of Community Psychiatric Services
   2.8.2 Barriers to Treatment
2.9 Let us sum up
2.10 Unit – End Exercises
2.11 Answers to check your progress
2.12 Suggested readings

2.1 INTRODUCTION

Preventive and social medicine is concerned with the measures taken to prevent diseases and promote health. Preventive and social medicine is also known as community medicine or public health. Preventive and social medicine offers medical services ranging from curative to rehabilitative. Presently, it deals with the health problems of not only a single person but the entire community at large. We will go through the important indicators and various other services that are vital in the application of Preventive and social medicine

2.2 OBJECTIVES

In this unit you will be able to,
- Know the concept of social medicine & preventive medicine,
- Understand diseases and the levels of disease prevention
- Comprehend on important health indicators and statistics
- Explore the Community mental health and its community psychiatric Services

2.3 SOCIAL MEDICINE

The term "social medicine" was first introduced by Jules Guerin, a French physician in 1848. In 1911, the concept of social medicine was revived by Alfred Grotjahn of Berlin who stressed the importance of social factors as determinants of health and disease. These ideas of social medicine spread throughout Europe and England after the First World War
By derivation, social medicine is "the study of man as a social being in his total environment". It is concerned with all the factors affecting the distribution of health and ill health in population, including the use of health services. Social medicine is not a new branch of medicine, but rather an extension of the public health idea reflecting the strong relationship between medicine and social sciences.

Professor Crew of Edinburgh defined social medicine as follows: "Social medicine stands upon two pillars, medicine and sociology. Social medicine, by derivation is concerned with the health of groups of individuals and individuals within these groups with a view to create, promote, preserve, and maintain optimum health. The laboratory to practice social medicine is the whole community; the tools for diagnosing community ills are epidemiology and biostatistics; and social therapy does not consist in administration of drugs, but social and political action for the betterment of conditions of life of man. Social medicine is one more link in the chain of social organizations of a civilized community". Terms such as social anatomy, social physiology, social pathology and social therapy came into vogue to describe the various aspects of social medicine.

Although the term "social medicine" was introduced more than 150 years ago, the characteristic aspect was its repeated advent and disappearance. It never came to be generally accepted. There was no unanimity in its objectives or subject matter. This is reflected in more than 50 definitions given to social medicine.

Social medicine had achieved academic respectability in England when John Ryle was appointed as professor of social medicine at Oxford, and Crew at Edinburgh. The post-war period (1945-1967) saw considerable expansion of social medicine as an academic discipline.

With the development of epidemiology as a new discipline and a practical tool in the planning, provision and evaluation of health services, interest in social medicine began to wane. In 1968, the Report of the Royal Commission on Medical Education (Todd Report) for the first time referred to "community medicine" instead of social medicine, and defined it in terms which embraced social medicine, but went beyond it, by giving greater emphasis to the organizational and administrative aspects than had academic social medicine in the past. This gave a blow to the further development of social medicine which had tended in many countries to be displaced by the newer term "community medicine".

### 2.4 PREVENTIVE MEDICINE

Preventive medicine developed as a branch of medicine distinct from public health. By definition, "preventive medicine is applied to ‘healthy people’, customarily by actions affecting large numbers or populations. Its primary objective is prevention of disease and promotion of health.” It scored several successes in the prevention of communicable diseases based on immunization, so much so, in its early years, preventive medicine was equated with the control of infectious diseases. As concepts of the
aetiology of disease changed through time, so too have the techniques and activities of preventive medicine. Preventive medicine is no longer concerned, as it used to be, with immunization, important though it may be. The concept of preventive medicine has broadened to include health promotion, treatment, and prevention of disability as well as specific protection. Preventive medicine has thus come to include both specific medical measures (e.g., immunization), as well as general health promotional measures (e.g., health education). Within this change in the definition and scope of preventive medicine, it has become clear that promoting health and preventing illness involve responsibilities and decisions at many levels - individual, public and private; and that these efforts are applied to whole population or to segments. In this, preventive medicine has become akin to public health. Preventive medicine has become a growing point in medicine. It has branched into newer areas such as screening for disease, population control, environmental control, genetic counselling and prevention of chronic diseases. Community prevention and primordial prevention are relatively new concepts which are being applied in the community control of coronary heart disease, hypertension and cancer with palpable success. The emergence of preventive paediatrics, preventive geriatrics and preventive cardiology are relatively new dimensions of prevention. Since preventive medicine has increasingly tended to be applied to the organized health activities of the community, the term "preventive medicine" is regarded as synonymous with public health. Both terms often appear in combination (e.g., Maxcy-Rosenau Textbook of "Public Health and Preventive Medicine"). Associated with the concept of public health, preventive medicine has been defined as meaning "not only the organized activities of the community to prevent occurrence as well as progression of disease and disability, mental and physical, but also the timely application of all means to promote the health of individuals, and of the community as a whole, including prophylaxis, health education and similar work done by a good doctor in looking after individuals and families". In this the goals of preventive medicine and public health have become identical, i.e., Health for All. In line with this extension of the scope of preventive medicine, it is now customary to speak of primary, secondary and tertiary levels of prevention. The cornerstone of preventive medicine is, however, "primary prevention".

Check your Progress – 1

Note: a. Write your answer in the space given below
   b. Compare your answer with those given at the end of the unit.

1. What is Social Medicine?
   ......................................................................................................................

2. What is Preventive medicine?
   ......................................................................................................................
2.5 LEVELS OF DISEASE PREVENTION

2.5.1 CONCEPTS OF PREVENTION

The goals of medicine are to promote health, to preserve health, to restore health when it is impaired, and to minimize suffering and distress. These goals are embodied in the word "prevention". Successful prevention depends upon a knowledge of causation, dynamics of transmission, identification of risk factors and risk groups, availability of prophylactic or early detection and treatment measures, an organization for applying these measures to appropriate persons or groups, and continuous evaluation of and development of procedures applied. It is not necessary (although desirable) to know everything about the natural history of a disease to initiate preventive measures. Often times, removal or elimination of a single known essential cause may be sufficient to prevent a disease. The objective of preventive medicine is to intercept or oppose the "cause" and thereby the disease process. This epidemiological concept permits the inclusion of treatment as one of the modes of intervention.

2.5.2 LEVELS OF PREVENTION

In modern day, the concept of prevention has become broad-based. It has become customary to define prevention in terms of four level:

1. Primordial prevention
2. Primary prevention
3. Secondary prevention
4. Tertiary prevention

The natural history of disease. Authorities on preventive medicine do not agree on the precise boundaries between these levels, but that does not minimize their importance. For example, the supply of food supplements to a family could be primary prevention for some members, and secondary prevention (curative) for others. These differences of opinion are more semantic than substantive.

1. Primordial prevention

Primordial prevention, a new concept, is receiving special attention in the prevention of chronic diseases. This is primary prevention in its purest sense, that is, prevention of the emergence or development of risk factors in countries or population groups in which they have not yet appeared. For example, many adult health problems (e.g., obesity, hypertension) have their early origins in childhood, because this is the time when lifestyles are formed (for example, smoking, eating patterns, physical exercise). In primordial prevention, efforts are directed towards discouraging children from adopting harmful lifestyles. The main intervention in primordial prevention is through individual and mass education.
2. Primary prevention

Primary prevention can be defined as "action taken prior to the onset of disease, which removes the possibility that a disease will ever occur". It signifies intervention in the pre-pathogenesis phase of a disease or health problem (e.g., low birth weight) or other departure from health. Primary prevention may be accomplished by measures designed to promote general health and well-being, and quality of life of people or by specific protective measures. These are discussed in detail elsewhere under "Mode of Intervention". Primary prevention is far more than averting the occurrence of a disease and prolonging life. It includes the concept of "positive health", a concept that encourages achievement and maintenance of "an acceptable level of health that will enable every individual to lead a socially and economically productive life". It concerns an individual's attitude towards life and health and the initiative he takes about positive and responsible measures for himself, his family and his community. The concept of primary prevention is now being applied to the prevention of chronic diseases such as coronary heart disease, hypertension and cancer based on elimination or modification of "risk-factors" of disease. The WHO has recommended the following approaches for the primary prevention of chronic diseases where the risk factors are established:

a. population (mass) strategy
b. high-risk strategy

a. Population (mass) strategy

Another preventive approach is "population strategy" which is directed at the whole population irrespective of individual risk levels. For example, studies have shown that even a small reduction in the average blood pressure or serum cholesterol of a population would produce a large reduction in the incidence of cardiovascular disease. The population approach is directed towards socioeconomic, behavioural and lifestyle changes.

b. High-risk strategy

The high-risk strategy aims to bring preventive care to individuals at special risk. This requires detection of individuals at high risk by the optimum use of clinical methods. Primary prevention is a desirable goal. It is worthwhile to recall the fact that the industrialized countries succeeded in eliminating a number of communicable diseases like cholera, typhoid and dysentery and controlling several others like plague, leprosy and tuberculosis, not by medical interventions but mainly by raising the standard of living (primary prevention). And much of this success came even before immunization became universal routine. The application of primary prevention to the prevention of chronic disease is a recent development. To have an impact on the population, all the above three approaches (primordial prevention, population strategy and high-risk strategy) should be implemented as they are usually complementary. In summary, primary prevention is a "holistic" approach. It relies on measures designed to promote health or to protect against specific disease "agents" and hazards in the environment. It utilizes knowledge of the pre
pathogenesis phase of disease, embracing the agent, host and environment. Fundamental public health measures and activities such as sanitation; infection control; immunization; protection of food, milk, and water supplies; environmental protection; and protection against occupational hazards and accidents are all basic to primary prevention. Basic personal hygiene and public health measures have had a major impact on halting communicable disease epidemics. Immunization, infection control (e.g., hand washing), refrigeration of foods, garbage collection, solid and liquid waste management, water supply protection and treatment, and general sanitation have reduced infectious disease threats to populations. The safety and low cost of primary prevention justifies its wider application. Primary prevention has become increasingly identified with "health education" and the concept of individual and community responsibility for health.

3. Secondary prevention

Secondary prevention can be defined as "action which halts the progress of a disease at its incipient stage and Prevents complications". The specific interventions are early diagnosis (e.g., screening tests, case finding programmes) and adequate treatment. By early diagnosis and adequate treatment, secondary prevention attempts to arrest the disease process; restore health by seeking out unrecognized disease and treating it before irreversible pathological changes have taken place; and reverse communicability of infectious diseases. It may also protect others in the community from acquiring the infection and thus provide, at once, secondary prevention for the infected individuals and primary prevention for their potential contacts. Secondary prevention is largely the domain of clinical medicine. The health programmes initiated by governments are usually at the level of secondary prevention. The drawback of secondary prevention is that the patient has already been subject to mental anguish, physical pain; and the community to loss of productivity. These situations are not encountered in primary prevention. Secondary prevention is an imperfect tool in the control of transmission of disease. It is often more expensive and less effective than primary prevention. In the long run, human health, happiness and useful longevity will be achieved at far less expense with less suffering through primary prevention than through secondary prevention.

4. Tertiary prevention

When the disease process has advanced beyond its early stages, it is still possible to accomplish prevention by what might be called "tertiary prevention". It signifies intervention in the late pathogenesis phase. Tertiary prevention can be defined as "all measures available to reduce or limit impairments and disabilities, minimize suffering caused by existing departures from good health and to promote the patient's adjustment to irremediable conditions". For example, treatment, even if undertaken late in the natural history of disease may prevent sequelae and limit disability. When defect and disability are more or less stabilized, rehabilitation may play a preventable role. Modern rehabilitation includes psychosocial,
vocational, and medical components based on team work from a variety of professions. Tertiary prevention extends the concept of prevention into fields of rehabilitation.

### Levels of prevention

<table>
<thead>
<tr>
<th>Level</th>
<th>Phase of disease</th>
<th>Aim</th>
<th>Actions</th>
<th>Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primordial</td>
<td>Underlying economic, social, and environmental conditions leading to causation</td>
<td>Establish and maintain conditions that minimize hazards to health</td>
<td>Measures that inhibit the emergence of environmental, economic, social and behavioural conditions.</td>
<td>Total population or selected groups; achieved through public health policy and health promotion.</td>
</tr>
<tr>
<td>Primary</td>
<td>Specific causal factors</td>
<td>Reduce the incidence of disease</td>
<td>Protection of health by personal and community efforts, such as enhancing nutritional status, providing immunizations, and eliminating environmental risks.</td>
<td>Total population, selected groups and individuals at high-risk; achieved through public health programmes.</td>
</tr>
<tr>
<td>Secondary</td>
<td>Early stage of disease</td>
<td>Reduce the prevalence of disease by shortening its duration</td>
<td>Measures available to individuals and communities for early detection and prompt intervention to control disease and minimize disability (e.g. through screening programmes).</td>
<td>Individuals with established disease, achieved through early diagnosis and treatment.</td>
</tr>
<tr>
<td>Tertiary</td>
<td>Late stage of disease (treatment, rehabilitation)</td>
<td>Reduce the number and/or impact of complications</td>
<td>Measures aimed at softening the impact of long-term disease and disability; minimizing suffering; maximizing potential years of useful life.</td>
<td>Patients; achieved through rehabilitation.</td>
</tr>
</tbody>
</table>

### 2.6 COMPREHENSIVE HEALTH INDICATORS

Indicators are required not only to measure the health status of a community, but also to compare the health status of one country with that of another; for assessment of health care needs; for allocation of scarce resources; and for monitoring and evaluation of health services, activities, and programmes. Indicators help to measure the extent to which the objectives and targets of a programme are being attained. In WHO’s guidelines for health programme evaluation they are defined as variables which help to measure changes. Often, they are used particularly when these changes cannot be measured directly, as for example health or nutritional status. If measured sequentially over time, they can indicate direction and speed of change and serve to compare different areas or groups of people at the same moment in time.

### 2.6.1 CHARACTERISTICS OF INDICATORS

Indicators have been given scientific respectability; for example, ideal indicators should be

- **Valid**, i.e., they should actually measure what they are supposed to measure;
- **Reliable and objective**, i.e., the answers should be the same if measured by different people in similar circumstances;
- **Sensitive**, i.e., they should be sensitive to changes in the situation concerned,
- **Specific**, i.e., they should reflect changes only in the situation concerned,
- **Feasible**, i.e., they should have the ability to obtain data needed, and;
- **Relevant**, i.e., they should contribute to the understanding of the phenomenon of interest.
Measurements of health have been framed in terms of illness (or lack of health), the consequences of ill-health (e.g., morbidity, disability) and economic, occupational and domestic factors that promote ill-health - all the antitheses of health.

Further, health is multidimensional, and each dimension is influenced by numerous factors, some known and many unknown. This means we must measure health multidimensionally. Thus the subject of health measurement is a complicated one even for professionals. Our understanding of health, therefore, cannot be in terms of a single indicator; it must be conceived in terms of a profile, employing many indicators, which may be classified as:

1. Mortality indicators
2. Morbidity indicators
3. Disability rates
4. Nutritional status indicators
5. Health care delivery indicators
6. Utilization rates
7. Indicators of social and mental health
8. Environmental indicators
9. Socio-economic indicators
10. Health policy indicators
11. Indicators of quality of life, and
12. Other indicators.

2.6.1 VITAL STATISTICS

Vital statistics, as a scientific discipline, is a subdomain of demography, the study of the characteristics of human populations. Vital statistics comprises a number of important events in human life including birth, death, fetal death, marriage, divorce, annulment, judicial separation, adoption, legitimation, and recognition.

The term “vital statistics” is also applied to individual measures of these vital events. Thus, a birth rate is an example of a vital statistic and an analysis of trends in birth rates is an example of an application in the field of vital statistics.

A vital statistics system is the total process of collecting by civil registration, enumeration, or indirect estimation, information on the frequency of occurrence of vital events, selected characteristics of the events and the persons concerned, and the compilation, analysis, evaluation, and dissemination of these data in summarized statistical form. Other life events of demographic importance such as change of place of residence (migration), change of citizenship (naturalization), and change of name are not included, mainly because information on these is usually derived from other statistical systems such as population registers.
2.6.2 USES OF VITAL RECORDS AND VITAL STATISTICS

Vital records created through a civil registration system have two classes of use. They have value individually as legal documents for the persons named thereon; they also constitute the input, when aggregated, for the various vital statistics measures that are used to study the demographics and health of populations and population subgroups.

For the individual, a birth record is a legal document establishing name, parentage, birth data, order of birth for multiple births, legitimacy, and citizenship, nationality, or geographic place of birth. A wide variety of individual rights and civil entitlements depends on these facts, including proof of age for school entrance, motor vehicle drivers' licenses, military service and other age-related activities, establishment of eligibility for family allowances, insurance benefits, tax benefits, inheritance rights, issuance of passports, etc. The death record provides documentary proof of the facts of death needed for social security and insurance purposes such as time and place of death and the medical cause of death. Proof of death and the associated facts are also used for property inheritance rights, for remarriage rights of surviving spouses, etc. Marriage and divorce records serve to document rights to special social and economic programs and benefits for the married, including tax privileges for couples, alimony, change of nationality based on marriage, and the right to remarry. Many rights of children, their parents, and their guardians are dependent on records of adoption, legitimation, and recognition.

Individual vital records may also be used administratively as the basis for initiating maternal and child health services, including child immunization programs, or for epidemiologic investigations into disease outbreaks or assessments of causes of accidents and injuries. Another important administrative use of individual vital records especially of death records (see Death Certification), is for the updating or clearing of files such as electoral rolls, social security files, disease registers, cohort follow-up studies, tax registers, etc.

In aggregated form, vital records become a collection of vital statistics, most often in the form of means, medians, and various ratios such as proportions and rates. Whether collected by civil registration or by other means, vital statistics serve as key demographic variables in the analysis of population size, growth and geographic distribution, especially when used in conjunction with periodic population censuses. When census data are used as a base, current intercensal estimates of population size can be made, and projections into the future can be prepared using estimates of future trends in fertility, natality, and mortality linked with estimates of net migration. In addition to the importance of vital statistics to the study of population size and growth trends, other national and subnational economic and social concerns such as health, welfare, education, occupation, housing, urbanization, family structure, and income are also affected by these measures. In the fields of public health and medicine, for example, levels and trends of infant and perinatal mortality are often used as surrogate measures of levels and trends in the overall health and well-
being of nations. Life expectancy at birth is also frequently used to compare the overall effects of mortality and its determinants. Cause of death information provides a foundation upon which much research into diseases and disease prevention is based.

Differentials in mortality by sex, age, racial groups, and other variables are often the basis for the planning of health and medical intervention programs. In addition, the planning and provision of public and private housing, educational facilities, social security and private insurance plans, medical facilities, and consumer goods of all kinds are examples of activities dependent on vital statistics data. At the international level, vital statistics provide a basis for comparing important demographic, social, and economic differences and trends over time among countries or regions of the world.

2.6.3 DEFINITIONS OF SELECTED VITAL EVENTS

Standard statistical definitions of vital events have been promulgated by international agencies. In some cases, legal definitions may differ from the international standards in varying degrees, but, in many cases, national vital statistics reports are either based on the standard statistical definitions or do not differ in principle. In cases where comparability among countries is compromised because of the use of nonstandard definitions, international agencies and others presenting national comparisons of tabular, graphical or descriptive vital statistics usually provide appropriate cautions to users. Nevertheless, users of vital statistics data need to ascertain the comparability of the data before drawing reliable conclusions about national differences. The World Health Organization (WHO) promulgates a number of vital statistics definitions as part of the International Classification of Diseases (ICD). These definitions are incorporated in regulations adopted by the World Health Assembly and which each WHO member country has agreed to follow. Nevertheless, it is still necessary to ensure that the standard definitions have been followed for a given data set. The international standard definitions for selected vital events are given below.

Live Birth. This is the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of the pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles, whether or not the umbilical cord has been cut or the placenta is attached; each product of such a birth is considered liveborn.

Fetal Death. This is death prior to the complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy; the death is indicated by the fact that after such separation the fetus does not breathe or show any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.
**Maternal Death.** This is the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. Maternal deaths may be subdivided into two groups: direct obstetric deaths which are the result of obstetric complications of the pregnant state (pregnancy, labor, and the puerperium), from interventions, omissions, incorrect treatment, or from a chain of events resulting from any of these; and indirect obstetric deaths which are the result of previously existing disease or disease that developed during pregnancy and which was not due to direct obstetric causes, but which was aggravated by physiologic effects of pregnancy.

**Infant Death.** This is the death of a liveborn infant who dies before completing its first year of life.

**Neonatal Death.** This is the death of a liveborn infant who dies during the first 28 completed days of life. These may be subdivided into early neonatal deaths, occurring during the first seven days of life, and late neonatal deaths, occurring after the completion of the seventh day but before the completion of 28 days.

**Perinatal Death.** This is the death of a fetus or newborn infant occurring after 22 completed weeks (154 days) of gestation (the time when fetal weight is normally about 500 g), but prior to the completion of seven days after birth.

**Marriage.** This is the act, ceremony or process by which the legal relationship of husband and wife is constituted. The legality of the union may be established by civil, religious, or other means recognized by the laws of each country.

**Divorce.** This is a final legal dissolution of a marriage which confers on the parties the right to remarriage under civil, religious, or other provisions, according to the laws of each country.

### Check your Progress - 2

**Note:**

a. Write your answer in the space given below

b. Compare your answer with those given at the end of the unit.

3. List out the Multi-dimensional health indicators

---------------------------------------------
---------------------------------------------
---------------------------------------------
---------------------------------------------
Community mental health is a decentralized pattern of mental health, mental health care, or other services for people with mental illnesses. Community-based care is designed to supplement and decrease the need for more costly inpatient mental health care delivered in hospitals.

Community mental health care may be more accessible and responsive to local needs because it is based in a variety of community settings rather than aggregating and isolating patients and patient care in central hospitals.

The purpose of community mental health model is to provide all mental health and well-being needs of the community within the community, using community resources and the primary health-care system. It goes “beyond the hospital-based care and treatment” and includes:

- Programs for mental health promotion, prevention, and treatment of mental disorders
- Inclusion of psychosocial support available in the community (religious groups, self-help groups, faith healers, local bodies, etc.)
- Rehabilitation plans for persons with significant disability due to intellectual disability and recovering substance abusers and chronically mentally ill patients
- Prevention of harm from alcohol and substance use
- Developing linkages with primary health-care system and tertiary care hospitals.
- Plans for stigma removal
- Protection of the human rights of mentally ill persons.
- To enhance the status of mental health within public health.

The community services should give preference to the biopsychosocial approach rather than the biomedical model, thus taking psychiatric care from the hospital bed to a family setting, from hospital to community, from short-term to long-term care, that is, rehabilitation, from individual work to teamwork, thus finally bridging the span from treatment to service.

THE COMMUNITY MENTAL HEALTH TEAM

The community mental health team should include

- Psychiatrist,
- Clinical psychologist,
- Psychiatric social worker,
- Psychiatric nurse,
- Occupational therapist

And other administrative staff to provide services
- Such as hospitalization,
• Follow up,
• Residential services,
• Consultation and education

2.8 COMMUNITY PSYCHIATRY

Community psychiatry can be defined as the provision of psychiatric services to the patient within their community environment with an aim to achieve full social integration. This model is client-centered and has a commitment to the community.

Community psychiatry comprises the principles and practices needed to provide mental health services for a local population by:

(i) Establishing population-based needs for treatment and care;
(ii) Providing a service system linking a wide range of resources of adequate capacity, operating in accessible locations and
(iii) Delivering evidence-based treatments to people with mental disorders.

OBJECTIVES

• Responsibility to a population and community participation
  Include the participation of the community regarding the mental health care needs and programmed

• Being closer to the patient
  Mental health services should be provided to the patient at his home or place of work

• Continuity of care
  A therapist/nurse following a given patient through emergency services, hospitalization and follow up in community

Client-centered approach

Focuses on clients given attention to psychological problems to promotion of personal growth

• Avoidance of unnecessary hospitalization
  Economical, avoids the stigma of being hospitalized in a mental hospital and avoids the regression which the mental hospital settings encourage

• Evaluation and research
  Getting information about the usefulness and success of the programme so as to modify and make new plans
To prevent the occurrence of mental illness

2.8.1 TYPES OF COMMUNITY PSYCHIATRIC SERVICES:

1. Community Mental Health Center

These centers provide a number of services including emergency services and adult and child and adolescent services.

Treatment services provided include medication administration, individual and family therapy and psych education. CMHC may also offer rehabilitation services in the form of structured day programmed, vocational and residential services. Psychiatric Home Care

2. Psychiatric home care

Psychiatric home care is the service provided at the home of the patients who are unable to access community health care independently because of physical or mental conditions.

The psychiatric nurse visits such patients one to three times per week. They also act as a case manager who coordinates the different services required, e.g. occupational therapist, meals at home.

3. Partial Hospitalization Programmed

Offers intensive, short-term treatment similar to an inpatient service except that the patient returns home daily in the evening under the care of a family member.

Includes patients from acute inpatient services prior to discharge and patients whose symptoms may worsen and require hospitalization.

2.8.2 BARRIERS TO TREATMENT

1. Stigma Stops patients and their families from approaching mental health services
2. Lack of manpower Lack of trained personnel, administrative and policy matters and understaffing
3. Geographical factors Poor coverage of rural areas, distance, the need to travel and time constraint
4. Financial factors Cost of travel to get services and loss of wages
5. Programmed factor Fragmented services for various age groups, administrative and policy problems, neglect of the elderly and lack of national priorities for mental health
Social and Preventive medicine involves various factors to promote health. Health indicators provide comparable and actionable information across different geographic, organizational or administrative boundaries and/or can track progress over time to ensure disease prevention, particularly those with risk factors for a disease, are treated in order to prevent a disease from occurring and to provide system of care in which the patient's community, not a specific facility such as a hospital, is the primary provider of care for people with a disease or mental illness. Community mental health services are also provided including much more than simply providing outpatient psychiatric treatment.

2.9 LET US SUM UP

2.10 UNIT – END EXERCISES

1. What is the current IMR and MMR rates in Tamil Nadu?
2. Visit a nearby PHC and understand how community psychiatry is practiced

2.11 ANSWERS TO CHECK YOUR PROGRESS

1. "Social medicine stands upon two pillars, medicine and sociology. Social medicine, by derivation is concerned with the health of groups of individuals and individuals within these groups with a view to create, promote, preserve, and maintain optimum health. The laboratory to practice social medicine is the whole community; the tools for diagnosing community ills are epidemiology and biostatistics; and social therapy does not consist in administration of drugs, but social and political action for the betterment of conditions of life of man. Social medicine is one more link in the chain of social organizations of a civilized community"

2. Preventive medicine is applied to ‘healthy people’, customarily by actions affecting large numbers or populations. Its primary objective is prevention of disease and promotion of health

3. Multidimensional health indicators, may be classified as:
1. Mortality indicators
2. Morbidity indicators
3. Disability rates
4. Nutritional status indicators
5. Health care delivery indicators
6. Utilization rates
7. Indicators of social and mental health
8. Environmental indicators
9. Socio-economic indicators
10. Health policy indicators
11. Indicators of quality of life, and
12. Other indicators.

4. Community psychiatry can be defined as the provision of psychiatric services to the patient within their community environment with an aim to achieve full social integration.

2.12 SUGGESTED READINGS

1. James F. Jekel, David L. Katz, Joann G. Elmore, Dorothea Wild, Epidemiology, Biostatistics and Preventive Medicine
UNIT III – NUTRITION AND HEALTH

Structure

3.1 Introduction
3.2 Objectives
3.3 Nutrition and health
   3.3.1 Definition
3.4 Nutrient Groups: Functions, Sources, Requirements
   3.4.1 Protein
   3.4.2 Fats
   3.4.3 Carbohydrates
   3.4.4 Vitamins
   3.4.5 Minerals
3.5 Caloric requirements for different age groups
3.6 Balanced Diet
3.7 Malnutrition
3.8 Deficiency Diseases
3.9 Prevention of Nutrition problems
   3.9.1 Nutritional planning
   3.9.2 Direct nutrition and health development
   3.9.3 Government programmes
3.10 Let us sum up
3.11 Unit – End Exercises
3.12 Answers to check your progress
3.13 Suggested readings

3.1 INTRODUCTION

In this unit we will study about Nutrition and its focuses on how diseases, conditions, and problems can be prevented or reduced with a healthy diet. Nutrition involves identifying how certain diseases and conditions may be caused by dietary factors, such as poor diet (malnutrition).

3.2 OBJECTIVES

In this unit you will be able to,

- Understand the concept of nutrition and health
- Distinguish various nutrient groups and its sources and functions
- Know the caloric requirements for different age groups
- Understand the concept of balanced diet and malnutrition
- Identify deficiency diseases and find measures to prevent nutrition problems
3.3 NUTRITION AND HEALTH

3.3.1 DEFINITION:
Nutrition may be defined as the science of food and its relationship to health. It is concerned primarily with the part played by nutrients in body growth, development and maintenance.

Nutrients are organic and inorganic complexes contained in food. There are about 50 different nutrients which are normally supplied through the foods we eat. Each nutrient has specific functions in the body. Most natural foods contain more than one nutrient. These may be divided into:

(i) **Macronutrients**: These are proteins, fats and carbohydrates which are often called "proximate principles" because they form the main bulk of food. In the Indian dietary, they contribute to the total energy intake in the following proportions. Proteins - 7 to 15 per cent, Fats - 10 to 30 per cent, Carbohydrates - 65 to 80 per cent.

(ii) **Micronutrients**: These are vitamins and minerals. They are called micronutrients because they are required in small amounts which may vary from a fraction of a milligram to several grams.

3.4 NUTRIENT GROUPS: FUNCTIONS, SOURCES, REQUIREMENTS

3.4.1 PROTEIN

The word "protein" by derivation means that which is of first importance. Indeed they are of the greatest importance in human nutrition. Proteins are complex organic nitrogenous compounds. They are composed of carbon, hydrogen, oxygen, nitrogen and sulphur in varying amounts. Some proteins also contain phosphorus and iron and occasionally other elements. Proteins constitute about 20 per cent of the body weight in an adult.

**SOURCES:**

Humans obtain protein from two main dietary sources;

(a) **ANIMAL SOURCES**: Proteins of animal origin are found in milk, meat, eggs, cheese, fish and fowl. These proteins contain all the essential amino acids (EAA) in adequate amounts. Egg proteins are considered to be the best among food proteins because of their high biological value and digestibility. They are used in nutrition studies as a "reference protein".

(b) **VEGETABLE SOURCES**: Vegetable proteins are found in pulses (legumes), cereals, beans, nuts, oil-seed cakes, etc. They are poor in EAA. In developing countries such as India, cereals and pulses are the main sources of dietary protein because they are cheap, easily available and consumed in bulk.
FUNCTIONS:
Proteins are needed by the body for

(a) Body building
(b) Repair and maintenance of body tissues
(c) Maintenance of osmotic pressure and
(d) Synthesis of certain substances like antibodies, plasma proteins, haemoglobin, enzymes, hormones and coagulation factors.

Proteins are connected with the immune mechanism of the body.

PROTEIN REQUIREMENTS:
It is customary to express protein requirements in terms of body weight. The Indian Council of Medical Research in 2010 (9) recommended 1.0 g protein/kg body weight for an Indian adult, assuming a NPU of 65 for the dietary proteins.

3.4.2 FATS
Fats are solid at 20 deg. C; they are called "oils" if they are liquid at that temperature. Fats and oils are concentrated sources of energy. They are classified as:

   a) Simple lipids, e.g., triglycerides
   b) Compound lipids, e.g., phospholipids
   c) Derived lipids, e.g., cholesterol

The human body can synthesize triglycerides and cholesterol endogenously. Most of the body fat (99 per cent) in the adipose tissue is in the form of triglycerides. In normal human subjects, adipose tissue constitutes between 10 to 15 per cent of body weight. The accumulation of one kilogram of adipose tissue corresponds to 7,700 kcal of energy.

SOURCES:
The dietary sources of fats may be classified as:

(a) ANIMAL FATS: The major sources of animal fats are ghee, butter, milk, cheese, eggs, and fat of meat and fish. Animal fats with few exceptions like cod liver oil and sardine oil are mostly saturated fats.
(b) VEGETABLE FATS: Some plants store fat in their seeds, e.g., groundnut, mustard, sesame, coconut, etc. They are sources of vegetable oils.
(c) OTHER SOURCES: Small quantities of fat (invisible fat) are found in most other foods such as cereals, pulses, nuts and vegetables. For example, rice carries 3 per cent of fat, wheat 3 per cent, jowar 4 per cent and bajra 6.5 percent. Large cereal consumption, as in India,
(d) provides considerable amounts of "invisible fat". Moreover, the body can convert carbohydrate into fat.

FUNCTIONS:

Fats have always been equated with calories. They are high energy foods, providing as much as 9 kcal for every gram. By supplying energy, fats spare proteins from being used for energy. Besides providing energy, fats serve as vehicles for fat-soluble vitamins. Fats in the body support viscera such as heart, kidney and intestine; and fat beneath the skin provides insulation against cold. Without fat, food is limited in palatability. Cholesterol is essential as a component of membranes and nervous tissue and is a precursor for the synthesis of steroid hormones and bile acids. Thus fats and oils are useful to the body in several ways.

FAT REQUIREMENTS:

Recommendations for dietary fats for Indians have been revised taking into account the recent FAO and WHO recommendations for:

1. Total fat, individual fatty acids and health promoting non-glyceride components;
2. Source of dietary fats in indians; and
3. (availability of fat.

The recommendations are directed towards meeting the requirements of optimal foetal and infant growth and development, maternal health and for combating chronic energy deficiency in children and adults, and diet related non-communicable diseases in adults.

Taking into account the unfavourable effect of low fat-high carbohydrate diets and the energy requirement set on the basis of age, physiological status and physical activity, the minimum intakes of visible fat for Indian adults range between 20-40 g/day. The minimum level of total fat should be 20 per cent of energy. To furnish 20 per cent of total energy, diet of pregnant and lactating mothers should contain at least 30 grams of visible fat.

3.4.3. CARBOHYDRATES

The third major component of food is carbohydrate, which is the main source of energy, providing 4 kcals per gram. Carbohydrate is also essential for the oxidation of fats and for the synthesis of certain non-essential amino acids.

SOURCES:

There are three main sources of carbohydrates, viz., starches, sugar and cellulose.
NOTES

a) **Starch** is basic to the human diet. It is found in abundance in cereals, roots and tubers.
b) **Sugars** comprise monosaccharides (glucose, fructose and galactose) and disaccharides (sucrose, lactose and maltose). These free sugars are highly water soluble and easily assimilated. Free sugars along with starches constitute a key source of energy.
c) **Cellulose** which is the indigestible component of carbohydrate with scarcely any nutritive value, contributes to dietary fibre.

"Dietary fibre is the remnants of the edible part of plants and analogous carbohydrates that are resistant to digestion and absorption in the human small intestine with complete or partial fermentation in the human large intestine".

**FUNCTIONS:**

The carbohydrate reserve (glycogen) of a human adult is about 500 g. This reserve is rapidly exhausted when a man is fasting. If the dietary carbohydrates do not meet the energy needs of the body, protein and glycerol from dietary and endogenous sources are used by the body to maintain glucose haemostasis.

Fibre have no metabolic effects. However, too much of fibre can decrease the absorption of valuable micronutrients. There is conflicting evidence as to whether fibre tends to bind some vitamins and minerals like calcium, magnesium, iron and zinc, and reduce their bio-availability. People who eat well-balanced diet obtain enough roughage.

**REQUIREMENT:**

Considering the qualitative and quantitative decrease in fibre content of diet over the past many decades, an increase in dietary fibre, particularly from cereals emerge as a recommendation. Intake in excess of 60 g of fibre over a day can reduce the nutrient absorption and cause bowel irritation. A daily intake of about 40 grams of dietary fibre per 2000 kcal is desirable. The actual quantity of fibre intake depends upon the nature of cereals, pulses, whole grain, vegetables and millets.

**3.4.4 VITAMINS**

Vitamins are a class of organic compounds categorized as essential nutrients. They are required by the body in very small amounts. They fall in the category of micronutrients. Vitamins do not yield energy but enable the body to use other nutrients. Since the body is generally unable to synthesize them (at least in sufficient amounts) they must be provided by food. A well balanced diet supplies in most instances the vitamin needs of a healthy person.
Vitamins are divided into two groups:
(a) Fat soluble vitamins, viz., vitamins A, D, E and K
(b) Water soluble vitamins, viz., vitamins of the B-group and vitamin C.
Each vitamin has a specific function to perform and deficiency of any particular vitamin may lead to specific deficiency diseases.

3.4.4.1 Vitamin A

"Vitamin A covers both a pre-formed vitamin, retinal, and a pro-vitamin, beta carotene, some of which is converted to retinal in the intestinal mucosa.

FUNCTIONS:

Vitamin A participates in many bodily functions:

a) It is indispensable for normal vision. It contributes to the production of retinal pigments which are needed for vision in dim light.
b) It is necessary for maintaining the integrity and the normal functioning of glandular and epithelial tissue which lines intestinal, respiratory and urinary tracts as well as the skin and eyes.
c) It supports growth especially skeletal growth.
d) It is anti-infective; there is increased susceptibility to infection and lowered immune response in vitamin A deficiency.
e) It may protect against some epithelial cancers such as bronchial cancers, but the data are not fully consistent. However, the role of vitamin A at the molecular level is not yet known.

SOURCES

Vitamin A is widely distributed in animal and plant foods in animal foods as preformed vitamin A (retinal), and in plant foods as provitamins (carotenes).

(a) ANIMAL FOODS: Foods rich in retinal are liver, eggs, butter, cheese, whole milk, fish and meat. Fish liver oils are VITAMINS the richest natural sources of retinal, but they are generally used as nutritional supplements rather than as food sources.

(b) PLANT FOODS: The cheapest source of vitamin A is green leafy vegetables such as spinach and amaranth which are found in great abundance in nature throughout the year. The darker the green leaves, the higher its carotene content. Vitamin A also occurs in most green and yellow fruits and vegetables (e.g., papaya, mango, pumpkin) and in some roots (e.g., carrots). The most important carotenoid is beta-carotene which has the highest vitamin A activity. Carotenes are converted to vitamin A in
the small intestine. This action is poorly accomplished in malnourished children and those suffering from diarrhoea.

(c) FORTIFIED FOODS: Foods fortified with vitamin A (e.g., vanaspati, margarine, milk) can be an important source.

**REQUIREMENT:**

The recommended daily intake of vitamin A is 600 micrograms for adults. The present expert committee has modified the extent of conversion efficiency of 1:4 to 1:8 and has retained the previous recommendation on retinol requirements for all age groups except pregnancy. The committee recommends that a minimum of 50 per cent retinol be drawn from animal sources.

### 3.4.4.2 Vitamin D

The nutritionally important forms of Vitamin D in man are Calciferol (Vitamin D2) and Cholecalciferol (Vitamin D3). Calciferol may be derived by irradiation of the plant sterol, ergosterol. Cholecalciferol is the naturally occurring (preformed) vitamin D which is found in animal fats and fish liver oils. It is also derived from exposure to UV rays of the sunlight which convert the cholesterol in the skin to vitamin D. Vitamin D is stored largely in the fat depots.

**FUNCTIONS:**

a) Intestine - Promotes intestinal absorption of calcium and phosphorus

b) Bone - Stimulates normal mineralization, enhances bone reabsorption, affects collagen maturation

c) Kidney - Increases tubular reabsorption of phosphate, variable effect on reabsorption of calcium

d) Other- Permits normal growth.

**SOURCE:**

Vitamin D is unique because it is derived both from sunlight and foods.

(a) Sunlight : Vitamin D is synthesized by the body by the action of UV rays of sunlight on 7-dehydrocholesterol, which is stored in large abundance in the skin. Exposure to UV rays is critical; these can be filtered off by air pollution. Dark-skinned races such as Negros, also suffer from this disadvantage because black skin can filter off up to 95 per cent of UV rays.

(b) Foods : Vitamin D occurs only in foods of animal origin. Liver, egg yolk, butter and cheese, and some species of fish contain useful amounts. Fish liver oils, alth01,1gh not considered to be a food, are the richest
source of vitamin D. Human milk has been shown to contain considerable amounts of water-soluble vitamin D sulphate.

Other sources of vitamin D are foods artificially fortified with vitamin D, such as milk, margarine, vanaspati and infant foods.

**DAILY REQUIREMENTS**

The expert committee of ICMR emphasizes importance of outdoor physical activities as a means of achieving adequate vitamin D status in a tropical country like India. However, under minimal exposure to sunlight, particularly in certain urban groups, like 1-2 year old children, a specific recommendation of a daily supplement of 400 IU (10 mcg) is suggested.

**3.4.4.3 Vitamin E**

Vitamin E is the generic name for a group of closely related and naturally occurring fat soluble compounds, the tocopherols. Of these alphatocopherol is biologically the most potent. Vitamin E is widely distributed in foods. By far the richest sources are vegetable oils, cotton-seed, sunflower seed, egg yolk and butter. Foods rich in polyunsaturated fatty acids are also rich in vitamin E. The usual plasma level of vitamin E in adults is between 0.8 and 1.4 mg per 100 ml. While there is no doubt that man requires tocopherol in his diet, there is no clear indication of dietary deficiency. The role of vitamin E at the molecular level is little understood. The current estimate of vitamin E requirement is about 0.8 mg/g of essential fatty acids. This roughly works out to 8-10 mg tocopherol per day depending on the edible oil used. Recently the cytotoxic effect of vitamin E on human lymphocytes in vitro at high concentrations has been reported. This being so, caution should be exercised against the mega-dose consumption of vitamin E in clinical practice.

**3.4.4.4 Vitamin K**

Vitamin K occurs in at least two major forms - vitamin K1 and vitamin K2. Vitamin K1 is found mainly in fresh green vegetables particularly dark green ones, and in some fruits. Cow's milk is a richer source (60 mcg/L) of vitamin K than human milk (15 mcg/L). Vitamin K2 is synthesized by the intestinal bacteria, which usually provides an adequate supply in man. Long-term administration of antibiotic doses for more than a week may temporarily suppress the normal intestinal flora, (a source of vitamin K) and may cause a deficiency of vitamin K. Vitamin K is stored in the liver.

The role of vitamin K is to stimulate the production and/or the release of certain coagulation factors. In vitamin K deficiency, the prothrombin content of blood is markedly decreased and the blood clotting time is considerably prolonged.

35
The vitamin K requirement of man is met by a combination of dietary intake and microbial synthesis in the gut. The daily requirement for man appears to be about 0.03 mg/kg for the adult. Newborn infants tend to be deficient in vitamin K due to minimal stores of prothrombin at birth and lack of an established intestinal flora. Soon after birth, all infants or those at increased risk should receive a single intramuscular dose of a vitamin K preparation (0.1-0.2 mg of menadione sodium bisulphite or 0.5 mg of vitamin K1) by way of prophylaxis.

### 3.4.4.5 B GROUP OF VITAMINS

Thiamine (vitamin B1) is a water-soluble vitamin. It is essential for the utilization of carbohydrates. Thiamine pyrophosphate (TPP), the coenzyme of carboxylase plays a part in activating transketolase, an enzyme involved in the direct oxidative pathway for glucose. In thiamine deficiency, there is accumulation of pyruvic and lactic acids in the tissues and body fluids.

**SOURCES**

Thiamine occurs in all-natural foods, although in small amounts. Important sources are: whole grain cereals wheat gram, yeast, pulses, oilseeds and nuts, especially groundnut. Meat, fish, eggs, vegetables and fruits contain smaller amounts. Milk is an important source of thiamine for infants, provided the thiamine status of their mothers is satisfactory.

The main source of thiamine in the diet of Indian people is cereals (rice and wheat) which contribute from 60-85 percent of the total supply.

### 3.4.5 MINERALS

Minerals, like vitamins, are necessary for the proper functioning of our bodies. We often refer to minerals as being major minerals or trace minerals. Macro and Trace

Macro-minerals and trace minerals. Macro means "large" in Greek (and your body needs larger amounts of macro-minerals than trace minerals). The macro-mineral group is made up of calcium, phosphorus, magnesium, sodium, potassium, chloride, and sulfur.

A trace of something means that there is only a little of it. So even though your body needs trace minerals, it needs just a tiny bit of each one. Trace minerals includes iron, manganese, copper, iodine, zinc, cobalt, fluoride, and selenium.

They're necessary for many processes in your body, especially fluid balance, maintenance of bones and teeth, muscle contractions, and nervous system function.
### 3.5 Caloric Requirements for Different Age Groups

Requirements are the quantities of nutrients that healthy individuals must obtain from food to meet their physiological needs. The recommended dietary allowances (RDAs) are estimates of nutrients to be consumed daily to ensure the requirements of all individuals in a given population. The recommended level depends upon the bioavailability of nutrients from a given diet. The term bioavailability indicates what is absorbed and utilized by the body. In addition, RDA includes a margin of safety, to cover

<table>
<thead>
<tr>
<th>Essential Minerals</th>
<th>RDA</th>
<th>Purpose</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>800 mg</td>
<td>Blood clotting, Bones, Muscles, Nerves</td>
<td>Milk products, Broccoli</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>750 mg</td>
<td>Muscles, Nerves, Energy production, Bones</td>
<td>Cereal, Meat, Fish, Legumes, Dairy</td>
</tr>
<tr>
<td>Potassium *</td>
<td>2000 mg</td>
<td>Energy, Hair, Skin, Nails, Heart rhythm, muscle contraction, regulation of body fluids</td>
<td>Citrus, Bananas, fish, poultry, dairy</td>
</tr>
<tr>
<td>Magnesium *</td>
<td>350 mg</td>
<td>Bone growth, protein and energy production</td>
<td>Egg yolks, dark leafy greens</td>
</tr>
<tr>
<td>Sodium *</td>
<td>500 mg</td>
<td>Muscle and nerve function, body fluid balance</td>
<td>Meat, Milk products, fish, salt</td>
</tr>
<tr>
<td>Chloride</td>
<td>750 mg</td>
<td>Aids digestion, maintains body fluid balance</td>
<td>Salt</td>
</tr>
<tr>
<td>Zinc</td>
<td>15 mg</td>
<td>Insulin production, male prostate function, digestion, metabolism</td>
<td>Shellfish, eggs, meat</td>
</tr>
<tr>
<td>Iron</td>
<td>10 mg</td>
<td>Hemoglobin (Blood Oxygen transport), Myoglobin (Muscle Oxygen storage)</td>
<td>Meat, Fish</td>
</tr>
<tr>
<td>Chloride *</td>
<td>750 mg</td>
<td>Muscle and nerve function, acid-base balance, digestion</td>
<td>Meat, Milk products, Fish</td>
</tr>
<tr>
<td>Fluoride</td>
<td>4 mg</td>
<td>Hardens bones and teeth</td>
<td>Coffee, tea, spinach, gelatin, onion</td>
</tr>
<tr>
<td>Iodine</td>
<td>150 mcg</td>
<td>Proper thyroid function</td>
<td>Water, Iodized salt</td>
</tr>
<tr>
<td>Copper</td>
<td>3 mg</td>
<td>Red blood cells, connective tissue, nerve fibers</td>
<td>Shellfish, grains, nuts, chocolate</td>
</tr>
<tr>
<td>Chromium</td>
<td>200 mcg</td>
<td>Carbohydrate metabolism</td>
<td>Vegetables, grains, Brewer’s Yeast</td>
</tr>
<tr>
<td>Molybdenum</td>
<td>250 mcg</td>
<td>Nitrogen metabolism</td>
<td>Grains, vegetables</td>
</tr>
<tr>
<td>Selenium</td>
<td>70 mcg</td>
<td>Works with Vitamin E to protect cells</td>
<td>Grains, meats, fish, poultry</td>
</tr>
</tbody>
</table>

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**Check your Progress – 1**

**Note:**

a. Write your answer in the space given below

b. Compare your answer with those given at the end of the unit.

1. **What is Nutrition?**

   .................................

2. **List out the Nutrients in nutrient groups**

   .................................

---

**3.5 Caloric Requirements for Different Age Groups**

Requirements are the quantities of nutrients that healthy individuals must obtain from food to meet their physiological needs. The recommended dietary allowances (RDAs) are estimates of nutrients to be consumed daily to ensure the requirements of all individuals in a given population. The recommended level depends upon the bioavailability of nutrients from a given diet. The term bioavailability indicates what is absorbed and utilized by the body. In addition, RDA includes a margin of safety, to cover
variation between individuals, dietary traditions and practices. The RDAs are suggested for physiological groups such as infants, pre-schoolers, children, adolescents, pregnant women, lactating mothers, and adult men and women, taking into account their physical activity. In fact, RDAs are suggested averages/day. However, in practice, fluctuations in intake may occur depending on the food availability and demands of the body. But, the average requirements need to be satisfied over a period of time.

Our diet must provide adequate calories, proteins and micronutrients to achieve maximum growth potential. Therefore, it is important to have appropriate diet during different stages of one’s life. There may be situations where adequate amounts of nutrients may not be available through diet alone. In such high risk situations where specific nutrients are lacking, foods fortified with the limiting Nutrients become necessary. A good example of such fortified foods is the salt fortified with iron and iodine.

### TABLE 7.6

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>19–50</td>
<td>10.60 (2550)</td>
<td>8.1 (1940)</td>
</tr>
<tr>
<td>51–59</td>
<td>10.60 (2550)</td>
<td>8.0 (1900)</td>
</tr>
<tr>
<td>60–64</td>
<td>9.93 (2380)</td>
<td>7.99 (1900)</td>
</tr>
<tr>
<td>65–74</td>
<td>9.71 (2330)</td>
<td>7.96 (1900)</td>
</tr>
<tr>
<td>75+</td>
<td>8.77 (2100)</td>
<td>7.61 (1810)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GROUP</th>
<th>CATEGORY</th>
<th>Body Weight (Kg)</th>
<th>Revised</th>
<th>Old</th>
<th>Energy (Kcal/Day)</th>
<th>Revised</th>
<th>Old</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAN</td>
<td>Sedentary</td>
<td></td>
<td>60</td>
<td>60</td>
<td>2320 †</td>
<td>2425</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td></td>
<td></td>
<td></td>
<td>2730 ‡</td>
<td>2875</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heavy</td>
<td></td>
<td></td>
<td></td>
<td>3490 ‡</td>
<td>3800</td>
<td></td>
</tr>
<tr>
<td>WOMAN</td>
<td>Sedentary</td>
<td></td>
<td>55 †</td>
<td>50</td>
<td>1900</td>
<td>1875</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td></td>
<td></td>
<td></td>
<td>2230</td>
<td>2225</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Heavy</td>
<td></td>
<td></td>
<td></td>
<td>2850 ‡</td>
<td>2925</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pregnant</td>
<td></td>
<td>+350 †</td>
<td>+300</td>
<td></td>
<td>+600 †</td>
<td>+550</td>
</tr>
<tr>
<td></td>
<td>Lact.&lt;6 mths</td>
<td></td>
<td></td>
<td></td>
<td>+520 †</td>
<td>+400</td>
<td></td>
</tr>
<tr>
<td>INFANTS</td>
<td>0–6 mths</td>
<td></td>
<td>5.4</td>
<td>-</td>
<td>92/kg †</td>
<td>108/kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6–12 mths</td>
<td></td>
<td>8.4</td>
<td>8.6</td>
<td>80/kg ‡</td>
<td>98/kg</td>
<td></td>
</tr>
<tr>
<td>CHILDREN</td>
<td>1–3 yrs</td>
<td></td>
<td>12.9</td>
<td>12.2</td>
<td>1060 †</td>
<td>1240</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4–6 yrs</td>
<td></td>
<td>18.0</td>
<td>19.0</td>
<td>1350 †</td>
<td>1690</td>
<td></td>
</tr>
<tr>
<td></td>
<td>7–9 yrs</td>
<td></td>
<td>25.1</td>
<td>26.9</td>
<td>1690 †</td>
<td>1950</td>
<td></td>
</tr>
<tr>
<td>BOYS</td>
<td>10–12 yrs</td>
<td></td>
<td>34.3</td>
<td>35.4</td>
<td>2190</td>
<td>2190</td>
<td></td>
</tr>
<tr>
<td>GIRLS</td>
<td>10–12 yrs</td>
<td></td>
<td>35.0</td>
<td>31.5</td>
<td>2010 †</td>
<td>1970</td>
<td></td>
</tr>
<tr>
<td>BOYS</td>
<td>13–15 yrs</td>
<td></td>
<td>47.6</td>
<td>47.8</td>
<td>2750 †</td>
<td>2450</td>
<td></td>
</tr>
<tr>
<td>GIRLS</td>
<td>13–15 yrs</td>
<td></td>
<td>46.6</td>
<td>46.7</td>
<td>2330 †</td>
<td>2060</td>
<td></td>
</tr>
<tr>
<td>BOYS</td>
<td>16–17 yrs</td>
<td></td>
<td>55.4</td>
<td>57.1</td>
<td>3020 †</td>
<td>2640</td>
<td></td>
</tr>
<tr>
<td>GIRLS</td>
<td>16–17 yrs</td>
<td></td>
<td>52.1</td>
<td>49.9</td>
<td>2440 †</td>
<td>2060</td>
<td></td>
</tr>
</tbody>
</table>
3.6 BALANCED DIET

A balanced diet is one which provides all the nutrients in required amounts and proper proportions. It can easily be achieved through a blend of the four basic food groups. The quantities of foods needed to meet the nutrient requirements vary with age, gender, physiological status and physical activity. A balanced diet should provide around 50-60% of total calories from carbohydrates, preferably from complex carbohydrates, about 10-15% from proteins and 20-30% from both visible and invisible fat.

IMPORTANCE OF A BALANCED DIET
The following are the importance of a balanced diet:
- Balanced Diet leads to a good physical and a good mental health.
- It helps in proper growth of the body.
- Also, it increases the capacity to work
- Balanced diet increases the ability to fight or resist diseases.

COMPONENTS OF A BALANCED DIET
Some components of a balanced diet are as follows:

Fats
Some part of our energy requirement is fulfilled by fats. Fats can be found in fatty foods such as butter, ghee, oil, cheese, etc.

Proteins
We need proteins for growth purposes and to repair the wear and tear of the body. Protein also helps in building muscle. It is found in dairy products, sprouts, meat, eggs, chicken, etc.

Carbohydrates
We need the energy to process and it is fulfilled by carbohydrates. Carbs provide us energy. Carbohydrates can be found in rice, wheat, chapati, bread, etc. Cereals are our staple food.

Minerals and Vitamins
Vitamins, Minerals, and Fibre improve the body’s resistance to disease. We mainly obtain it from vegetables and fruits. Deficiency diseases like Anemia, Goitre, etc can be caused due to lack of mineral in the body.

In addition, a balanced diet should provide other non-nutrients such as dietary fibre, antioxidants and phytochemicals which bestow positive health benefits. Antioxidants such as vitamins C and E, beta-carotene, riboflavin and selenium protect the human body from free radical damage. Other phytochemicals such as polyphenols, flavones, etc., also afford protection against oxidant damage. Spices like turmeric, ginger, garlic, cumin and cloves are rich in antioxidants.
3.7 MALNUTRITION

Malnutrition refers to deficiencies, excesses or imbalances in a person’s intake of energy and/or nutrients. The term malnutrition covers 2 broad groups of conditions. One is ‘undernutrition’—which includes stunting (low height for age), wasting (low weight for height), underweight (low weight for age) and micronutrient deficiencies or insufficiencies (a lack of important vitamins and minerals). The other is overweight, obesity and diet-related noncommunicable diseases (such as heart disease, stroke, diabetes and cancer).

TYPE OF MALNUTRITION

- Protein energy malnutrition which can be attributed to acute deficiency of food or chronic deprivation.
- Deficiency of micronutrients, such as vitamins, iron iodine and other trace elements. Sometimes this may be subtle and is often described as ‘hidden hunger’.

GROUPS OF POPULATION MOST AFFECTED

Certain groups of population may be most affected because of their,

- Biological vulnerability as in infants, preschool children, pregnant mothers, adolescent girls and old people.
- Socioeconomic factors like poor, socially deprived, slum dwellers, street kids, etc.
3.8 DEFICIENCY DISEASES

“Deficiency diseases are diseases that are caused by the lack of certain essential nutrients, especially vitamins and minerals, in one’s diet over a prolonged period of time.”

A balanced diet is extremely important for the good health of a person. Any imbalance in the diet might lead to excess or insufficient intake of certain nutrients. Insufficient intake of a particular nutrient can lead to a deficiency disease.

LIST OF DEFICIENCY DISEASES

Following is a list of major deficiency diseases that occur due to lack of essential minerals and vitamins:

<table>
<thead>
<tr>
<th>Types of Vitamin</th>
<th>Deficiency Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>A (Retinol)</td>
<td>Night blindness</td>
</tr>
<tr>
<td>B1 (Thiamine)</td>
<td>Beri-beri</td>
</tr>
<tr>
<td>B2 (Riboflavin)</td>
<td>Retarded growth, bad skin</td>
</tr>
<tr>
<td>B12 (Cyanocobalamin)</td>
<td>Anaemia</td>
</tr>
<tr>
<td>C (Ascorbic acid)</td>
<td>Scurvy</td>
</tr>
<tr>
<td>D (Calciferol)</td>
<td>Rickets</td>
</tr>
<tr>
<td>K (Phylloquinone)</td>
<td>Excessive bleeding due to injury</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Types of Minerals</th>
<th>Deficiency Disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>Brittle bones, excessive bleeding</td>
</tr>
<tr>
<td>Phosphorus</td>
<td>Bad teeth and bones</td>
</tr>
<tr>
<td>Iron</td>
<td>Anaemia</td>
</tr>
<tr>
<td>Iodine</td>
<td>Goitre, enlarged thyroid gland</td>
</tr>
<tr>
<td>Copper</td>
<td>Low appetite, retarded growth</td>
</tr>
</tbody>
</table>
3.9 PREVENTION OF NUTRITION PROBLEMS

There are two major approaches in addressing nutritional problems

- Nutritional planning
- Direct nutrition and health development

3.9.1 NUTRITIONAL PLANNING

This involves political commitment by the government. A well planned and well executed long term project can accelerate the developmental process and the benefits can be rewarding and permanent.

Nutritional planning involves formulation of a nutrition policy and overall long-term planning to improve production and supplies of food, ensure its equitable distribution and programs to increase the purchasing power of people. This may include, land reforms, proper guidance in agriculture to help farmers to get better yields from their lands, help in proper marketing of farm produce. To help increasing the capacity of people to buy nutritious food in adequate quantity, income generating activities for the weaker sections of the community, making available good quality food in affordable prices through proper public distribution system, etc are some of the plans for the government to implement.

3.9.2 DIRECT NUTRITION AND HEALTH INTERVENTIONS

IMPROVED HEALTH CARE SYSTEM

Infections like malaria, measles and diarrhea are prevalent in our society and they precipitate acute malnutrition among children and infants. A good health care system that provides immunization, oral rehydration, periodic deworming, early diagnosis and proper treatment of common illnesses can go a long way in preventing malnutrition in the society.
NUTRITION EDUCATION
People can be educated on

- The nutritional quality of common foods
- Importance and nutritional quality of various locally available and culturally accepted low cost foods
- Importance of exclusive breastfeeding for six months and continuing to breast feed up to two years or beyond.
- Damage caused by irrational beliefs and cultural practices of feeding
- Recipes for preparing proper weaning foods and good supplementary food from locally available low cost foods.
- Importance of including milk, eggs, meat or pulses in sufficient quantities in the diet to enhance the net dietary protein value.
- Importance of feeding children and adults during illness
- Importance and advantages of growing a kitchen garden
- Importance of immunizing their children and following proper sanitation in their day to day life.

EARLY DETECTION OF MALNUTRITION AND INTERVENTION

- The longer the developmental delays remain uncorrected, the greater the chance of permanent effects and hence intervention must occur during pregnancy and first three years of life.
- A well recorded growth chart can detect malnutrition very early. Velocity of growth is more important than the actual weight at a given time
- If growth of the child is slowed or is arrested as shown by flat curve on the growth card, physician should be alerted and any hidden infection or any reason for nutritional deficiency must be evaluated and taken care of.
- If growth chart is not maintained, anthropometric indices like, weight, height mid arm circumference, and chest circumference etc. can be measured and used for evaluation of nutrition.

NUTRITION SUPPLEMENTATION
Usually, biologically vulnerable groups like pregnant women, infants, preschool going and school going children are targeted by various welfare measures conducted by the government. Calories, proteins and micronutrients like iron, vitamin A and zinc can be supplemented.
3.9.3 GOVERNMENT PROGRAMMES

Many programs have been taken by the government to address the burden of malnutrition in India.

- Mid-day meal scheme was launched to improve the nutritional status of students in classes I – VIII in government and government aided schools. Cooked food is provided to students as a part of scheme.

- Integrated Child Development Services (ICDS) Scheme was launched in 1975 with the objective to improve nutritional and health status of children in the age-group 0-6 years. Supplementary nutrition is provided to children below the age of six, pregnant and nursing mothers.

- Under Rajiv Gandhi Scheme for Empowerment of Adolescent Girls (RGSEAG) - SABLA, take home ration is given to adolescent girls.

- National Iodine Deficiency Disorders Control Programme (NIDDCP) was launched to control the problem of iodine deficiency disorders (IDD) in India. Supply of iodized salt in place of common salt was made mandatory under the program.

- National Iron Plus Initiative was launched, according to which iron and folic acid (IFA) supplementation for pregnant and lactating women and children in the age group of 6–60 months along with adolescents (10–19 years), both in and out of school and women in reproductive age group has been initiated.

- The Weekly Iron and Folic Acid Supplementation (WIFS) scheme is a community-based intervention that addresses nutritional (iron deficiency) anaemia amongst adolescents (boys and girls). It will cover adolescents enrolled in class VI–XII of government, government aided and municipal schools as well as ‘out of school’ girls through aganwadis.

Check your Progress – 3

Note:  
  a. Write your answer in the space given below
  b. Compare your answer with those given at the end of the unit.

5. What are deficiency diseases?

................................................................................................................................................

6. What is Nutritional Planning?

................................................................................................................................................
3.10 LET US SUM UP

Nutrition is the science of food and its relationship to health. Food plays an important role in health as well as in disease. With the current increase in lifestyle disorders around the world, it is important to promote healthy nutrition in all age groups. Improving eating habits is not just for an individual but for the whole population. Nutrition is double edged sword as both over and under nutrition is harmful to health. Under nutrition is particularly harmful in early age groups i.e. childhood and over nutrition in adulthood and after-years but both forms are likely to affect all age groups in near future.

3.11 UNIT – END EXERCISES

1. List out the Deficiency diseases
2. Write a note on malnutrition and prevention of nutritional problems

3.12 ANSWERS TO CHECK YOUR PROGRESS

1. Nutrition may be defined as the science of food and its relationship to health. It is concerned primarily with the part played by nutrients in body growth, development and maintenance.

2. Nutrients in nutrient groups are: Carbohydrates, Proteins, Fat, Vitamins and Minerals

3. A balanced diet is one which provides all the nutrients in required amounts and proper proportions.

4. Malnutrition refers to deficiencies, excesses or imbalances in a person’s intake of energy and/or nutrients.

5. “Deficiency diseases are diseases that are caused by the lack of certain essential nutrients, especially vitamins and minerals, in one’s diet over a prolonged period of time.”

6. Nutritional planning involves formulation of a nutrition policy and overall long-term planning to improve production and supplies of food, ensure its equitable distribution and programs to increase the purchasing power of people.

3.13 SUGGESTED READINGS


Unit IV - HYGIENE

Structure

4.1 Introduction
4.2 Objectives
4.3 Hygiene:
   4.3.1 Personal
   4.3.2 Food
   4.3.3 Environmental hygiene
4.4 Relationship between health and hygiene
4.5 Environmental pollution
4.6 Living conditions and their influence on health
   4.6.1 Housing
   4.6.2 Sanitation
   4.6.3 Waste disposal.
4.7 Let us sum up
4.8 Unit – End Exercises
4.9 Answers to check your progress
4.10 Suggested readings

4.1 INTRODUCTION

Maintaining hygiene is necessary for many reasons; personal, social, health, psychological or simply as a way of life. Keeping a good standard of hygiene helps to prevent the development and spread of infections and illnesses. Poor hygiene can lead to poor health. Germs are everywhere and are introduced in a variety of ways (e.g. on people, food, and pets). Germs can survive on environmental surfaces (e.g. floors, tables, door handles, and toys) for long periods. Environmental hygiene is therefore a vital part of good infection prevention and control.

4.2 OBJECTIVES

This unit will help you to,

- Understand the concept of hygiene and its importance
- Relate hygienic practices to impact on health
- Recognize the various environmental pollutants
- Distinguish living conditions and their influence on health

4.3 HYGIENE:

Hygiene refers to conditions and practices that help to maintain health and prevent the spread of diseases.

Hygiene is a set of practices performed for the preservation of health. While in modern medical sciences there is a set of standards of hygiene recommended for different situations, what is considered hygienic or not can vary between different cultures, genders and etarian groups. Some regular hygienic practices may be considered good habits by a society
while the neglect of hygiene can be considered disgusting, disrespectful or even threatening.

Sanitation involves the hygienic disposal and treatment by the civic authority of potentially unhealthy human waste, such as sewerage and drainage.

**CONCEPT OF HYGIENE**

In general, hygiene mostly means practices that prevent spread of disease-causing organisms. Since cleaning processes (e.g., hand washing) remove infectious microbes as well as dirt and soil, they are often the means to achieve hygiene. Other uses of the term appear in phrases including: body hygiene, personal hygiene, sleep hygiene, mental hygiene, dental hygiene, and occupational hygiene, used in connection with public health.

Hygiene is also the name of a branch of science that deals with the promotion and preservation of health, also called hygienic. Hygiene practices vary widely, and what is considered acceptable in one culture might not be acceptable in another.

### 4.3.1 PERSONAL HYGIENE

Personal hygiene can be defined as an act of maintaining cleanliness and grooming of the external body. Maintaining good personal hygiene consists of bathing, washing your hands, brushing teeth and sporting clean clothing. Additionally, it is also about making safe and hygienic decisions when you are around others.

The aim of personal hygiene is to promote standards of personal cleanliness within the setting of the condition where people live. Personal hygiene includes bathing, clothing, washing hands after toilet; care of nails, feet and teeth; spitting, coughing, sneezing, personal appearance and inculcation of clean habits in the young. Training in personal hygiene should begin at a very early age and must be carried through school age.

a) **Personal cleanliness**: The need to bathe every day and to wear clean clothes. The hair should also be kept clean and tidy.

b) **Rest and sleep**: 8 hours sleep, and at least 2 hours rest after mid-day meals should be advised.

c) **Bowels**: Constipation should be avoided by regular intake of green leafy vegetables, fruits and extra fluids. Purgatives like castor oil should be avoided to relieve constipation.

d) **Exercise**: Light household work is advised, but manual physical labour during late pregnancy may adversely affect the foetus.

e) **Dental care**: Brush twice a day – morning, as soon as you get up from the bed and at night before going to bed. Coal powder, salt, rough tooth powder, etc.,
f) **Cleanliness of the reproductive organs:** Clean the reproductive parts before and after the sexual activity. Women, during menstruation should use clean, soft cloth or sanitary napkins. Change the napkins at least twice a day.

### 4.3.2 FOOD HYGIENE

Food hygiene are the conditions and measures necessary to ensure the safety of food from production to consumption. Food can become contaminated at any point during slaughtering or harvesting, processing, storage, distribution, transportation and preparation. Lack of adequate food hygiene can lead to foodborne diseases and death of the consumer.

Food hygiene is concerned with the hygiene practices that prevent food poisoning. The five key principles of food hygiene, according to WHO, are:

1. Prevent contaminating food with pathogens spreading from people, pets, and pests.
2. Separate raw and cooked foods to prevent contaminating the cooked foods.
3. Cook foods for the appropriate length of time and at the appropriate temperature to kill pathogens.
4. Store food at the proper temperature.
5. Use safe water and raw materials

Food is a potential source of infection and is liable to contamination by microorganisms, at any point during its journey from the producer to the consumer. Food hygiene, in its widest sense, implies hygiene in the production, handling, distribution and serving of all types of food. The primary aim of food hygiene is to prevent food poisoning and other foodborne illnesses.

Food hygiene can be grouped under the following headings. Education of food handlers in matters of personal hygiene, food handling, utensils, dish washing, and insect and rodent control is the best means of promoting food hygiene. Many of the food handlers have little educational background, Certain aspects of personal hygiene are therefore required to be continually impressed upon them:

a) **Hands:** The hands should be clean at all times. Hands should be scrubbed and washed with soap immediately after visiting a lavatory and as often as necessary at other times. Finger nails should be kept trimmed and free from dirt.

b) **Hair:** Head coverings should be provided, particularly in the case of females to prevent loose hair entering the food-stuffs.

c) **Overalls:** Clean white overalls should be worn by all food handlers.
d) **Habits:** Coughing and sneezing in the vicinity of food, licking the fingers before picking up an article of food, smoking on food premises are to be avoided.

### 4.3.3 ENVIRONMENTAL HYGIENE

The environment includes both the physical environment we live in and the social fabric of the community, and both significantly influence health.

Environmental Hygiene has two aspects domestic and community. Domestic hygiene comprises that of the home, use of soap, need for fresh air, light and ventilation; hygienic storage of foods; hygienic disposal of wastes, need to avoid pests, rats, mice and insects. Improvement of environmental health is a major concern of many governments and related agencies throughout the world.

In the developing countries, the emphasis is on the improvement of basic sanitary services consisting of water supply, disposal of human excreta, other solid and liquid wastes, vector control, food sanitation and housing which are fundamental to health. In many areas, poor sanitary practices among the people have their roots in centuries - old customs, styles of living and habits. These are not easily altered.

An environmental sanitation programme should include health education. It is not enough to provide sanitary wells, latrines and waste collecting facilities. People will continue to suffer from the diseases caused by poor sanitation if they do not use the facilities. If a health education approach is taken the people will participate from the beginning in identifying their sanitation problems and will choose the solutions and facilities they want. They will then be more likely to use these facilities and improve their health.

The social environment also has a major impact on health. If people are marginalized because of gender, income status or ethnic/religious affiliation, they are more likely to be prone to anxiety and depression and to suffer mental ill-health. In particular, the status of women in the community is important. In communities where women are discriminated against, they are more likely to suffer both physical and mental ill health. By contrast, in communities that are harmonious, accept differences and promote resolution of conflict through dialogue, the people are usually more healthy.
4.4 RELATIONSHIP BETWEEN HEALTH AND HYGIENE

Hygiene refers to the good practices that prevent diseases and leads to good health, especially through cleanliness, proper sewage disposal, and supply of safe drinking water. It refers to all those activities that are done for improving and preserving, maintaining sound health.

Good hygiene habits are directly related to less illnesses and better health. Poor hygiene habits, however, can lead to serious issues. For example, if you don’t wash your hands frequently, you can easily transfer germs and bacteria to your mouth or eyes. This can lead to any number of issues.

Not brushing your teeth can lead to teeth issues and plaque buildup. Poor dental care is also a risk factor for several serious health issues, including heart disease.

Poor hygiene habits can also affect your self-esteem. Looking and feeling presentable can give you a confidence boost and a sense of pride in your appearance.

4.5 ENVIRONMENTAL POLLUTION

Environment involves the animate and inanimate surroundings and their interaction making them to coexist, the balance between interaction and coexistence leads to ecological balance. Natural or human activities influence the balance which is manifested through changes occurring in air, water and land. Any disturbance in air, water and land is reflected in the deviation from natural balance in living beings. This undesirable change in the composition of air, water and land and the disturbed inter-relation (ecology) is called Environmental Pollution.

Environmental pollution is one of the most serious problems facing humanity and other life forms on our planet today. Environmental pollution is defined as “the contamination of the physical and biological components of the earth/atmosphere system to such an extent that normal
environmental processes are adversely affected.” Pollutants can be naturally occurring substances or energies, but they are considered contaminants when in excess of natural levels. Any use of natural resources at a rate higher than nature’s capacity to restore itself can result in pollution of air, water, and land.

**ATMOSPHERIC POLLUTION**

As defined by Seinfeld air pollution is any atmospheric condition in which substances are present at concentrations high enough above their normal ambient levels to produce a measurable effect on man, animals, vegetations or materials. The causes of air pollution are both natural as well as man made. The pollution generated by natural processes is more or less controlled by natural cycles themselves. Human activities such as thermal generation of power, metallurgy, automobiles, nuclear activities, modern life style etc. pollute the atmosphere. Exhaust emissions of various oxides, hydrocarbons and various compounds further generate pollutants through different reactions in the atmosphere.

**WATER POLLUTION**

The different human activities not only pollute the atmosphere but water sources are also polluted. The development of different industries have added so many toxics into water, soil and atmosphere that every aspect of life is threatened. The water, whether on surface or under ground is polluted to an extent that procurement of safe drinking water becomes the substantial part of budget. Most of the important rivers have been turned into dirty water drains. The air pollution also pollute water via acid rains

Invariably the industrial and domestic wastes (sewage) are flushed into water bodies. The surface deposition of wastes also pollute the underground water through sepage. The pesticides and insecticides, industrial wastes, radioactive chemicals find some way to water bodies and pollute the water. Treatment of waste water is complicated by the presence of wide varieties of synthetic organic pollutants, many of which are not bio-degradable.

**LAND POLLUTION**

The ultimate sink of all types of pollutants is land. The heavier air pollutants (dust, heavy metals, fly ash etc.) settle on earth surface due to gravitational effect while lighter gaseous pollutants come down through acid rain, smog or via direct reactions with plants, materials and soil.

The land is directly polluted by solid waste disposal (annually more than 1000 million tones of solid waste is thrown on earth surface all over the world) . The non-bio-degradable pollutants pose real danger in the long run.
NOISE POLLUTION

Noise is unpleasant sound disturbing every body at work or at rest. Increased industrialisation and mechanised vehicles have increased the noise level to disturbing level which leads to adverse health effects on living beings. The noise can cause physical and mental diseases. The measurement of sound intensity is done with the help of a unit deciBel. For any given frequency, the energy of a sound must be increased about 100 times to make sound 2 times as loud, and must be increased 1000 times to have 3 times loud. For testing purposes zero deciBel is threshold of hearing. A deciBel (dB) is the amount of sound wave pressure that equals 0.0002 dyne/cm². The loudest sound that a person can stand without discomfort is about 80 deciBels.

Check your Progress
Note:  a. Write your answer in the space given below
      b. Compare your answer with those given at the end of the unit.

3. What is Environmental pollution?

4.6 LIVING CONDITIONS: HOUSING, SANITATION, WASTE DISPOSAL AND THEIR INFLUENCE ON HEALTH.

4.6.1 HOUSING

Housing is one of the traditional areas of concern for public health, though it has been relatively neglected over recent decades. However, housing is important for many aspects of healthy living and well-being. The home is important for psychosocial reasons as well as its protection against the elements, but it can also be the source of a wide range of hazards (physical, chemical, biological). It is the environment in which most people spend the majority of their time.

An increasing body of evidence has associated housing quality with morbidity from infectious diseases, chronic illnesses, injuries, poor nutrition, and mental disorders. Infectious Diseases

Features of substandard housing includes,

- Lack of safe drinking water,
- Absence of hot water for washing,
- Ineffective waste disposal,
- Intrusion by disease vectors (e.g., insects and rats) and
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• Inadequate food storage has long been identified as contributing to the spread of infectious diseases.

**HOW DOES HOUSING AFFECT HEALTH?**

Healthy homes promote good physical and mental health. Good health depends on having homes that are safe and free from physical hazards. In contrast, poor quality and inadequate housing contributes to health problems such as chronic diseases and injuries, and can have harmful effects on childhood development. Poor indoor air quality, lead paint, and other hazards often coexist in homes, placing children and families at great risk for multiple health problems. For example:

• Lead poisoning irreversibly affects brain and nervous system development, resulting in lower intelligence and reading disabilities.

• Substandard housing such as water leaks, poor ventilation, dirty carpets and pest infestation can lead to an increase in mold, mites and other allergens associated with poor health.

• Cold indoor conditions have been associated with poorer health, including an increased risk of cardiovascular disease. Extreme low and high temperatures have been associated with increased mortality, especially among vulnerable populations such as the elderly.

• Residential crowding has been linked both with physical illness, such as tuberculosis and respiratory infections, and with psychological distress among both adults and children.

4.6.2 SANITATION

Sanitation means the prevention of human contact with wastes, for hygienic purposes. It also means promoting health through the prevention of human contact with the hazards associated with the lack of healthy food, clean water and healthful housing, the control of vectors (living organisms that transmit diseases), and a clean environment. It focuses on management of waste produced by human activities.

Adequate sanitation, together with good hygiene and safe water, are fundamental to good health and to social and economic development.

• Poor sanitation is linked to transmission of diseases such as cholera, diarrhoea, dysentery, hepatitis A, typhoid and polio and exacerbates stunting.
• Poor sanitation reduces human well-being, social and economic development due to impacts such as anxiety, risk of sexual assault, and lost educational opportunities.

• Inadequate sanitation is estimated to cause 432 000 diarrhoeal deaths annually and is a major factor in several neglected tropical diseases, including intestinal worms, schistosomiasis, and trachoma. Poor sanitation also contributes to malnutrition.

**BENEFITS OF IMPROVED SANITATION INCLUDES:**

- Reducing the spread of intestinal worms, schistosomiasis and trachoma, which are neglected tropical diseases that cause suffering for millions;
- Reducing the severity and impact of malnutrition;
- Promoting dignity and boosting safety, particularly among women and girls;
- Promoting school attendance: girls’ school attendance is particularly boosted by the provision of separate sanitary facilities; and
- Potential recovery of water, renewable energy and nutrients from faecal waste.

There are different types of sanitation relating to particular situations, such as:

- **Basic sanitation**: refers to the management of human faeces at the household level. It means access to a toilet or latrine.

- **Onsite sanitation**: the collection and treatment of waste at the place where it is deposited.

- **Food sanitation**: refers to the hygienic measures for ensuring food safety. Food hygiene is similar to food sanitation.

- **Housing sanitation**: refers to safeguarding the home environment (the dwelling and its immediate environment).

- **Environmental sanitation**: the control of environmental factors that form links in disease transmission. This category includes solid waste management, water and wastewater treatment, industrial waste treatment and noise and pollution control.

- **Ecological sanitation**: the concept of recycling the nutrients from human and animal wastes to the environment.
Check your Progress
Note: a. Write your answer in the space given below
b. Compare your answer with those given at the end of the unit.

4. What is Sanitation?

…………………………………………………………………………
…………………………………………………………………………

4.6.3 WASTE DISPOSAL

Waste that is not properly managed, especially excreta and other liquid and solid waste from households and the community, are a serious health hazard and lead to the spread of infectious diseases. Unattended waste lying around attracts flies, rats, and other creatures that in turn spread disease. Normally it is the wet waste that decomposes and releases a bad odour. This leads to unhygienic conditions and thereby to a rise in the health problems.

IMPACTS OF SOLID WASTE ON HEALTH

The group at risk from the unscientific disposal of solid waste include – the population in areas where there is no proper waste disposal method, especially the pre-school children; waste workers; and workers in facilities producing toxic and infectious material. Other high-risk group include population living close to a waste dump and those, whose water supply has become contaminated either due to waste dumping or leakage from landfill sites. Uncollected solid waste also increases risk of injury, and infection.

Exposure to hazardous waste can affect human health, children being more vulnerable to these pollutants. In fact, direct exposure can lead to diseases through chemical exposure as the release of chemical waste into the environment leads to chemical poisoning. Many studies have been carried out in various parts of the world to establish a connection between health and hazardous waste.

Waste from agriculture and industries can also cause serious health risks. Other than this, co-disposal of industrial hazardous waste with municipal waste can expose people to chemical and radioactive hazards. Uncollected solid waste can also obstruct storm water runoff, resulting in the forming of stagnant water bodies that become the breeding ground of disease. Waste dumped near a water source also causes contamination of the water body or the ground water source. Direct dumping of untreated waste in rivers, seas, and lakes results in the accumulation of toxic substances in the food chain through the plants and animals that feed on it.

Disposal of hospital and other medical waste requires special attention since this can create major health hazards. This waste generated from the
hospitals, health care centres, medical laboratories, and research centres such as discarded syringe needles, bandages, swabs, plasters, and other types of infectious waste are often disposed with the regular non-infectious waste.

_Waste treatment and disposal sites_ can also create health hazards for the neighbourhood. Improperly operated incineration plants cause air pollution and improperly managed and designed landfills attract all types of insects and rodents that spread disease. Ideally these sites should be located at a safe distance from all human settlement. Landfill sites should be well lined and walled to ensure that there is no leakage into the nearby ground water sources.

_Recycling_ too carries health risks if proper precautions are not taken. Workers working with waste containing chemical and metals may experience toxic exposure. Disposal of health-care wastes require special attention since it can create major health hazards, such as Hepatitis B and C, through wounds caused by discarded syringes. Rag pickers and others who are involved in scavenging in the waste dumps for items that can be recycled, may sustain injuries and come into direct contact with these infectious items.

**PREVENTIVE MEASURES**

Proper methods of waste disposal have to be undertaken to ensure that it does not affect the environment around the area or cause health hazards to the people living there.

At the household-level proper segregation of waste has to be done and it should be ensured that all organic matter is kept aside for composting, which is undoubtedly the best method for the correct disposal of this segment of the waste. In fact, the organic part of the waste that is generated decomposes more easily, attracts insects and causes disease. Organic waste can be composted and then used as a fertilizer.

**4.7 LET US SUM UP**

Maintaining hygiene practices helps to reduce the risks of ill health, but equally important affects how we and others perceive ourselves and can influence our levels of confidence and self-esteem which can affect many aspects of our lives. The key to increasing the practice of hygiene is to promote behavioural change through motivation, information and education. There are a variety of ways to do this including high-profile national media campaigns, peer-to-peer education techniques, hygiene lessons for children in schools and the encouragement of children to demonstrate good hygiene to their families and communities.
1. Write a note on how housing affects health.
2. Point out the impact of waste disposal on health

4.8 UNIT – END EXERCISES

1. Personal hygiene can be defined as an act of maintaining cleanliness and grooming of the external body. Maintaining good personal hygiene consists of bathing, washing your hands, brushing teeth and sporting clean clothing. Additionally, it is also about making safe and hygienic decisions when you are around others.

2. The five key principles of food hygiene, according to WHO, are:
   1) Prevent contaminating food with pathogens spreading from people, pets, and pests.
   2) Separate raw and cooked foods to prevent contaminating the cooked foods.
   3) Cook foods for the appropriate length of time and at the appropriate temperature to kill pathogens.
   4) Store food at the proper temperature.
   5) Use safe water and raw materials

3. Environmental pollution is defined as “the contamination of the physical and biological components of the earth/atmosphere system to such an extent that normal environmental processes are adversely affected.”

4. Sanitation means the prevention of human contact with wastes, for hygienic purposes. It also means promoting health through the prevention of human contact with the hazards associated with the lack of healthy food, clean water and healthful housing, the control of vectors (living organisms that transmit diseases), and a clean environment. It focuses on management of waste produced by human activities.

4.10 SUGGESTED READINGS


UNIT V – MAJOR COMMUNICABLE DISEASES

Structure

5.1 Introduction
5.2 Objectives
5.3 Diseases
5.4 Major Communicable Diseases
   5.4.1 Leprosy
   5.4.2 Tuberculosis
   5.4.3 STD
   5.4.4 HIV
   5.4.5 Polio
   5.4.7 Malaria
   5.4.8 Cholera
   5.4.9 Typhoid
5.5 Immunization Schedule for Children
5.6 Let us sum up
5.7 Unit – End Exercises
5.8 Answers to check your progress
5.9 Suggested readings

5.1 INTRODUCTION

The term disease refers to a disturbance in the normal functioning of the body and is used interchangeably with ‘illness’. Diseases may be classified as communicable or non-communicable.

Communicable diseases are those that spread by an infectious agent, such as bacteria, viruses, fungi or parasites. Most of these diseases can be passed from person to person so the words “contagious” or “infectious” are often used when talking about communicable diseases.

In this unit we introduce you to definitions of important terms used in communicable diseases, the types of infectious agents that cause these diseases, the main factors involved in their transmission, and the stages in their natural development. This will help you to understand how measures for the prevention and control of communicable diseases are put into place at several levels of the health system

5.2 OBJECTIVES

In this unit you will learn to,

- Know the concept of Diseases and its impact on health.
- Understand the notion on Communicable Diseases
- Study the causes, symptoms, treatment & prevention of various communicable diseases
- Know about Immunization and Recommended Immunization Schedule for Children

5.3 DISEASES

A disease is an abnormal condition affecting a living organism. Diseases are generally understood to be medical conditions that involve a pathological process associated with a specific set of symptoms. Localized diseases affect specific parts of the body; disseminated diseases spread to other parts of the body; and systemic diseases affect the entire body.

Each disease process has an origin, or etiology, but some diseases may present with different or confusing symptoms, making them difficult to diagnose or determine. The physical symptoms of disease may be accompanied by emotional symptoms, and some diseases that affect the chemical balances of the nervous system may manifest in physical symptoms.

Categories of diseases include autoimmune, bacterial, blood, cancer, digestive, heart, nerve (or neurodegenerative), sexually transmitted or thyroid. Diseases may be communicable or noncommunicable. External sources that can cause disease include acquired viruses or bacteria, and internal causes of disease include autoimmune or genetic dysfunction. Some diseases are chronic, meaning that they are continually present and may present symptomatically during a long duration.

Humans generally associate disease with pain, distress or social problems. Atypical variations of structure and function, deviant behaviors, disabilities, disorders, injuries, infections and syndromes may be the signs of disease or may be confused with actual disease processes.

Disease may be prevented or avoided using a number of strategies, including proper sanitation, proper nutrition, frequent exercise and vaccination. Treatments for disease range from medication and medical devices to surgery to self-care. Diseases may be cured simply by time, whereas others require a set of treatments that reverse the disease processes or end the root medical problem permanently. Some diseases may not be cured, in which case the symptoms of the disease may be treated using pain management therapy or palliative care.

5.4 MAJOR COMMUNICABLE DISEASES

Communicable diseases are caused by infectious agents that can be transmitted to other people from an infected person, animal or a source in the environment through a variety of ways that include: contact with blood
and bodily fluids; breathing in an airborne virus; or by being bitten by an insect.

5.4.1 LEPROSY

Leprosy is an infectious disease that causes severe, disfiguring skin sores and nerve damage in the arms, legs, and skin areas around the body. The disease has been around since ancient times, often surrounded by terrifying, negative stigmas and tales of leprosy patients being shunned as outcasts.

ETIOLOGY & TRANSMISSION

Leprosy is caused by a slow-growing type of bacteria called Mycobacterium leprae (M. leprae). Leprosy is also known as Hansen's disease, after the scientist who discovered M. leprae in 1873.

Leprosy is actually not that contagious. You can catch it only if you come into close and repeated contact with nose and mouth droplets from someone with untreated leprosy. Children are more likely to get leprosy than adults.

SYMPTOMS

Leprosy primarily affects the skin and the nerves outside the brain and spinal cord, called the peripheral nerves. It may also strike the eyes and the thin tissue lining the inside of the nose.

The main symptom of leprosy is disfiguring skin sores, lumps, or bumps that do not go away after several weeks or months. The skin sores are pale-colored.

Nerve damage can lead to:

- Loss of feeling in the arms and legs
- Muscle weakness

It usually takes about 3 to 5 years for symptoms to appear after coming into contact with the leprosy-causing bacteria. Some people do not develop symptoms until 20 years later. The time between contact with the bacteria
and the appearance of symptoms is called the incubation period. Leprosy's long incubation period makes it very difficult for doctors to determine when and where a person with leprosy got infected.

**FORMS OF LEPROSY**

Leprosy is defined by the number and type of skin sores you have. Specific symptoms and treatment depend on the type of leprosy you have. The types are:

**Tuberculoid.** A mild, less severe form of leprosy. People with this type have only one or a few patches of flat, pale-colored skin (paucibacillary leprosy). The affected area of skin may feel numb because of nerve damage underneath. Tuberculoid leprosy is less contagious than other forms.

**Lepromatous.** A more severe form of the disease. It has widespread skin bumps and rashes (multibacillary leprosy), numbness, and muscle weakness. The nose, kidneys, and male reproductive organs may also be affected. It is more contagious than tuberculoid leprosy.

**Borderline.** People with this type of leprosy have symptoms of both the tuberculoid and lepromatous forms

**DIAGNOSIS**

If you have a suspicious skin sore, your doctor will remove a small sample of the abnormal skin and send it to a lab to be examined. This is called a skin biopsy. A skin smear test may also be done. With paucibacillary leprosy, no bacteria will be detected. In contrast, bacteria are expected to be found on a skin smear test from a person with multibacillary leprosy.

**TREATMENT**

Treatment depends on the type of leprosy that you have. Antibiotics are used to treat the infection. Long-term treatment with two or more antibiotics is recommended, usually from six months to a year. People with severe leprosy may need to take antibiotics longer. Antibiotics cannot treat the nerve damage.

Anti-inflammatory drugs are used to control nerve pain and damage related to leprosy. This may include steroids, such as prednisone.

Patients with leprosy may also be given thalidomide, a potent medication that suppresses the body's immune system. It helps treat leprosy skin nodules. Thalidomide is known to cause severe, life-threatening birth defects and should never be taken by women who are pregnant or women who may become pregnant.
COMPLICATIONS

Without treatment, leprosy can permanently damage your skin, nerves, arms, legs, feet, and eyes.

Complications of leprosy can include:

- Blindness or glaucoma
- Disfiguration of the face (including permanent swelling, bumps, and lumps)
- Erectile dysfunction and infertility in men
- Kidney failure
- Muscle weakness that leads to claw-like hands or an inability to flex the feet
- Permanent damage to the inside of the nose, which can lead to nosebleeds and a chronic, stuffy nose
- Permanent damage to the nerves outside the brain and spinal cord, including those in the arms, legs, and feet

Nerve damage can lead to a dangerous loss of feeling. A person with leprosy-related nerve damage may not feel pain when the hands, legs, or feet are cut, burned, or otherwise injured.

PREVENTION

Prevention of contact with droplets from nasal and other secretions from patients with untreated M. leprae infection is currently the most effective way to avoid the disease. Treatment of patients with appropriate antibiotics stops the person from spreading the disease. People who live with individuals who have untreated leprosy are about eight times as likely to develop the disease, because investigators speculate that family members have close proximity to infectious droplets. Leprosy is not hereditary, but recent findings suggest susceptibility to the disease may have a genetic basis.

Many people have exposures to leprosy throughout the world, but the disease in not highly contagious. There is no commercially available vaccine available to prevent leprosy. However, there are reports that using BCG vaccine alone, the BCG vaccine along with heat-killed M. leprae organisms, and other preparations may be protective, help to clear the infection or possibly shorten treatment.

5.4.2 TUBERCULOSIS

Tuberculosis is a communicable disease caused by a bacterium (Mycobacterium tuberculosis). It is one of the most frequent causes of death in the world. It usually attacks the lungs, but other parts of the body, including the bones, joints and brain might be affected.
TUBERCULOSIS TYPES

There are two forms of the disease:

**Latent TB.** Latent TB occurs when a person has the TB bacteria within their body, but the bacteria are present in very small numbers. They are kept under control by the body’s immune system and do not cause any symptoms.

People with latent TB do not feel sick and are not infectious. They cannot pass the TB bacteria on to other people. In addition they will usually have a normal chest x-ray and a negative sputum test.

**Active TB.** Active tuberculosis is a multiorgan disease caused by primary infection or as a re-activation of latent tuberculosis. Primary tuberculosis occurs when the immune system is unable to defend against the *Mycobacterium tuberculosis* bacterium (MTB) infection. The disease can be spread to others.

SIGNS AND SYMPTOMS

There aren’t any for latent TB. You’ll need to get a skin or blood test to find out whether you have it.

There are usually signs if you have active TB disease. They include:

- A cough that lasts more than 3 weeks
- Chest pain
- Coughing up blood
- Feeling tired all the time
- Night sweats
- Chills
- Fever
- Loss of appetite
- Weight loss

ETIOLOGY & TRANSMISSION

Tuberculosis is caused by bacteria that spread through the air, just like a cold or the flu. When someone who has it coughs, sneezes, talks, laughs, or sings, tiny droplets that contain the germs are released. If one breathe in these germs, they can contract it.

TB can spread from person to person, but it isn’t easy to transmit. A person has to spend a lot of time around someone who has a lot of bacilli in their lungs. Tuberculosis germs don’t thrive on surfaces. You can’t get the disease from shaking hands with someone who has it or by sharing their food or drink.

DIAGNOSIS

There are two common tests for tuberculosis, but they do not exhibit whether one has latent or active TB:

- **Skin test.** This is also known as the Mantoux tuberculin skin test. A health care worker injects a small amount of fluid into the skin of
your lower arm. After 2 or 3 days, they’ll check for swelling in your arm to determine your results. If the results are positive, one probably has been infected with TB bacteria. But the results can be false positive. If one got a tuberculosis vaccine called Bacillus Calmette-Guerin (BCG), the test could say one has TB when you really don’t. The results can also be false negative, saying that one doesn’t have TB when they really do, if the infection is recent. one might get this test more than once.

- **Blood test.** These tests, also called interferon-gamma release assays or IGRAs, measure the response when TB proteins are mixed with a small amount of your blood.

If the skin or blood test is positive, a chest X-ray or CT scan can be done to look for changes in the lungs. Test for TB bacteria in your sputum, the mucus that comes up when you cough can also be done. These results will help diagnose latent or active TB.

**TREATMENT**

TB drug treatment for the prevention of TB, also known as chemoprophylaxis, can reduce the risk of a first episode of active TB occurring in people with latent TB.

Isoniazid is one of the drugs used to prevent latent TB from progressing to active TB or TB disease. Isoniazid is a cheap drug, but in a similar way to the use of the BCG vaccine, it is mainly used to protect individuals rather than to interrupt transmission between adults. This is because children rarely have infectious TB, and it is hard to administer isoniazid on a large scale to adults who do not have any symptoms. Taking isoniazid daily for six months is difficult in respect of adherence, and as a result many individuals who could benefit from the treatment, stop taking the drug before the end of the six month period.

The intensive phase includes a four-medication combination (isoniazid, rifampin, ethambutol, and pyrazinamide) is administered for 2 months, followed by a continuation phase consisting of a combination of isoniazid and rifampin for 4 months.

Directly observed therapy is recommended for patients receiving treatment. With this type of therapy, patients on the above regimens could be switched to 2 to 3 times per week dosing after completing an initial 2 weeks of daily dosing. Those taking medication 2 times per week must not miss any doses. Daily therapy should be prescribed for patients who are on self-administered medication.

Patients diagnosed with active tuberculosis should have sputum analysis done for M. tuberculosis every week until sputum conversion is documented.

**PREVENTION**

This is done through firstly, identifying people with active TB, and then curing them through the provision of drug treatment. With proper TB treatment someone with TB will very quickly not be infectious and so can no longer spread TB to others.
If someone is not on treatment, then precautions such as cough etiquette, must be taken to prevent TB spreading from one adult to another.

Anything which increases the number of people infected by each infectious person, such as ineffective treatment because of drug resistant TB, reduces the overall effect of the main TB prevention efforts. The presence of TB and HIV infection together also increases the number of people infected by each infectious person. As a result it is then more likely that globally the number of people developing active TB will increase rather than decrease.

The vaccine called Bacillus Calmette-Guerin (BCG) was first developed in the 1920s. It is one of the most widely used of all current vaccines, and it reaches more than 80% of all new born children and infants in countries where it is part of the national childhood immunization programme.

TB education is necessary for people with TB. People with TB need to know how to take their TB drugs properly. They also need to know how to make sure that they do not pass TB on to other people. But TB education is also necessary for the general public. The public needs to know basic information about TB for a number of reasons including reducing the stigma still associated with TB.

Check your Progress – 2

Note: a. Write your answer in the space given below
    b. Compare your answer with those given at the end of the unit.

3. What are the forms of leprosy?

……………………………………………………………………………………………………

4. What are the types of TB?

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5.4.3 STD

STDs are sexually transmitted diseases. This means they are most often, but not exclusively, spread by sexual intercourse. HIV, chlamydia, genital herpes, genital warts, gonorrhea, some forms of hepatitis, syphilis, and trichomoniasis are STDs/STIs.

STDs used to be called venereal diseases or VD. STDs are also known as Sexually Transmitted Infections (STIs). They are among the most common contagious diseases. STDs are serious illnesses that require treatment. Some STDs, such as HIV, cannot be cured and can be deadly.

Reproductive Tract Infections / Sexually Transmitted Infections (RTI/STIs)

Reproductive tract infection is a broad term that includes sexually transmitted infections as well as other infections of the reproductive tract.
that are not transmitted through sexual route. In women, this includes infections of the outer and inner genitals (vagina, cervix, uterus, fallopian tubes, or ovaries). In men too, RTI involve the outer and inner genitals (penis, testes and prostate).

STDs include just about every kind of infection. Bacterial STDs include chlamydia, gonorrhea, and syphilis. Viral STDs include HIV, genital herpes, genital warts (HPV), and hepatitis B. Trichomoniasis is caused by a parasite.

**ETIOLOGY & TRANSMISSION**

The germs that cause STDs hide in semen, blood, vaginal secretions, and sometimes saliva. Most of the organisms are spread by vaginal, anal, or oral sex, but some, such as those that cause genital herpes and genital warts, may be spread through skin contact.

Risk Factors and Routes of Transmission of STDs/ STIs

- Poor genital hygiene
- Poor menstrual hygiene
- Unhygienic practices by service providers during delivery, abortion, and IUCD insertion in women
- Unsafe blood transfusions
- Unprotected sex
- Multiple partners
- Sex with partner having sore on the genital region
- Urethral discharge or infected vaginal discharge
- Previous STI infection(s) in the past
- Women have a greater risk of RTI than men due to physiological, social, cultural, and economic factors. Because women are biologically more susceptible than men; more likely to suffer from complications; limited in their ability to protect themselves from high-risk sex or to negotiate condom use; more likely to suffer from asymptomatic infections, remain untreated and, less likely to seek treatment, even for symptomatic infections.
- Adolescent girls and boys who are sexually active and practicing unsafe sex
- Female and male sex workers and their clients
- Men and women whose jobs force them to be away from their families or regular sexual partners are away for long periods of time.
- Men having sex with men including transgenders
- Street children, prison inmates, etc. STI/RTI and its links to HIV/AIDS
## Types of STDs/STIs

<table>
<thead>
<tr>
<th>Condition</th>
<th>Definition</th>
<th>Incubation Period</th>
<th>Mode of Transmission</th>
<th>Symptoms</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gonorrhea</strong></td>
<td>Gonorrhea is a common sexually transmitted infection caused by the bacterium Gonococcus. In both men and women if gonorrhea is left untreated, it may spread throughout the body, affecting joints and even heart valves.</td>
<td>2 to 30 days with most symptoms occurring between 4–6 days after being infected.</td>
<td>The infection is transmitted from one person to another through vaginal, oral, or anal sexual relations.</td>
<td>Men may complain of pain on urinating and thick, copious, urethral pus discharge, scrotal pain or swelling. Women may complain of vaginal discharge, difficulty in urinating (dysuria), projectile urination, off-cycle menstrual bleeding, or bleeding after sexual intercourse.</td>
<td>Antibiotics may be used to treat gonorrhea.</td>
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<tr>
<td><strong>Syphilis</strong></td>
<td>Syphilis is a sexually transmitted disease caused by the spirochetal bacterium.</td>
<td>10 – 90 days after the first exposure.</td>
<td>The route of of syphilis is through sexual contact, although there are examples of congenital syphilis from mother to child in utero.</td>
<td>A skin lesion often on the penis, vagina or rectum. Other symptoms common at this stage include fever, sore throat, malaise, weight loss, headache, meningismus, and enlarged lymph nodes.</td>
<td>Syphilis can generally be treated with antibiotics, including penicillin. If left untreated, syphilis can damage the heart, aorta, brain, eyes, and bones.</td>
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<tr>
<td><strong>Herpes Simplex</strong></td>
<td>Herpes simplex is a viral disease caused by both herpes simplex virus 1 (HSV-1) and herpes simplex virus 2 (HSV-2)</td>
<td>2 – 21 days.</td>
<td>Herpes simplex is most easily transmitted by direct contact with a lesion or the body fluid of an infected individual.</td>
<td>Common infection of the skin or mucosa may affect the face and mouth, genitalia, or hands. More serious disorders occur when the virus infects and damages the eye, or invades the central nervous system.</td>
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<td><strong>NOTES</strong></td>
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<td><strong>Genital warts</strong></td>
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<tr>
<td><strong>Definition</strong></td>
<td>Genital warts, caused by some types of HPV (human papilloma virus), can appear on the skin anywhere in the genital area as white or fleshcoloured, smooth, small bumps, or larger, fleshy, cauliflowerike lumps.</td>
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<tr>
<td><strong>Incubation Period</strong></td>
<td>10 days to one or two months.</td>
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<tr>
<td><strong>Mode of Transmission</strong></td>
<td>Genital HPV is transmitted by genital skin-to-skin contact, or through the transfer of infected genital fluids. This is usually during vaginal or anal sex.</td>
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<td></td>
</tr>
<tr>
<td><strong>Symptoms</strong></td>
<td>Warts can appear on or around the penis, the scrotum, the thighs or the anus. In women warts can develop around the vulva or inside the vagina and on the cervix.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Treatment</strong></td>
<td>There is no treatment that can completely  eliminate genital warts once a person has been infected. Often outbreaks of genital warts will become less frequent over time, until the body naturally clears the virus and the warts disappear of their own accord</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chlamydia</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Definition</strong></td>
<td>Chlamydia is caused by the bacterium chlamydia trachomatis. This bacteria can infect the cervix in women and the urethra and rectum in both men and women. Occasionally chlamydia can also affect other parts of the body, including the throat and eyes.</td>
</tr>
<tr>
<td><strong>Incubation Period</strong></td>
<td>Chlamydia symptoms usually appear between 1 and 3 weeks after exposure but may not emerge until much later.</td>
</tr>
<tr>
<td><strong>Mode of Transmission</strong></td>
<td>By having unprotected vaginal, anal or oral sex with someone who is infected.</td>
</tr>
<tr>
<td><strong>Symptoms</strong></td>
<td>Chlamydia is known as the ‘silent’ disease as in many people it produces no symptoms. It is estimated that 70-75% of women infected with chlamydia are asymptomatic (have no symptoms) and a significant proportion of men also have no symptoms.</td>
</tr>
<tr>
<td><strong>Treatment</strong></td>
<td>The treatment of chlamydia is simple and effective once the infection has been diagnosed. It consists of a short course of antibiotic tablets, which if taken correctly, can be more than 95 percent effective</td>
</tr>
</tbody>
</table>
PREVENTION AND CONTROL OF STDs/STIs

Primary Prevention
- Creating awareness and imparting knowledge about safer sex
- Advising on practicing safe sex
- Correct and consistent use of Condom
- Having single partner
- Avoiding multiple partners
- Maintaining sexual hygiene, removing stigma and bias in the community and the health care provider for improving the treatment seeking behaviour, improving access to safe delivery and safe abortion services, screening of every pregnant woman for syphilis.

Secondary Prevention
Early diagnosis and prompt treatment by trained health care worker, correct and adequate treatment, treatment of both the partners simultaneously, strengthening the referral system, providing accessible and affordable STI/RTI services in locality.

Tertiary Prevention
Prevention of late complications, complications of infertility and children.

5.4.4 HIV

HIV is a virus that attacks cells in the immune system, which is our body’s natural defence against illness. The virus destroys a type of white blood cell in the immune system called a T-helper cell, and makes copies of itself inside these cells. T-helper cells are also referred to as CD4 cells.

HIV is a lifelong condition and currently there is no cure, although many scientists are working to find one. However, with medical care, including treatment called antiretroviral therapy, it’s possible to manage HIV and live with the virus for many years.

Without treatment, a person with HIV is likely to develop a serious condition called AIDS - Acquired Immunodeficiency Syndrome. At that point, the immune system is too weak to fight off other diseases and infections. With antiretroviral therapy, HIV can be well-controlled and life expectancy can be nearly the same as someone who has not contracted HIV.

CAUSES & TRANSMISSION

HIV – Human Immunodeficiency Virus is a virus that damages the immune system. The immune system helps the body fight off infections. Untreated HIV infects and kills CD4 cells, which are a type of immune cell called T cells. Over time, as HIV kills more CD4 cells, the body is more likely to get various types of infections and cancers.
HIV is transmitted through bodily fluids that include:
- Blood
- Semen
- Vaginal and rectal fluids

HIV transmission is only possible if these fluids come in contact with a mucous membrane or damaged tissue or are directly injected into the bloodstream (from a needle or syringe). Mucous membranes are found inside the rectum, the vagina, the opening of the penis, and the mouth.

**HIV is spread mainly by:**
- Having anal or vaginal sex with someone who has HIV without using a condom or taking medicines to prevent or treat HIV
- Sharing injection drug equipment (works), such as needles, with someone who has HIV
- HIV can also spread from a woman with HIV to her child during pregnancy, childbirth (also called labor and delivery), or breastfeeding. This is called mother-to-child transmission of HIV.
- Receiving a blood transfusion or organ or tissue transplant from a donor with HIV.
- The virus doesn’t spread in air or water, or through casual contact.

**SYMPTOMS**

There are several symptoms of HIV. Not everyone will have the same symptoms. It depends on the person and what stage of the disease they are in.

**Stage 1: Acute HIV Infection**

Within 2 to 4 weeks after infection with HIV, about two-thirds of people will have a flu-like illness. This is the body’s natural response to HIV infection.

Flu-like symptoms can include:
- Fever
- Chills
- Rash
- Night sweats
- Muscle aches
- Sore throat
- Fatigue
- Swollen lymph nodes
- Mouth ulcers
These symptoms can last anywhere from a few days to several weeks. But some people do not have any symptoms at all during this early stage of HIV.

**Stage 2: Clinical Latency**

In this stage, the virus still multiplies, but at very low levels. People in this stage may not feel sick or have any symptoms. This stage is also called chronic HIV infection.

Without HIV treatment, people can stay in this stage for 10 or 15 years, but some move through this stage faster.

If you take HIV treatment every day, exactly as prescribed and get and keep an undetectable viral load, you can protect your health and prevent transmission to others. But if your viral load is detectable, you can transmit HIV during this stage, even when you have no symptoms. It’s important to see your health care provider regularly to get your level checked.

**Stage 3: AIDS**

If you have HIV and you are not on HIV treatment, eventually the virus will weaken your body’s immune system and you will progress to AIDS (acquired immunodeficiency syndrome). This is the late stage of HIV infection.

**SYMPTOMS**

Symptoms of AIDS can include:

- Rapid weight loss
- Recurring fever or profuse night sweats
- Extreme and unexplained tiredness
- Prolonged swelling of the lymph glands in the armpits, groin, or neck
- Diarrhea that lasts for more than a week
- Sores of the mouth, anus, or genitals
- Pneumonia
- Red, brown, pink, or purplish blotches on or under the skin or inside the mouth, nose, or eyelids
- Memory loss, depression, and other neurologic disorders

Each of these symptoms can also be related to other illnesses. The only way to know for sure if you have HIV is to get tested.
Many of the severe symptoms and illnesses of HIV disease come from the opportunistic infections that occur because your body's immune system has been damaged.

**TESTING**

The only way to know if you have HIV is to get an HIV test.

Several types of tests check your blood or body fluids to see if you're infected. Most can't detect HIV right away, because it takes time for your body to make antibodies or for enough virus to grow inside you. It may be up to 6 months before you'll see a positive result, which means an early test could be negative even though you're infected.

If you do have the virus, finding out quickly means you can start treatment to help you live a long and full life. You can also take precautions so that you don't pass HIV to other people.

**Nucleic Acid Testing**

A NAT looks for the actual virus in the blood. The test can give either a positive/negative result or an amount of virus present in the blood (known as an HIV viral load test). This test is very expensive and not routinely used for screening individuals unless they recently had a high-risk exposure or a possible exposure and they have early symptoms of HIV infection. Nucleic acid testing is usually considered accurate during the early stages of infection. However, it is best to get an antibody or antigen/antibody test at the same time to help the health care provider understand what a negative NAT means. Taking pre-exposure prophylaxis (PrEP) or post-exposure prophylaxis (PEP) may also reduce the accuracy of NAT if you have HIV.

**Antibody Screening Tests**

These tests check for a kind of protein that your body makes in response to the HIV infection, 2-8 weeks later. They're also called immunoassay or ELISA tests. They're generally very accurate, but they won't catch early infections.

Usually, a technician will take a small blood sample and send it to a lab for testing. Some immunoassay tests check urine or fluids from your mouth (not saliva), but there aren't as many antibodies in these, so you may not get a positive result even if you're infected. (That's called a false negative)

Rapid versions of these blood and oral fluid tests can give results in under 30 minutes, but they may give false negatives, too.
Antibody/Antigen Combination Tests

The CDC recommends these blood tests. They can detect HIV earlier than antibody screening tests. They check for HIV antigen, a protein called p24 that's part of the virus that shows up 2-4 weeks after infection. They also check for HIV antibodies.

A rapid antibody/antigen test can give you results in 20 minutes.

TREATMENT

Emergency HIV pills, or Post-Exposure Prophylaxis

If an individual believes they have been exposed to the virus within the last 3 days, anti-HIV medications, called post-exposure prophylaxis (PEP), may be able to stop infection. Take PEP as soon as possible after potential contact with the virus.

PEP is a treatment lasting a total of 28 days, and physicians will continue to monitor for HIV after the completion of the treatment.

HIV treatment involves taking medicines that slow the progression of the virus in your body. HIV is a type of virus called a retrovirus, and the combination of drugs used to treat it is called antiretroviral therapy (ART).

Antiretroviral therapy (ART) is the used to treat HIV infection. People on ART take a combination of HIV medicines (called an HIV treatment regimen) every day. ART is recommended for everyone who has HIV. ART can’t cure HIV, but HIV medicines help people with HIV live longer, healthier lives. ART also reduces the risk of HIV transmission.

Adherence to ART regimen is very vital in this treatment. Any irregularity in following the prescribed regimen can lead to resistance to HIV drugs, and therefore can weaken or negate its effect.

PREVENTION

- Use condoms during every sexual act with a person outside of a trusted relationship in which neither partner has HIV.
- Limit their sexual partners. They should have one sexual partner with whom they have an exclusive sexual relationship.
- People using a needle to take medications should use a clean, unused, unshared needle.
- Get tested for HIV. It’s important they learn their status and that of their partner.
• Get tested for other sexually transmitted infections (STIs). If they test positive for one, they should get it treated, because having an STI increases the risk of contracting HIV.

• Body fluid exposure: A person can limit their potential exposure to HIV by taking precautions to reduce the risk of exposure to contaminated blood.

• Women who are pregnant but have HIV might also pass on the virus through their breast milk. However, regularly taking the correct regimen of medications greatly reduces the risk of transmitting the virus.

• Education: Teaching people about known risk factors is vital to equip them with the tools to avoid exposure to HIV.

5.4.5 POLIO

Poliomyelitis, or polio, is a highly infectious viral disease that can be deadly. The polio virus, which can cause paralysis when it invades the nervous system, is usually transmitted through contaminated food and water. While there is no cure for polio, it can be prevented by immunisation.

Polio is an acute contagious viral illness caused by the polio virus. It affects the muscles and nerves throughout the body and may cause permanent paralysis or even lead to death.

There are three patterns of polio infection; subclinical, paralytic and non-paralytic. Ninety-five percent of infections are subclinical and often go unnoticed. Since the development and the use of vaccines against polio, the disease has become far less common.

CAUSES AND RISK FACTORS

The polio virus is highly contagious and is transmitted by contact with secretions from the nose, mouth, or faeces of an infected person. It can also spread through direct contact with an infected person or if an unimmunised person comes into contact with someone who recently received the oral polio vaccine (OPV) and has the live virus.

The spread of polio is usually through a faecal-oral route in areas with poor sanitation. The virus enters through the nose and mouth, multiplies in the nose and intestinal tract and is then absorbed and spread through the blood and lymphatic system. The incubation period (the time from being infected to the appearance of symptoms) is seven to 14 days.

You may be at risk of polio if you have not been immunised against the disease. Although polio affects people of all ages, there are certain groups
of people such as infants, children, older people and pregnant women who are more vulnerable to the infection. A person with a weakened immune system, like those with HIV or under extreme stress, is also at a higher risk of polio infection.

**SIGNS AND SYMPTOMS**

Sufferers of polio have the following symptoms:

- In mild cases — headache, slight fever, nausea and vomiting for up to three days
- In slightly more severe cases — moderate fever, muscle pain, a stiff neck and back, fatigue
- In most severe cases — fever, muscle pain or spasms, muscle weakness, stiffness, constipation, tremors and difficulty with swallowing

**TREATMENT**

There is no cure for polio; it can only be prevented by vaccination. Treatment of symptoms is all that can be done for the polio sufferer.

For instance, antibiotics are used to treat urinary tract infections. Bethanechol is used to reduce urine retention. Analgesics are used to reduce headaches and muscle pain.

**PREVENTION**

The most effective way to prevent the disease is getting vaccinated. Immunisation against polio is recommended for all children from three to 18 months of age. Three booster doses should be given to all children up to 12 years of age.

It is also important to practice good personal hygiene to reduce the spread of the polio virus.

**5.4.7 MALARIA**

Malaria is a mosquito-borne infectious disease that affects humans and other animals. Malaria causes symptoms that typically include fever, tiredness, vomiting, and headaches. In severe cases it can cause yellow skin, seizures, coma, or death. Malaria is a common disease in India.

**CAUSES & TRANSMISSION**

It is caused by Plasmodium and transmitted to man by infected female Anopheles mosquito. Malaria is commonly caused by Plasmodium vivax and Falciparum in India. Plasmodium falciparum has a higher mortality than Plasmodium vivax.

Once an infected mosquito bites a human, the parasites multiply in the host's liver before infecting and destroying red blood cells.
SYMPTOMS
Malaria is characterised by paroxysmal attacks of fever, every 3rd or 4th day. The fever attacks have three distinct stage:

1. Cold Stage: Headache, nausea, vomiting and chills with rigors. The temperature rises, and this stage lasts for an hour.
2. Hot Stage: The headache worsens and the body temperature is very hot. It lasts for 2–6 hours.
3. Sweating Stage: The temperature drops down to normal with profuse sweating.

Apart from the symptoms above, the patient may also have jaundice, anaemia and other complications that can occur in Malaria.

DIAGNOSIS
The diagnosis of malaria can be made by microscopy or rapid diagnostic tests. The microscopy to identify malarial parasites can be done by making ‘Thick’ and ‘Thin’ films, both on the single microscopic slide. The thick film is useful for diagnosis and the thin film for identification of the Malaria species.

Rapid diagnostic kits can also be used to make the diagnosis of malaria, but should be carefully used to avoid false negative results.

TREATMENT
Treatment aims to eliminate the Plasmodium parasite from the bloodstream.

For any suspected case of Malaria– a blood test or rapid diagnostic testing should be done.

The medicine chosen will depend upon whether the patient has vivax or falciparum. The uncomplicated Malaria caused by Vivax can be treated with Chloroquine, 10 mg/kg, once a day for 3 days and Primaquine, 0.25 mg/kg, once a day for 14 days. Along with the antimalarials, fever should be treated with Paracetamol. Falciparum Malaria is treated with Artemesinin based combination therapy.

If the patient has altered level of consciousness, seizures, shortness of breath or severe malnutrition or any other signs of complicated Malaria, he/she should get immediate medical assistance.

Those without symptoms may be treated for infection to reduce the risk of disease transmission in the surrounding population.

PREVENTION
There are several ways to keep malaria at bay.

- **Vaccination**, Research to develop safe and effective global vaccines for malaria is ongoing
- "Fogging," or spraying areas with pesticides similar to those used in household sprays.
5.4.8 CHOLERA

Cholera is an infectious disease that causes severe watery diarrhea, which can lead to dehydration and even death if untreated. It is caused by eating food or drinking water contaminated with a bacterium called Vibrio cholerae.

CAUSES & TRANSMISSION

*Vibrio cholerae*, the bacterium that causes cholera, is usually found in food or water contaminated by feces from a person with the infection.

When a person consumes the contaminated food or water, the bacteria release a toxin in the intestines that produces severe diarrhea.

It is not likely you will catch cholera just from casual contact with an infected person.

SYMPTOMS

Symptoms of cholera can begin as soon as a few hours or as long as five days after infection. Often, symptoms are mild. But sometimes they are very serious. People infected have severe watery diarrhea accompanied by vomiting, which can quickly lead to dehydration. Although many infected people may have minimal or no symptoms, they can still contribute to spread of the infection.

- Signs and symptoms of dehydration
- Rapid heart rate
- Loss of skin elasticity (the ability to return to original position quickly if pinched)
- Dry mucous membranes, including the inside of the mouth, throat, nose, and eyelids
- Low blood pressure
- Thirst
- Muscle cramps

If not treated, dehydration can lead to shock and death in a matter of hours.

TREATMENT AND PREVENTION

There is a vaccine against cholera but it lasts only a few months.

Be sure to use the bottled, boiled, or chemically disinfected water for the following purposes:

- Drinking
- Preparing food or drinks
• Making ice
• Brushing your teeth
• Washing your face and hands
• Washing dishes and utensils that you use to eat or prepare food
• Washing fruits and vegetables

To disinfect your own water, boil it for one minute (or 3 minutes at higher elevations) or filter it and use a commercial chemical disinfectant.

Cholera is highly treatable, but because dehydration can happen quickly, it's important to get cholera treatment right away.

Hydration is the mainstay of treatment for cholera. Depending on how severe the diarrhea is, treatment will consist of oral or intravenous solutions to replace lost fluids. Antibiotics, which kill the bacteria, are not part of emergency treatment for mild cases. But they can reduce the duration of diarrhea by half and also reduce the excretion of the bacteria, thus helping to prevent the spread of the disease.

5.4.9 TYPHOID

Typhoid fever is the result of systemic infection mainly by S. typhi found only in man. The disease is clinically characterised by a typical continuous fever for 3 to 4 weeks, relative bradycardia with involvement of lymphoid tissues and considerable constitutional symptoms. The term “enteric fever” includes both typhoid and paratyphoid fevers.

Typhoid fever is endemic in India. Reported data for the year 2013 shows 1.53 million cases and 361 deaths. S. typhi is the major cause of enteric fever. The factors which influence the onset of typhoid fever in man are the infecting dose and virulence of the organism.

CAUSE & TRANSMISSION

Typhoid is an infection caused by the bacterium Salmonella typhimurium (S. typhi). The bacterium lives in the intestines and bloodstream of humans. It spreads between individuals by direct contact with the feces of an infected person. No animals carry this disease, Man is the only known reservoir of infection, viz cases and carriers.

The primary sources of infection are faeces and urine of cases or carriers; the secondary sources contaminated water, food, fingers and flies. There is no evidence that typhoid bacilli are excreted in sputum or milk.

Typhoid fever is transmitted via the faecal – oral route or urine – oral routes. This may take place directly through soiled hands contaminated with faeces or urine of cases or carriers, or indirectly by the ingestion of contaminated water, milk and/or food, or through flies.
Incubation period
Usually 10–14 days. But it may be as short as 3 days or as long as three weeks depending upon the dose of the bacilli ingested.

SYMPTOMS

- The onset is usually insidious but in children may be abrupt, with chills and high fever. During the prodromal stage, there is malaise, headache, cough and sore throat, often with abdominal pain and constipation.

- The fever ascends (rise) in a step ladder fashion. After about 7–10 days, the fever reaches a plateau and the patient looks toxic, appearing exhausted and often prostrated. (Note: Check it)

- There may be marked constipation, especially in early stage or “pea soup” diarrhoea.

- The rash (rose spots) commonly appears during the second week of disease. The individual spot, found principally on the trunk, is a pink papule 2–3 mm in diameter that fades on pressure. It disappears in 3–4 days.

- Serious complications occur in up to 10 per cent of typhoid fever patients, especially in those who have been ill longer than 2 weeks, and who have not received proper treatment. Intestinal haemorrhage is manifested by a sudden drop in temperature and signs of shock, followed by dark or fresh blood in the stool.

DIAGNOSIS
This is of vital importance as the early symptoms are non-specific. Culture of blood and stools are important. Please refer Practical Course 3, Block 2, Unit 2 for stool sample collection procedure.

TREATMENT
The fluoroquinolones are widely regarded as the drug of choice for the treatment of typhoid fever. They are relatively inexpensive, well tolerated and more rapidly and reliably effective than the former first-line drugs, viz. chloramphenicol, ampicillin, amoxicillin and trimethoprim — sulfamethoxazole

PREVENTION
While ultimately, control of typhoid fever must take the form of improved sanitation and domestic and personal hygiene; these are long-term objectives in many developing countries. A complementary approach to prevention is immunisation, which is the only specific preventive measure, likely to yield the highest benefit for the money spent
5.7 IMMUNIZATION SCHEDULE FOR CHILDREN

Immunization is the process whereby a person is made immune or resistant to an infectious disease, typically by the administration of a vaccine. Vaccines stimulate the body’s own immune system to protect the person against subsequent infection or disease.

Immunization is a proven tool for controlling and eliminating life-threatening infectious diseases and is estimated to avert between 2 and 3 million deaths each year. It is one of the most cost-effective health investments, with proven strategies that make it accessible to even the most hard-to-reach and vulnerable populations. It has clearly defined target groups; it can be delivered effectively through outreach activities; and vaccination does not require any major lifestyle change.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>When to give</th>
<th>Maximum age</th>
<th>Dose</th>
<th>Route</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>For pregnant women</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Td -1</td>
<td>Early pregnancy</td>
<td>--</td>
<td>0.5ml</td>
<td>Intra muscular</td>
<td>Upper arm</td>
</tr>
<tr>
<td>Td -2</td>
<td>4 weeks after 1st dose of Td*</td>
<td>--</td>
<td>0.5ml</td>
<td>Intra muscular</td>
<td>Upper arm</td>
</tr>
<tr>
<td>Td booster</td>
<td>If received 2 Td doses in a pregnancy within the last 3yrs</td>
<td>--</td>
<td>0.5ml</td>
<td>Intra muscular</td>
<td>Upper arm</td>
</tr>
<tr>
<td>For infants</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BCG</td>
<td>At birth or as early as possible till 1 year of age</td>
<td>At birth till one year</td>
<td>0.1ml (0.05ml until 1month age)</td>
<td>Intra-dermal</td>
<td>Left Upper Arm</td>
</tr>
</tbody>
</table>
| Hepatitis B - Birth dose | At birth or as early as possible within 24 hours | At birth within 24 hours | 0.5 ml | Intra-muscular | Anterolateral side of mid-
<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Schedule</th>
<th>Route</th>
<th>Dose/Technique</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPV -0</td>
<td>At birth or as early as possible within first 15 days</td>
<td>2 drops</td>
<td>Oral</td>
<td>Oral</td>
</tr>
<tr>
<td>OPV -1,2,3,</td>
<td>6 weeks, 10 weeks &amp; 14 weeks</td>
<td>2 drops</td>
<td>Oral</td>
<td>Oral</td>
</tr>
<tr>
<td>fIPV 1 &amp; 2</td>
<td>6 weeks &amp; 14 weeks</td>
<td>0.1 ml</td>
<td>Intra-dermal</td>
<td>Upper arm</td>
</tr>
<tr>
<td>Pentavaleant</td>
<td>6 weeks, 10 weeks &amp; 14 weeks</td>
<td>0.5 ml</td>
<td>Intramuscular</td>
<td>Antero-lateral side of mid-thigh</td>
</tr>
<tr>
<td>RVV 1, 2 &amp; 3</td>
<td>At 6 weeks, 10 weeks &amp; 14 weeks</td>
<td>5 drops</td>
<td>Oral</td>
<td>Oral</td>
</tr>
<tr>
<td>PCV 1, 2 &amp; Booster</td>
<td>At 6 weeks, 14 weeks &amp; 9 months</td>
<td>0.5 ml</td>
<td>Intramuscular</td>
<td>Antero-lateral side of mid-thigh</td>
</tr>
<tr>
<td>MCV 1/ MR 1</td>
<td>9 completed months to 12 months. Give up to 5yrs if not received at 9 - 12 months age</td>
<td>0.5 ml</td>
<td>Subcutaneous</td>
<td>Right upper arm</td>
</tr>
<tr>
<td>Vitamin A (1st dose)</td>
<td>At 9 completed months</td>
<td>1ml (1 lakh IU)</td>
<td>Oral</td>
<td>Oral</td>
</tr>
<tr>
<td>Japanese Encephalitis (1st Dose)***</td>
<td>At 9 completed months - 12 months</td>
<td>0.5 ml</td>
<td>Subcutaneous</td>
<td>Left Upper Arm</td>
</tr>
</tbody>
</table>

**FOR CHILDREN AND ADOLESCENTS**

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Schedule</th>
<th>Route</th>
<th>Dose/Technique</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPT booster 1</td>
<td>16-24 months</td>
<td>0.5 ml</td>
<td>Intra-muscular</td>
<td>Antero-lateral side of mid-thigh</td>
</tr>
<tr>
<td>MCV 2/ MR 2</td>
<td>16-24 months</td>
<td>0.5 ml</td>
<td>Subcutaneous</td>
<td>Right upper arm</td>
</tr>
<tr>
<td>OPV Booster</td>
<td>16-24 months</td>
<td>2 drops</td>
<td>Oral</td>
<td>Oral</td>
</tr>
<tr>
<td>NOTES</td>
<td>16-24 months</td>
<td>15 years of age</td>
<td>0.5 ml</td>
<td>Subcutaneous</td>
</tr>
<tr>
<td>-------</td>
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</tr>
<tr>
<td>Japanese Encephalitis*** (if applicable)</td>
<td>18 months (2nd dose). Then, one dose every 6 months up to the age of 5 years.</td>
<td>5 years of age</td>
<td>2 ml (2 lakh iu)</td>
<td>Oral</td>
</tr>
<tr>
<td>Vitamin A*** (2nd to 9th dose)</td>
<td>5 years of age</td>
<td>2 ml (2 lakh iu)</td>
<td>Oral</td>
<td>Oral</td>
</tr>
<tr>
<td>DPT booster</td>
<td>5-6 years</td>
<td>7 years of age</td>
<td>0.5 ml</td>
<td>Intramuscular</td>
</tr>
<tr>
<td>Td</td>
<td>10 years &amp; 16 years</td>
<td>16 years of age</td>
<td>0.5 ml</td>
<td>Intramuscular</td>
</tr>
</tbody>
</table>
ABBREVIATIONS

BCG: Bacillus Calmette Guerin
OPV: Oral poliovirus vaccine
DTwP: Diphtheria, tetanus, whole cell Pertussis
DT: Diphtheria and tetanus toxoids
TT: Tetanus toxoid
Hep B: Hepatitis B vaccine
MMR: Measles, Mumps and Rubella Vaccine
Hib: Hemophilus influenzae Type ‘b’ Vaccine
IPV: Inactivated poliovirus vaccine
Td: Tetanus, reduced dose diphtheria toxoid
HPV: Human Papilloma Virus Vaccine
PCV: Pneumococcal Conjugate Vaccine
TdaP: Tetanus and Diphtheria Toxoids and a Cellular Pertussis Vaccine

ALL VACCINES

- If a child who has never been vaccinated is brought at 9 months of age, all the due vaccines can be given during the same session but at different injection sites using separate syringes. It is safe and effective to give BCG, DPT, Hepatitis B, OPV and Measles vaccines and Vitamin A at the same time to a 9 months old child who has never been vaccinated.

- A child between 1–5 years of age, who has never been vaccinated, should be given DPT1, OPV-1, Measles and 2 ml of Vitamin A solution. It should then be given the second and third doses of DPT and OPV at one-month intervals. Measles second dose is also to be given as per the schedule. The Booster dose of OPV/DPT can be given at a minimum of 6 months after administering OPV3/DPT3.

- A child between 5–7 years of age, who has never been vaccinated, should be given first, second and third doses of DPT at one-month intervals. The booster dose of DPT can be given at a minimum of 6 months after administering DPT3 up to 7 years of age.

5.6 LET US SUM UP

The knowledge you gained will help you to understand and learn the approaches in prevention and control of communicable disease. This will help you in identifying appropriate measures for the prevention and control of communicable diseases that you, as a health worker will put into place in your community. Communicable disease is important in the planning and evaluation of disease prevention and control programs, in the assurance of appropriate medical therapy, and in the detection of common-source outbreaks.
Vaccines are now available to control the majority of diseases that have caused illness and death in children in the past. Medical treatments help to control many others, but immunization can continue to play an important role in controlling the spread of communicable disease.

5.7 UNIT – END EXERCISES

1. Read on National AIDS Control Organization
2. Make a visit to Communicable Diseases Hospital
3. Prepare health promotion modules on communicable diseases.
4. Make a visit to ART Center.
5. Enlist the immunization schedule for children

5.8 ANSWERS TO CHECK YOUR PROGRESS

1. A disease is an abnormal condition affecting a living organism. Diseases are generally understood to be medical conditions that involve a pathological process associated with a specific set of symptoms. Localized diseases affect specific parts of the body; disseminated diseases spread to other parts of the body; and systemic diseases affect the entire body.

2. Communicable diseases are caused by infectious agents that can be transmitted to other people from an infected person, animal or a source in the environment through a variety of ways that include: contact with blood and bodily fluids; breathing in an airborne virus; or by being bitten by an insect.

3. **Tuberculoid.** A mild, less severe form of leprosy. People with this type have only one or a few patches of flat, pale-colored skin (paucibacillary leprosy). The affected area of skin may feel numb because of nerve damage underneath. Tuberculoid leprosy is less contagious than other forms.

   **Lepromatous.** A more severe form of the disease. It has widespread skin bumps and rashes (multibacillary leprosy), numbness, and muscle weakness. The nose, kidneys, and male reproductive organs may also be affected. It is more contagious than tuberculoid leprosy.

   **Borderline.** People with this type of leprosy have symptoms of both the tuberculoid and lepromatous forms

4. **Latent TB.** Latent TB occurs when a person has the TB bacteria within their body, but the bacteria are present in very small numbers. They are kept under control by the body’s immune system and do not cause any symptoms.

   People with latent TB do not feel sick and are not infectious. They cannot pass the TB bacteria on to other people. In addition they will usually have a normal chest x-ray and a negative sputum test.
Active TB. Active tuberculosis is a multiorgan disease caused by primary infection or as a re-activation of latent tuberculosis. Primary tuberculosis occurs when the immune system is unable to defend against the *Mycobacterium tuberculosis* bacterium (MTB) infection. The disease can be spread to others.

5. HIV can be prevented by the following measures,
   - Use condoms or PrEP during every sexual act with a person outside of a trusted relationship in which neither partner has HIV.
   - Limit their sexual partners. They should have one sexual partner with whom they have an exclusive sexual relationship.
   - People using a needle to take medications should use a clean, unused, unshared needle.
   - Get tested for HIV. It’s important they learn their status and that of their partner.
   - Get tested for other sexually transmitted infections (STIs). If they test positive for one, they should get it treated, because having an STI increases the risk of contracting HIV.
   - Body fluid exposure: A person can limit their potential exposure to HIV by taking precautions to reduce the risk of exposure to contaminated blood.
   - Women who are pregnant but have HIV might also pass on the virus through their breast milk. However, regularly taking the correct regimen of medications greatly reduces the risk of transmitting the virus.
   - Education: Teaching people about known risk factors is vital to equip them with the tools to avoid exposure to HIV.

6. Malaria is characterised by paroxysmal attacks of fever, every 3rd or 4th day. The fever attacks have three distinct stage:
   1) Cold Stage: Headache, nausea, vomiting and chills with rigors. The temperature rises, and this stage lasts for an hour.
   2) Hot Stage: The headache worsens and the body temperature is very hot. It lasts for 2–6 hours.
   3) Sweating Stage: The temperature drops down to normal with profuse sweating.
Apart from the symptoms above, the patient may also have jaundice, anaemia and other complications that can occur in Malaria.

5.9 SUGGESTED READINGS


UNIT VI – NON-COMMUNICABLE DISEASES & OCCUPATIONAL HEALTH

Structure

6.1 Introduction
6.2 Objectives
6.3 Non – Communicable disease
   6.3.1 Cancer
   6.3.2 Diabetes
   6.3.3 Hyper tension
   6.3.4 Asthma
   6.3.5 Cardiac disorders
6.4 Occupational Health
   6.4.1 Occupational Health Hazard
   6.4.2 Common Occupational Diseases
6.5 Let us sum up
6.6 Unit – End Exercises
6.7 Answers to check your progress
6.8 Suggested readings

6.1 INTRODUCTION

Non-communicable diseases (NCDs) are the leading cause of adult mortality and morbidity worldwide. Keeping in view that there are common preventable risk factors for Cancer, Diabetes, Cardiovascular disease & Stroke. In this unit we will look into the healthy life styles, early diagnosis and management of diabetes, hypertension, cardiovascular diseases & common cancers.

In this unit we shall discuss about various NCDs with reference to burden, causes and risk factors.

6.2 OBJECTIVES

After completing this unit, you would be able to:

- Enumerate the important non communicable diseases
- Describe causes and risk factors of major non-communicable diseases
- Know the various Occupational Health Hazards
- Distinguish Common Occupational Diseases

6.3 NON – COMMUNICABLE DISEASE

Non-communicable diseases (NCDs), also known as chronic diseases, are not passed from person to person. They are of long duration and generally progress slowly. They often have a long asymptomatic period.

- According to Indian Council of Medical Research (ICMR) report titled “India: Health of the Nation’s States”, contribution of Non-
Communicable Diseases (NCDs) to total death in the Country was 61.8% in 2016, as compared to 37.9% in 1990.

- Some examples of common NCDs, i.e. diabetes, hypertension and cancers (Oral, Breast and Cervical cancer) are on the rise in India.
- Risk factors for NCDs inter alia include ageing, unhealthy diet, lack of physical activity, high blood pressure, high blood sugar, high cholesterol and overweight.

### 6.3.1 CANCER

Cancer is a group of diseases involving abnormal cell growth with the potential to invade or spread to other parts of the body. Possible signs and symptoms include a lump, abnormal bleeding, prolonged cough, unexplained weight loss and a change in bowel movements.

#### CLASSIFICATION

- **Carcinoma:** Cancers derived from epithelial cells. This group includes many of the most common cancers and include nearly all those in the breast, prostate, lung, pancreas and colon.
- **Sarcoma:** Cancers arising from connective tissue (i.e. bone, cartilage, fat, nerve), each of which develops from cells originating in mesenchymal cells outside the bone marrow.
- **Lymphoma and leukemia:** These two classes arise from haematopoietic (blood-forming) cells that leave the marrow and tend to mature in the lymph nodes and blood, respectively.
- **Germ cell tumor:** Cancers derived from pluripotent cells, most often presenting in the testicle or the ovary (seminoma and dysgerminoma, respectively).
- **Blastoma:** Cancers derived from immature “precursor” cells or embryonic tissue.

#### CAUSES

The majority of cancers, some 90–95% of cases, are due to environmental factors. The remaining 5–10% are due to inherited genetics.

Common environmental factors that contribute to cancer death include tobacco (25–30%), diet and obesity (30–35%), infections (15–20%), radiation (both ionising and non-ionising, up to 10%), stress, lack of physical activity and environmental pollutants.

1) **Chemicals**

Exposure to particular substances has been linked to specific types of cancer.

These substances are called carcinogens.

Tobacco smoke is a major cause of lung cancer. It also causes cancer in the larynx, head, neck, stomach, bladder, kidney, esophagus and pancreas. Tobacco smoke contains over fifty known carcinogens, including nitrosamines and polycyclic aromatic hydrocarbons.
2) Diet and exercise
Diet, physical inactivity and obesity are related to up to 30–35% of cancer deaths. Physical inactivity is believed to contribute to cancer risk, not only through its effect on body weight but also through negative effects on the immune system and endocrine system.

Some specific foods are linked to specific cancers. A high-salt diet is linked to gastric cancer. Aflatoxin B1, a frequent food contaminant, causes liver cancer. Betel nut chewing can cause oral cancer. National differences in dietary practices may partly explain differences in cancer incidence.

3) Infection
Worldwide approximately 18% of cancer deaths are related to infectious diseases.

Viruses are the usual infectious agents that cause cancer. Oncoviruses (viruses that can cause cancer) include human papilloma virus as an agent responsible for cervical cancer in females.

4) Radiation
The radiation exposure, including both ionising radiation and non-ionising ultraviolet radiation, can also contribute to invasive cancer.

Prolonged exposure to ultraviolet radiation from the sun can lead to melanoma and other skin malignancies. Non-ionising radio frequency radiation from mobile phones, electric power transmission and other similar sources have been described as a possible carcinogen by the World Health Organization’s International Agency for Research on Cancer.

5) Heredity
Hereditary cancers are primarily caused by an inherited genetic defect. Less than 0.3% of the population are carriers of a genetic mutation that has a large effect on cancer risk and these causes less than 3–10% of cancer.

Most common types
- Breast cancer
  A cancer that forms in the cells of the breasts.
- Prostate cancer
  A cancer in a man's prostate, a small walnut-sized gland that produces seminal fluid.
- Basal cell cancer
  A type of skin cancer that begins in the basal cells.
- Skin cancer (melanoma)
  The most serious type of skin cancer.
- Colon cancer
  A cancer of the colon or rectum, located at the digestive tract's lower end.
- Lung cancer
A cancer that begins in the lungs and most often occurs in people who smoke.

- **Leukemia**
  A cancer of blood-forming tissues, hindering the body's ability to fight infection.

- **Lymphoma**
  A cancer of the lymphatic system.

## TREATMENT

There are many types of cancer treatment. The types of treatment that you receive will depend on the type of cancer you have and how advanced it is. Some people with cancer will have only one treatment. But most people have a combination of treatments, such as surgery with chemotherapy and/or radiation therapy. When you need treatment for cancer, you have a lot to learn and think about. It is normal to feel overwhelmed and confused. But, talking with your doctor and learning about the types of treatment you may have can help you feel more in control.

- **Surgery**
  When used to treat cancer, surgery is a procedure in which a surgeon removes cancer from your body. Learn the different ways that surgery is used against cancer and what you can expect before, during, and after surgery.

- **Radiation Therapy**
  Radiation therapy is a type of cancer treatment that uses high doses of radiation to kill cancer cells and shrink tumors. Learn about the types of radiation, why side effects happen, which ones you might have, and more.

- **Chemotherapy**
  Chemotherapy is a type of cancer treatment that uses drugs to kill cancer cells. Learn how chemotherapy works against cancer, why it causes side effects, and how it is used with other cancer treatments.

- **Immunotherapy to Treat Cancer**
  Immunotherapy is a type of cancer treatment that helps your immune system fight cancer. This page covers the types of immunotherapy, how it is used against cancer, and what you can expect during treatment.

- **Targeted Therapy**
  Targeted therapy is a type of cancer treatment that targets the changes in cancer cells that help them grow, divide, and spread. Learn how targeted therapy works against cancer and about common side effects that may occur.

- **Hormone Therapy**
  Hormone therapy is a treatment that slows or stops the growth of breast and prostate cancers that use hormones to grow. Learn about the types of hormone therapy and side effects that may happen.
• **Stem Cell Transplant**

Stem cell transplants are procedures that restore blood-forming stem cells in cancer patients who have had theirs destroyed by very high doses of chemotherapy or radiation therapy. Learn about the types of transplants, side effects that may occur, and how stem cell transplants are used in cancer treatment.

• **Precision Medicine**

Precision medicine helps doctors select treatments that are most likely to help patients based on a genetic understanding of their disease. Learn about the role precision medicine plays in cancer treatment, including how genetic changes in a person's cancer are identified and used to select treatments.

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**9.3.2 DIABETES**

Diabetes is a metabolic disease in which there are high blood sugar levels over a prolonged period. Symptoms of high blood sugar include frequent urination, increased thirst, and increased hunger. If left untreated, diabetes can cause many complications.

**TYPES OF DIABETES MELLITUS**

There are three main types of diabetes mellitus (DM):

- Type 1 DM results from the pancreas’s failure to produce enough insulin. This form was previously referred to as “insulin-dependent diabetes mellitus” (IDDM) or “juvenile diabetes”. The cause is unknown.

- Type 2 DM begins with insulin resistance, a condition in which cells fail to respond to insulin properly. As the disease progresses a lack of insulin may also develop. This form was previously referred to as “non insulin-dependent diabetes mellitus” (NIDDM) or “adult-onset diabetes”. The primary cause is excessive body weight and not enough exercise.

- Gestational diabetes is the third main form and occurs when pregnant women without a previous history of diabetes develop high blood-sugar levels.

**When is a person at high risk for diabetes?**

- age of or above 30 years

- overweight (BMI is more than 23 kg/m).
• physically inactive (exercises less than 3 times a week)
• high blood pressure.
• impaired fasting glucose or impaired glucose tolerance.
• triglyceride and/or cholesterol levels are higher than normal.
• parents/siblings or grandparents have or had diabetes.
• had diabetes or even mild elevation of blood sugars during pregnancy.

When to suspect diabetes?
• Symptoms of uncontrolled hyperglycemia: excess thirst, excess urination, excess hunger with loss of weight
• Frequent infections
• Non-healing wounds
• Fatigue
• Tuberculosis

Criteria for diagnosis of T2DM using venous blood samples is by
Fasting Glucose (mg/dl) and 2-hour Post-Glucose Load (mg/dl) –

Table 6.1

<table>
<thead>
<tr>
<th></th>
<th>Fasting Glucose (mg/dl)</th>
<th>2-hour Post Glucose Load (mg/dl)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes Mellitus</td>
<td>&gt;= 126</td>
<td>&gt;=200</td>
</tr>
<tr>
<td>Impaired Glucose Tolerance</td>
<td>&lt;110</td>
<td>&gt;140 to &lt;200</td>
</tr>
<tr>
<td>Impaired Fasting Glucose</td>
<td>&gt;=110 to &lt;126</td>
<td></td>
</tr>
</tbody>
</table>


Management of Diabetes

Management of T2DM should be initiated as soon as diagnosis is established even if the patient is asymptomatic. Initial assessment and management of the patients has to be carried out at Primary Health Centre and Community Health Centre (CHC) level or at secondary care level.

When to recommend hospitalisation

• Uncontrolled infection,
• Severe cellulitis,
• Unresponsive UTI or other deep seated infections including bad diabetic foot
• needing intravenous antibiotics,
• Recurrent UTI not responding to oral antibiotics,
• Presence of ketones in urine
9.3.3 Hypertension

Abnormally elevated blood pressure is a pathological condition which increases the workload on the heart. This condition is termed as high blood pressure or hypertension.

Table 6.2: Criteria for diagnosing high blood pressure (mm of Hg)

<table>
<thead>
<tr>
<th>Category</th>
<th>Systolic</th>
<th>Diastolic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Less than 120</td>
<td>Less than 80</td>
</tr>
<tr>
<td>Pre hypertensive</td>
<td>120–139</td>
<td>80–89</td>
</tr>
<tr>
<td>Hypertensive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stage 1</td>
<td>140–159</td>
<td>90–99</td>
</tr>
<tr>
<td>Stage 2</td>
<td>160 or higher</td>
<td>100 or higher</td>
</tr>
<tr>
<td>Stage 3</td>
<td>180 or higher</td>
<td>110 or higher</td>
</tr>
</tbody>
</table>

Source: Paul A. James et al. 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8)

What Causes High Blood Pressure?
The exact causes of high blood pressure are not known, but several things may play a role, including:

- Smoking
- Being overweight or obese
- Lack of physical activity
- Too much salt in the diet
- Too much alcohol consumption (more than 1 to 2 drinks per day)
- Stress
- Older age
- Genetics
- Family history of high blood pressure
- Chronic kidney disease
- Adrenal and thyroid disorders
- Sleep apnea

Management of hypertension:
The Risk assessment should cover:
1) Assessment of medical history:
a) Risk factors
   - Lack of physical activity (or sedentary lifestyle).
   - Obesity or being overweight
   - Abdominal obesity (Waist circumference more than 90 cm in male and 80 cm in females)
   - High sodium intake/high salt intake
- Excess alcohol consumption
  b) Family history
  c) Symptoms of consequences of hypertension
  d) Frequent intake of pain relieving drugs (NSAIDS)
  e) Steroid intake for asthma
  f) Breathing difficulty particularly on exertion
  g) Swelling of feet
  h) Urinary difficulties, history of passing stones in the past

2) Physical examination:
   a) BP measurement
   b) Measurement of body weight and height to obtain BMI
   c) Measurement of Waist circumference
   d) Palpating all peripheral pulses
   e) Auscultation for bruit (renal, carotid, abdominal and others)
   f) Eye evaluation if ophthalmology facility is available

The management should include the following:
- Life-style management (refer to section on lifestyle modification)
- Drug Therapy

**Complications of hypertension**
Complications occur as a result of persistent elevation of blood pressure for a longer duration of period. The impact of raised blood pressure is on various organs of the body and can lead to organ damage.

### 9.3.4 ASTHMA

Asthma is a long-term disease of the lungs. You might hear your doctor call it a chronic respiratory disease. It causes your airways to get inflamed and narrow and makes breathing difficult. Coughing, wheezing, shortness of breath, and chest tightness are classic asthma symptoms. Severe asthma can make it hard to talk or be active. Some people refer to asthma as "bronchial asthma."

**CLASSIFICATION**

Doctors rank the severity of asthma by its symptoms:

1. **Mild intermittent asthma.** Mild symptoms less than twice a week. Nighttime symptoms less than twice a month. Few asthma attacks.

2. **Mild persistent asthma.** Symptoms three to six times a week. Nighttime symptoms three to four times a month. Asthma attacks might affect activities.
3. **Moderate persistent asthma.** Symptoms three to six times a week. Nighttime symptoms three to four times a month. Asthma attacks might affect activities.

4. **Severe persistent asthma.** You have ongoing symptoms both day and night. They’re so frequent that you have to limit your activities.

**TYPES**

- **Adult-onset asthma.** Asthma can affect you at any age, although it's more common in people under age 40. More than 20 million adult Americans, or 8.3% of the adult population, has it. You’re more likely to get it if you have a family history of asthma, allergies, or eczema.

- **Status asthmaticus.** These prolonged asthma attacks don’t respond to treatment with bronchodilators and are a medical emergency. They need immediate treatment.

- **Asthma in children.** Symptoms can vary from episode to episode in the same child. Symptoms of asthma to look for include:
  
  - Frequent coughing spells, which may happen during play, at nighttime, or while laughing. It's important to know that coughing may be the only symptom.
  - Less energy during play, or pausing to catch breath during play
  - Rapid or shallow breathing
  - Complaint of chest tightness or chest "hurting"
  - Whistling sound when breathing in or out. This sound is called wheezing.
  - Seesaw motions in the chest from labored breathing. These motions are called retractions.
  - Shortness of breath, loss of breath
  - Tightened neck and chest muscles
  - Weakness or tiredness

- **Exercise-induced bronchoconstriction.** You might hear this called exercise-induced asthma. It happens during physical activity when you breathe in air that’s drier that what’s in your body and your airways narrow. It can affect people who don’t have asthma, too. You’ll notice symptoms within a few minutes after you start to exercise, and they might last for 10 to 15 minutes after you stop.

- **Allergic asthma.** Things that trigger allergies, like dust, pollen and pet dander, can also cause asthma attacks.
• **Nonallergic asthma.** This type flares in extreme weather. It could be the heat of summer or the cold of winter. It could also show up when you’re stressed or have a cold.

• **Occupational asthma.** This usually affects people who work around chemical fumes, dust, or other irritating things in the air.

• **Eosinophilic asthma.** This severe, chronic form is marked by high levels of white blood cells called eosinophils. This type usually affects adults between 35 and 50.

• **Nocturnal asthma.** When you have this, your asthma symptoms get worse at night.

• **Aspirin-induced asthma.** When you have this, you’ll have asthma symptoms when you take aspirin, along with a runny nose, sneezing, sinus pressure, and a cough.

• **Cough-variant asthma.** Unlike other types, the only symptom of this kind of asthma is a chronic cough

**SYMPTOMS**

There are three major features of asthma:

1. **Airway obstruction.** When you breathe normally, the bands of muscle that surround your airways are relaxed and air moves freely. But when you have asthma, those bands of muscle tighten. Air can’t move freely. When there’s less air in your lungs, you feel short of breath. The air moving out through your tightened airways causes wheezing.

2. **Inflammation.** People with asthma have red and swollen bronchial tubes. This inflammation can damage the lungs. Treating this inflammation is key to managing asthma in the long run.

3. **Airway irritability.** People with asthma have sensitive airways that tend to overreact and narrow due to even the slightest triggers.

**CAUSES**

When you have asthma, your airways react to many different things in the environment called asthma triggers. Contact with these triggers cause asthma symptoms to start or worsen. Common asthma triggers include:

• Infections like sinusitis, colds, and flu
• Allergens such as pollens, mold, pet dander, and dust mites
• Irritants like strong odors from perfumes or cleaning solutions
• Air pollution
• Tobacco smoke
• Exercise
NOTES

- Cold air or changes to the weather, such as changes in temperature or humidity
- Strong emotions such as anxiety, laughter, crying, or stress
- Medications such as aspirin

ASTHMA ATTACK

An asthma attack is a sudden worsening of symptoms. With an asthma attack, your airways tighten, swell up, or fill with mucus. Common symptoms include:

- Coughing, especially at night
- Wheezing
- Shortness of breath or trouble breathing
- Chest tightness, pain, or pressure

DIAGNOSIS

If you think you have asthma, see your doctor. They’ll refer you to an asthma specialist, also known as a pulmonologist, who can examine you and run tests for asthma to see if you have it

- **Spirometry.** This simple breathing test measures how much air you blow out and how fast.

- **Peak flow.** Peak flow tests measure how well your lungs push out air. You use a small device called a peak flow meter for the test.

- **Exhaled nitric oxide test.** You’ll breathe into a tube connected to a machine that measures the amount of nitric oxide in your breath. Your body makes this gas normally, but levels could be high if your airways are inflamed.

- **Chest X-ray.** While a chest X-ray isn’t an asthma test, your doctor can use it to make sure nothing else is causing your symptoms. An X-ray is an image of the inside of your body created by using low doses of radiation.

- **Computerized tomography (CT).** This test takes a series of X-rays and puts them together to create a cross-sectional view of your insides. A scan of your lungs and sinuses can identify any structural problems or diseases (like an infection) that can cause breathing problems or make them worse.

- **Allergy tests.** These can be blood or skin tests. They can help figure out if you’re allergic to pets, dust, mold, and pollen. Once you know your allergy triggers, you can get treatment to prevent them -- and asthma attacks.
• **Sputum eosinophils.** This test looks for high levels of white blood cells (eosinophils) in the mix of saliva and mucus (sputum) that comes out when you cough.

**TREATMENT**

There are many asthma treatments available to relieve your symptoms. Your doctor will work with you to create an asthma action plan that will outline your treatment and medications. They might include:

• **Inhaled corticosteroids.** These medications are used to treat asthma in the long term. That means you’ll take it every day to keep your asthma under control. They prevent and ease swelling inside your airways, and they may cut down mucus production. You’ll use a device called an inhaler to get the medicine into your lungs.

• **Leukotriene modifiers.** Another long-term asthma treatment, these medications block the action of leukotrienes, substances in your body that trigger an asthma attack. You take them as a pill once a day.

• **Long-acting beta-agonists.** These medications relax the muscle bands that surround your airways. You might hear them called bronchodilators. You’ll take these medications with an inhaler -- even when you have no symptoms.

• **Combination inhaler.** This device gives you an inhaled corticosteroid and a long-acting beta-agonist together to ease your asthma.

• **Theophylline.** It opens up your airways and eases tightness in your chest. You take this long-term medication by mouth, either by itself or with an inhaled corticosteroid.

• **Short-acting beta-agonists.** These are known as rescue medicines or rescue inhalers. They loosen the bands of muscles around your airways and ease symptoms like wheezing, chest tightness, coughing, and shortness of breath.

• **Anticholinergics.** These bronchodilators prevent the muscle bands around your airways from tightening. You can get ipratropium in an inhaler or as a solution for a nebulizer, a device that turns liquid medicine into a mist that you breathe in through a mouthpiece. Tiotropium bromide comes in a dry inhaler, which lets you breathe the medicine in as a dry powder.
9.3.5 CARDIOVASCULAR DISEASES

Cardiovascular disease (CVD) is a class of diseases that involve the heart or blood vessels. Cardiovascular disease includes coronary artery diseases (CAD) such as angina and myocardial infarction (commonly known as a heart attack). The cerebrovascular diseases commonly known as stroke is also common.

RISK FACTORS

Age, gender, tobacco use, physical inactivity, excessive alcohol consumption, unhealthy diet, obesity, family history of cardiovascular disease, raised blood pressure (hypertension), raised blood sugar (diabetes mellitus), raised blood cholesterol (hyperlipidemia), psychosocial factors, poverty and low educational status, and air pollution.

CORONARY HEART DISEASE

Chest pain (angina) is the commonest symptom.

- Typical angina: Substernal pressure radiating to neck, Jaw, arm with duration <20–30 minutes which may be associated with dyspnea, palpitations, nausea vomiting and which increases with exertion, decreases with rest.
- MI: Has increased angina intensity and duration >30 min. Twenty five per cent of MIs are clinically silent.

Associated symptoms:

Weakness, nausea/vomiting, sweating, apprehension, anxiety, sense of impending doom.

Features not characteristics of myocardial ischemia:

- Sharp pain brought by respiratory movement or cough
- Pain that may be localised by the tip of one finger
- Very brief episode of pain that lasts a few seconds
- Pain reproduced by movement or palpation over the chest
- Constant pain that lasts for many hours without other ischemic symptoms

HEART ATTACK

A heart attack (myocardial infarction) occurs when the heart’s supply of blood is stopped due to deposition of fat, thus blockage in the blood vessel
of the heart. It is defined as severe chest pain for more than 30 minutes, radiating to left arm, shoulder or jaw and not relieved by pain killers.

**Warning signs of Heart Attack**
- Intense pain, pressure or constriction in the centre of the chest that lasts more than a few minutes, or that goes away and comes back
- Nausea, swelling or unconsciousness.
- Discomfort in other areas of the upper body such as pain or discomfort in one or both arms, the back, neck, jaw or stomach.
- Shortness of breath with or without chest discomfort.
- Other signs like sweating, nausea or lightheadedness.

**STROKE**

Stroke is a Cerebral Vascular Disease which is caused by atherosclerosis, due to narrowing and / or blockage of the blood vessels that flow to the brain. Stroke is defined as paralysis or numbness of one side of the body, difficulty of speech, hearing, reading or writing. A stroke occurs when the blood supply to the brain is interrupted. This can happen either when a blood vessel in the brain or neck is blocked or bursts. If this happens, the brain is deprived of oxygen and parts of the brain may be permanently damaged. The consequences of a stroke can include problems with speech or vision, lead to weakness or results in paralysis.

**TRANSIENT ISCHEMIC ATTACKS (TIAS)**

Just as stroke occurs when the flow of blood is blocked, TIAs happen when there is a brief blockage. The temporary loss of blood to the brain causes a brief, sudden change in brain function. This may manifest as temporary numbness or weakness on one side of the body, loss of balance, confusion, blindness in one or both eyes, double vision, difficulty speaking, or a severe headache. But these will disappear quickly and permanent damage is unlikely. A TIA can be a warning that one is at risk of stroke sometime in the future.

**Warning signs of Stroke**

The signs of stroke appear suddenly and often there is more than one sign at the same time.

- Sudden numbness or weakness of the face, arm or leg, especially on one side of the Body
- Remember FAST
  - F : Facial drooping- the person’s face may have fallen on one side, they may be
  - unable to smile, or their mouth or eye may have drooped
  - A : Arm weakness- the person may be unable to raise one or both arms and keep them up as a result of weakness
NOTES

- S: Speech difficulties- the person may have slurred speech and difficulty finding words or understanding what is said to them
- T: Time- to call for emergency
  - Sudden confusion, trouble speaking or understanding
  - Sudden trouble seeing in one or both eyes
  - Sudden trouble walking, dizziness, loss of balance or coordination
  - Sudden severe headache with no known cause

Heart attack and Stroke are both an emergency condition, which can kill or leave a person with a permanent disability, so refer to the nearest health facility within one hour (called the golden period).

Check your Progress – 3

Note: a. Write your answer in the space given below
     b. Compare your answer with those given at the end of the unit.

5. What is Cardiovascular Disease?

6. What does FAST stand for?

6.4 OCCUPATIONAL HEALTH

Occupational health is defined as the highest degree of physical, mental and social well-being of workers in all occupations. It is the branch of healthcare which deals with all aspects of health and safety at the workplace. It lays strong emphasis on the prevention of hazards at a primary level. Occupational health is essentially preventive medicine.

Ergonomics is concerned with human engineering that means placing the work in an environment (job) which is adopted to his physiological and psychological Capacity. The health of the worker is influenced by three factors, namely occupational (working) environment, domestic, social security and welfare measures.

OCCUPATIONAL ENVIRONMENT

You will appreciate that environment in which one works have a bearing influence on health of the worker by three types of interactions.

The first one is man with machine: In almost all the industries the machines are driven by power; poor installation of machines, the unguarded protruding moving parts, poor maintenance etc. results in accidents. Working for long hours result in fatigue, discomfort and decreased efficiency.

Second one is man with environment: The interaction between man and environment has an influence on his health.

The third one is man with man: The interaction between worker, his co-worker and employer. This depends on many psychosocial factors like job
satisfaction, payment, welfare conditions, incentive etc. which has influence on their safety, security and mental health.

6.4.1 OCCUPATIONAL HEALTH HAZARD

An industrial worker is exposed to five types of hazards these are physical, chemical, biological, mechanical and psychosocial.

There are some other hazards like Cancer of skin, lungs, bladder and blood forming organs e.g. leukemia. Dermatitis eczema, folliculitis, urticarial rashes.

a. Diseases due to Physical Agents

1. Heat – Exhaustion, Syncope, Cramps, burns, Prickly
2. Cold – Frost bite
3. Light – Occupational Cataract, Illumination
4. Atmospheric-pressure – Caisson disease, explosion
5. Noise – Occupational deafness
6. Radiation – Cancer, Leukemia, Aplastic anemia
7. Electricity – Burns, Shocks

b. Chemical Hazards

Routes of entry of chemical hazards include inhalation (main route of entry), ingestion and skin absorption.

Chemical agents may be:
1. Metals – Lead, As, Hg, Cd, Ni , Co
2. Aromatic Hydrocarbons – Benzene, Toluene, Phenol
3. Aliphatic Hydrocarbons – Methyl alcohol
4. Gases

c. Biological Hazards

Biological hazards include:
1. Bacteria – Tetanus, Tuberculosis, Anthrax, Brucellosis (Milkmen), Gonorrhea
2. Virus – Hepatitis, HIV
3. Protozoal & Parasitic – Malaria, Hookworms, Hydatid (Dog-handlers), tapeworms
4. Fungi (Agri-workers) – Tinea-infections, Psittacosis, Coccidiomycosis, Ornithosis

d. Mechanical Hazards

Mechanical hazards include:
1. Injuries – Falls, cuts, abrasions, concussions, contusions
2. Ergonomic Disorders – Musculo-skeletal disorders(MSDs), Cumulative-trauma-Disorders (CTDs)
3. Ergonomics – Adjustment of Man & Machine  
4. Ergo-friendly tools – Tools which reduce the stresses or problems resulting in CTD’s / MSD’s.)

e. Psychosocial Hazards

1. Psychosocial hazards include lack of job satisfaction, insecurity, poor interpersonal relations, work pressure, ambiguity.  
2. Psychological & behavioral changes including hostility, aggressiveness, anxiety, depression, alcoholism, drug addiction, sickness absenteeism  
3. Psychosomatic disorders like hypertension, headache, body-ache, peptic ulcers, asthma, diabetes, heart disorders.

As you know that about 70% of our population lives in rural area and their main occupation is agriculture. Occupational health in agriculture sector is a new concept. Agriculture worker has multitude of health problems, a fact which is often forgotten because of the myth that occupational health is mainly concerned with industry.

6.4.2 COMMON OCCUPATIONAL DISEASES

Occupational diseases are those which arise out of or in the course of employment. They can be grouped as follows (Table 6.3):

Table 6.3: Aetiological agents of occupational diseases

<table>
<thead>
<tr>
<th>S. N.</th>
<th>Causative Agent</th>
<th>Disease Condition</th>
</tr>
</thead>
</table>
| 1.    | Diseases due to Physical Agents | Heat hyperpyrexia, heat exhaustion, heat syncope, heat cramp, burns and local effects  
 a. Heat  
 b. Cold  
 c. Light  
 d. Pressure  
 e. Noise  
 f. Radiation  
 g. Mechanical Factors  
 e. Electricity  
| | Trench foot, frost bite, chilblains.  
 | Occupational Cataract, Miner’s nystagmus  
 | Caisson disease, air embolism, blast.  
 | Occupational deafness, Cancer, leukemia, aplastic anaemic, Pancytopenia Injuries and accidents  
 | Burns |
2. Diseases due to Chemical Agent
   1. Gases
   2. Inorganic dusts
   3. Organic dust
   4. Metal their compounds
   5. Acids, Alkalis, Pesticides
   | Gas Poisoning Pneumoconiosis |
   | Bagassosis |
   | Byssinosis, Tobocosis and farmers’ lung |
   | Lead Mercury, Cadmium Poisoning Burns |

3. Biological Agent
   | Brucellosis, leptospirosis, anthrax |
   | actinomycosis, tetanus, encephalitis etc. |

4. Occupational Cancers
   | Cancer of skin, bladder, lungs |

5. Occupation Dermatitis
   | Dermatitis, eczema |

6. Diseases of Psychological Origin
   | Industrial neurosis, hypertension, ulcer etc. |

7. Occupational diseases of Agriculture Worker
   | Anthrax, leptospirosis, tetanus, tuberculosis and Q fever |
   | Accidents due to machinery used for farming, insect and snake bite, solar radiation and respiratory diseases. |

8. Occupational diseases to the Health Care Workers
   | Infections like HIV, hepatitis ,TB, backache, mental stress, varicose vein, sleep deprivation |

9. Occupational diseases to the Computer Professionals
   | Carpal turner syndrome, dry eyes, cervical spondylitis, insomnia, backache. |

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**PREVENTIVE MEASURES**

**Primary Prevention**

Primary prevention includes pre placement examination, which is performed for the each worker before they join the job.

Provision of healthy physical environment is a must for healthy work force.

- Building of the workplace should be safe from stress and stains of the machinery. There should be proper lightening and ventilation. The temperature of workplace must be in between 25–27°C. Measures should be taken to control the dust; by wet or oiling method, exhaust etc.

Hygiene of the work place is important, and needs proper water supply for the worker. Provision of safe drinking water is equally important.
For every 25 workers there must be one lavatory and urinal for every 50 workers. Welfare activities like recreational facilities, lunch room, family welfare services, crèche for children of employed mothers and insurance facilities to be provided. In specific protection like personal protective measures become a necessity to safe guard against occupational hazards. The example of personal protective measures are like use of helmets, goggles, ear plugs, respirators and immunization against various communicable diseases etc.

Secondary Prevention

Early diagnosis is done by periodic examination, including laboratory investigation and radiological examination. Prompt treatment is initiated as soon as the diagnosis is made. Personal monitoring is important whenever such hazard exist.

Tertiary Prevention

This includes disabilities limitation and rehabilitation. A careful attention is given to those who become physically handicapped during the course of their employment either by accident or injury. Such persons are rehabilitated and given a suitable job, so that their psychological trauma is countered and becomes a useful person to himself, to the family and the country at large.

6.5 LET US SUM UP

The disease burden in India is changing. While communicable diseases remain a significant threat, noncommunicable diseases (NCDs) are fast becoming the country’s pre-eminent threat to public health and wellbeing. The reasons for this are manifold. These include a genetic predisposition towards conditions such as diabetes and the increasing adoption of unhealthy diets and sedentary lifestyles placing Indians at elevated risk of conditions such as hypertension and heart disease. This understanding of the disease enables us to fight the disease both at an individual and social level. The disease is combated through the modern and advanced medical technology, at the same time measures are taken to prevent the diseases and as well as promoting the health statuses of the people to keep the diseases at bay.

6.6 UNIT – END EXERCISES

1. Write about the various types of cancer and its treatments
2. Critically analyse lifestyle with Cardiovascular Diseases.
3. List out the various Occupational diseases
4. Read on National Programme on Cancer Diabetes Cardiovascular Diseases and Stroke (NPCDCS)
5. Familiarize with RNTCP
1. Non-communicable diseases (NCDs), also known as chronic diseases, are not passed from person to person. They are of long duration and generally progress slowly. They often have a long asymptomatic period.

2. The classifications of cancer are, Carcinoma, Sarcoma, Lymphoma and leukemia, Germ cell tumor, Blastoma

3. There are three main types of diabetes mellitus (DM):
   - Type 1 DM results from the pancreas’s failure to produce enough insulin.
   - Type 2 DM begins with insulin resistance, a condition in which cells fail to respond to insulin properly.
   - Gestational diabetes is the third main form and occurs when pregnant women without a previous history of diabetes develop high blood-sugar levels.

5. Asthma is a long-term disease of the lungs. You might hear your doctor call it a chronic respiratory disease. It causes your airways to get inflamed and narrow and makes breathing difficult. Coughing, wheezing, shortness of breath, and chest tightness are classic asthma symptoms

6. Cardiovascular disease (CVD) is a class of diseases that involve the heart or blood vessels. Cardiovascular disease includes coronary artery diseases (CAD) such as angina and myocardial infarction (commonly known as a heart attack). The cerebrovascular diseases commonly known as stroke is also common.

7. Remember FAST
   - F : Facial drooping- the person’s face may have fallen on one side, they may be unable to smile, or their mouth or eye may have drooped
   - A : Arm weakness- the person may be unable to raise one or both arms and keep them up as a result of weakness
   - S : Speech difficulties- the person may have slurred speech and difficulty finding words or understanding what is said to them
   - T : Time- to call for emergency
UNIT VII - MENTAL HYGIENE MOVEMENTS

Structure
7.1 Introduction
7.2 Objectives
7.3 The Mental Hygiene Movement’s Perspective on Mental Illness
7.4 Trends in Community Mental Health
   7.4.1 Mental Illness to Mental Health: Indian Perspective
   7.4.2 Community mentalhealth
   7.4.3 Institutionalization of mentally ill in India
   7.4.4 National Institute of Mental health and Neuro Sciences (NIMHANS)
   7.4.5 National Mental Health Programme (NMHP) in India
7.5 Role of Voluntary Health Sectors in Mental Health
7.6 Public Health Model of Mental Health Prevention and Promotion
7.7 Present Scenario of Mental Health in India
7.8 Let us sum up
7.9 Unit end exercises
7.10 Answer to check your process
7.11 Suggested Readings

7.1 INTRODUCTION

From the very beginning, mental illnesses were the most complicated social hardship for western communities. Mentally ill people were stigmatised as outcasts of society. Mental illness was said to be a punishment sent by God, a sign of moral dirtiness. Ancient Greeks were the first who tried to find natural causes of mental illness. Hippocrates (460 BC–377 BC) did not believe in supernatural origins of epilepsy. He claimed that this disease resulted from a natural cause, a brain defect. The Roman physician Caelius Aurelianus (5th century AD) claimed that a mentally ill person should be treated with great care and gentleness. A patient should not be teased or harmed. Nevertheless, succeeding generations were ignorant of such an attitude. Mentally ill people were said to be possessed by devils, or to be witches and warlocks. The first steps in fighting the ignorance and negative attitude towards mentally ill were taken during the positivistic Age of Enlightenment. The French physician Philippe Pinel (1745–1826) considered a mentally ill person as a sick person in need of help. He unchained his patients in an asylum in Paris, treated them humanely, and the evolution of a new attitude towards the mentally ill person started. Clifford Whittingham Beers (March 30, 1876 – July 9, 1943) was the founder of the American mental hygiene movement.

7.2 OBJECTIVES

After going through the unit, you will be able to understand;
- The meaning and concept of mental hygiene movements
- The concept of community mental health
- Community health practiced in India
7.3 THE MENTAL HYGIENE MOVEMENT'S PERSPECTIVE ON MENTAL ILLNESS

The mental hygiene movement was a form of social control which aimed to shape people’s personalities. It is important to realize that in the temporal context of its development, it was a progressive movement which challenged previous beliefs of mental illness.

For example, mental hygienists believed that if they could influence children (and adolescents) personalities early enough, they could avoid behavior that often led to juvenile delinquents that would get lost in the system.

While some may take offense at the mental hygiene’s movement pathologizing of certain behaviors in schools, it was better than the alternative at the time.

Till about 17th century all abnormal behavior was believed to be act of the ‘devil’ i.e. ‘Against God’, ‘Mentally ill’ were considered evil and described as witches. Gradually over the passing time, mental illness was considered as ‘deviant behavior and mentally ill were considered socially unacceptable and put in jails along with other criminals. In the modern era, there was a shift from ‘evil’ to ‘ill. Mentally ill were called as ‘mad’ or ‘insane’ and were placed in special places called as ‘asylums’. However, gradually these asylums became the place for human exploitation. Phillipe Pinel was the first Psychiatrist to free these mentally ill from asylum. Clifford Beers work ‘The mind that found itself’ brought in light the treatment meted out to these people in asylums, resulting in a strong reaction to the plights of mentally ill. This uproar resulted in starting of ‘mental-hygiene’ movement

Check your progress- 1

Note : a. Write your answer in the space given below
b. Compare your answer with those given at the end of the unit

1. Name any two mental health professionals who shifted the asylum treatment of mentally ill to more humane treatment

2. How to promote mental hygiene in schools?
7.4 TRENDS IN COMMUNITY MENTAL HEALTH

7.4.1 MENTAL ILLNESS TO MENTAL HEALTH: INDIAN PERSPECTIVE

Indian culture has always given a great importance to spiritual life. Wig (1990) stated that religious texts in India have stressed the search for the spiritual meaning of life and detachment from material thing.

One of the earliest Indian Psychiatrists to explain the importance of health was Govindaswamy in 1948. He gave 3 objectives of mental health - regaining of the health of mentally ill person; prevention of mental illness in a vulnerable individual; and protection and development at all levels, of human society, of secure, affectionate and satisfying human relationships and in the reduction of hostile tensions in persons and groups (Govindaswamy, 1970).

7.4.2 COMMUNITY MENTAL HEALTH

Community mental health refers to the treatment of persons with mental health problems in community setups. In the earlier periods, treatment of patients with mental illness was limited to the mental hospitals or asylums. Such setups include community mental health clinics and other health services located in the community, primarily any service away from a custodial care mental health setting. Community psychiatry movement started more than 100 years ago, with the purpose of rehabilitation of the persons with mental illnesses in the community after a prolonged hospitalization in the mental hospitals. There were also concerns about violation of basic human rights of the persons with mental illness and the ill effects of institutionalization. Further revolutions in psychopharmacology have contributed a lot to the growth of community mental health.

In India, traditionally the persons with mental illnesses have been taken care of in the community by the family members. During the colonial rule by the British, a number of asylums or mental hospitals were opened in India, mostly for the British soldiers and the British who suffered from mental illnesses. Most of these hospitals continued after India got independence in 1947, and many more were built in the next few decades though the number was much less than what existed in the West.

In the last three decades, many reforms have been initiated in the mental hospitals in India by involving the family members of the persons admitted and those attending the outpatient services. The strength of joint family, marriage, the close-knit community, greater tolerance of deviant behavior in the larger community, religion and faith-based coping and healing have all contributed to a large number of persons with various mental disorders being taken care of in the community in India.

Involving families in taking care of the patients under care of mental health services have been a unique contribution from India. It was initiated by Dr. Vidya Sagar in 1950s at Amritsar Mental Hospital followed by the Mental
Health Centre at Christian Medical College, Vellore, and All India Institute of Mental Health, Bengaluru, in 1960s. Family members would actually be admitted along with the persons with mental illness to be a part of the care for the patient. This practice has been continued in most of the general hospital psychiatric units (GHPUs), which developed from 1960s onward in India. During the 1970s and 1980s, efforts were also made to understand the functioning of families with an ill person in the family and their needs.

Check your progress- 2
Note : a. Write your answer in the space given below
   b. Compare your answer with those given at the end of the unit

1. What is unique about care given to mentally ill from Indian perspective?

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7.4.3 INSTITUTIONALIZATION OF MENTALLY ILL IN INDIA

During the reigns of King Ashoka, many hospitals were established for mentally ill. A temple of Lord Venkateswara at Tirumukkudal, Chingleput District, Tamil Nadu, contains inscription on the walls belonging to Chola period. The inscription mentioned a hospital and a school. The hospital was named as Sri Veera Cholaeswara hospital and contained 15 beds.

Maulana Fazulur-Lah Hakim, an Indian physician was in charge of the first Indian mental asylum, i.e., Mandu Hospital opened by Mahmood Khilji (1436-1469) at Dhar, M. P. First lunatic Asylum, Bombay Asylum, was built in modern India in approximately 1750 A.D. In 1794, a private lunatic asylum was opened at Kilpauk, Madras. The central mental hospital, Yerwada, Pune was opened in 1889. First asylum for insane soldiers was started at Monghyr, Bihar and was known as Monghyr Asylum (1795).

Maxell Jones in 1953 introduced the concept of Therapeutic community resulting in the improvement in the Mental Hospital conditions. Subsequently other facilities such as Occupational Therapy. Recreational facilities, Outdoor games and Picnics were started in Mental Hospitals. Lt. Col. Berkley Hill was the pioneer in starting Occupational Therapy at the European Mental Hospital, Kanke, Ranchi, in 1935. However inspite of all these facilities, the adjustment of the mentally ill patients was poor in these hospitals (Bhattacharya And Chatterjee 1978).

7.4.4. NATIONAL INSTITUTE OF MENTAL HEALTH AND NEURO SCIENCES (NIMHANS)

On the recommendation of Bhore committee (in 1946), All India Institute Mental Health was set up in 1954, which became the National Institute of Mental Health And Neuro Sciences in 1974 at Bangalore. The National
Institute of Mental Health and Neurosciences is a multidisciplinary institute for patient care and academic pursuit in the frontier area of mental health and neurosciences. The priority gradient adopted at the Institute is service, manpower development and research. A multidisciplinary integrated approach is the mainstay of this institute, paving the way to translate the results from the bench to the bedside. Several national and international funding organisations provide resources for academic and research activities.

Hence, first community Mental Health unit (CMHU) was started with the Dept. of Psychiatry at NIMHANS in 1975. For short term training of primary care personal, a Rural Mental Health Center was inaugurated in Dec’1976 at Sakalwara, 15 km from Bangalore. Mental Health clinic was opened in a General Hospital in Bangalore to involve General Practitioners in Mental Health, Seminars and orientation programs for General Practitioners & school teachers were conducted. The first training program for Primary Health Care was started in 1978-79. During 1978-1984 Indian Council of Medical Research funded & conducted a multicentre collaborative project on ‘severe Mental Morbidity’ in Bangalore, Baroda, Calcutta and Patiala. Various training programs for psychiatrists, Clinical Psychologists, Psychiatric Social Workers, Psychiatric nurses and Primary Care doctors were conducted at Sakalwara unit between 1981-82 (Ministry of Health & Family Welfare, 1989).

7.4.5. NATIONAL MENTAL HEALTH PROGRAMME (NMPH) IN INDIA

In the next phase, emphasis was on utilization of the existing general health care infrastructure through integration of mental health services with general health services. This occurred along with the development and expansion of the GHPUs. During this period, many community mental health outreach services were also started all over the country. The most important development was of the launching of the National Mental Health Programme (NMHP) of India in 1982, and later the District Mental Health Programme (DMHP) in a stepwise fashion from 1996 onward.

NMHP was launched with the objectives to ensure the availability and accessibility of minimum mental healthcare for all in the foreseeable future, particularly to the most vulnerable and underprivileged sections of the population; to encourage the application of mental health knowledge in general healthcare and in social development; and to promote community participation in the mental health service development, and to stimulate efforts toward self-help in the community. The thrust was on decentralization of the mental health services. The main strength of the NMHP was the mutually synergistic integration of mental health care with general primary health care.

DISTRICT MENTAL HEALTH PROGRAMME

DMHP was launched in 1996 with four districts, based on earlier experiences at Bellary District, Karnataka State. DMHP envisaged a community-based approach to the problem, which included training of
mental health team at identified nodal institutions; increasing awareness about the mental health problems, and reducing the associated stigma provision of services for early detection and treatment of mental disorders in the community, and collecting information and getting experience at the level of community for future planning. It followed a more realistic and practical approach compared to the ambitious aims of the NMHP. Presently, the DMHP has been implemented in 241 districts of the country, and it is proposed to expand it to more districts. Currently, the emphasis is on a judicious balance between various components of the mental health care delivery system with clearly specified budgetary allocations. A plan for integration of NMHP with National Rural Health Mission (later renamed as the National Health Mission) was also developed. Under the restrategized program, a number of centers of excellence in mental health have been established all over the country to enhance the manpower with facilities of providing training for psychiatrists, clinical psychologists, psychiatric nurses, and psychiatric social workers. Many GHPUs of the medical colleges have also been given funds to enhance their capacity for training of psychiatrists as well as to start courses in the paramedical fields. Following the implementation of NMHP and DMHP, there has been a significant improvement in human resource development. The public awareness has also increased enormously due to community-based mental health care, and the trained mental health professionals working in remote areas in the private sector as well as due to a massive effort by professionals to address the general public with modern mental health information.

Check your progress- 3
Note : a. Write your answer in the space given below
b. Compare your answer with those given at the end of the unit

1. Mention two objectives of National Mental Health Programme (NMHP) of India the District Mental Health Programme (DMHP)

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7.5 ROLE OF VOLUNTARY SECTOR IN COMMUNITY MENTAL HEALTH

Another important development in community psychiatry in India is the increasing role of voluntary organizations in developing small-size locally relevant community-based psychiatric care facilities such as day care centers, vocational training centers, sheltered workshops, half-way homes, and long stay homes. Community-based mental health services are currently offered by multiple settings in primary care as extension clinics under the DMHP, district hospitals, the GHPUs, community psychiatry programs by certain tertiary care centers; and in the private sector by many private general hospitals, psychiatric nursing homes, and office-based practice. Most of the community-based mental health services are not currently covered under the Mental Health Act (MHA).

During the last 20 years, a more active role for families has emerged in the
form of formation of self-help groups and professionals accepting to work with families in partnership. However, many of the leads provided by pilot studies and successes of family care programs have not received the support of professionals and planners to the extent it could become a routine part of psychiatric care in the 21st century. There has been an increasing recognition of the value of family involvement in mental health care even in the developed countries.

There are different approaches toward mental health legislation in various countries. In some, there is no separate mental health law, and provisions related to mental health care are inserted into relevant laws concerning general health, employment, and criminal justice. This is often called the “dispersed law” approach. On the other hand, some countries have a consolidated mental health law where all issues of relevance to mental health care have been brought together under a single law. Most countries, including India, have a combined approach and have an MHA, mainly concerned with issues of treatment, particularly involuntary admission and the protection of human rights of the mentally ill.

Admission to the mental hospitals is generally regulated by the mental health legislation of the country. In India, earlier it was regulated by the Indian Lunacy Act, 1912, and since 1993 by the MHA, 1987. MHA, 1987, includes psychiatric inpatient units of the private general hospitals under the broad category of psychiatric hospitals/nursing homes, making it mandatory for them to admit/discharge the patients as per the act. With the downsizing of the mental hospitals across the world and also in India, the relevance of community mental health services becomes more relevant. With a huge gap between the mental health needs and the available resources, strict legal regulations sometimes become counterproductive with lesser and lesser mental health professionals becoming interested in developing community mental health services, especially those with facilities for emergency and inpatient treatment.

For the acute psychiatric crises, which constitute a vast majority of psychiatric admissions in the country, involuntary admissions should be accommodated in the GHPUs (besides the mental hospitals) as well as the nursing homes. Facility of brief hospitalization of such nature should also be available in primary care and community settings. The procedure for such admissions should be less cumbersome to facilitate a convenient access to treatment even in remote parts of the country. Typically, such admissions would usually last from a few days to few weeks. The requirement for licensing and monitoring of institutions under MHA has negatively impacted the growth of acute care services in general hospital settings, especially in private sector. NMHP and DMHP have envisioned a decentralized community-based approach to the problem of the mental health gap, which aim at the adequate provision of services in the periphery to promote early detection and treatment of mental illness in the community itself with facilities of outpatient as well as indoor treatment and appropriate follow-up measures. However, the MHA with its stringent licensing protocol and focus on legal issues is not in keeping with the goals of the NMHP.
7.6 PUBLIC HEALTH MODEL OF MENTAL HEALTH PREVENTION AND PROMOTION

There have been strong mass media movement all over India in last decade where various issues related to Mental Health are brought in public domain. The social movements in relation to Darubandi are doing commendable work and are very well known. Other organization like SCARF (Chennai), Richmond fellowship foundation (Banglore), Cadbum are also helping people in rehabilitation and integrating them in the society.

In these various organizations, active efforts have been taken to improve quality of care of patients and rehabilitate them in society. Various self help groups such as Alcohol Anonymous, Narcotic Anonymous, have been organized by people. The major effort of VHS is evident in the area of Suicide and Deaddiction where various kind of activities are being carried out to help people in crisis eg: Sanjeevani in Delhi, Sneha in Chennai, Prerna in Mumbai.

Check your progress- 4

Note : a. Write your answer in the space given below
   b. Compare your answer with those given at the end of the unit

1. Name any two voluntary organizations working in the field of mental health

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7.7 PRESENT SCENARIO OF MENTAL HEALTH IN INDIA

National Mental Health Programme was implemented to provide services to rural as well as urban population. However even today 80% of the rural population do not get these services. Multidisciplinary approach for the treatment of mentally ill is confined to only few institutions. Importance is attached to treat the mentally ill patients & not much thought is given to prevent mental illness & promote mental health. More importance is given to biological psychiatry and psychopharmacology, and psychology and social psychiatry are not given due importance.

7.8 LET US SUM UP

In this unit you have learned about how mental hygiene movements were started in the West. However, India has had a unique way of treating the sick within the family itself. Indian mental health approach gave a lot of emphasis on family support to the mentally ill. Our family, school and overall society play crucial roles in proving the proper provision of mental hygiene to an individual or to communities or to our society. NMHP and DMHP give strategies how the mental hygiene can be nurtured in the community level and also facilitates the means for treating the mentally in the community level itself. The role of voluntary organizations in
providing mental hygiene structure and systems and treatment facilities for the mentally ill is not sufficient enough to deal with the increasing mental health needs of our communities.

7.9 UNIT END EXERCISES

1. List out the problems of asylum treatment of mentally ill
2. Highlight the advantages of NMHP and DMHP

7.10 ANSWER TO CHECK YOUR PROGRESS

1. Phillipe Pinel and Clifford Beers
2. Involving the family members of the mentally ill persons in the treatment.
3. To ensure the availability and accessibility of minimum mental healthcare for all in the foreseeable future, particularly to the most vulnerable and underprivileged sections of the population and to promote community participation in the mental health service development.
4. Sanjeevani, Sneha, Prema

7.11 SUGGESTED READINGS

UNIT VIII –
SCHOOL HEALTH SERVICES

Structure

8.1 Introduction
8.2 Objectives
8.3 Meaning of school health services
  8.3.1 Ayushman Bharat
  8.3.2 Rashtriya Bal Swasthya Karyakram (RBSK) and ‘Rashtriya Kishor Swasthya Karyakram’ (RKSK)
8.4 Objectives of School Health Programs
  8.4.1 Package of Services under School Health
  8.4.2 The broad components of Age Appropriate Health Promotion at various levels
8.5 Aspects of School Health Services
8.6 Helping teachers to identify the Problems
8.7 Making appropriate referrals
8.8 Involving and motivating teachers and children
8.9 Involvement of voluntary agencies
8.10 Let us sum up
8.11 Unit-End exercises
8.12 Answer to check your progress
8.13 Suggested readings

8.1 INTRODUCTION

The health of children is a reflection of the future. Good education is possible only when the child is in good health. With the world’s largest youth population, India represents an inspiring demographic dividend that can have lasting impact on the social and economic development of the country. Therefore, investing in the health and wellbeing of children is a critical priority in nation-building efforts. Children are vulnerable to a wide spectrum of communicable and chronic disease conditions including nutritional deficiencies, substance abuse, mental health concerns, violence, injury and reproductive and sexual health problems. A number of these issues can be prevented through informed health choices. A focused and comprehensive intervention that targets risk factors and social determinants of health conditions as well as empowers children and adolescents to adopt healthy behaviours can play an important role in reducing the burden of these diseases. More children than ever are attending school, and for longer periods of their lives, therefore, schools can do more than perhaps any other single institution to improve the wellbeing and competence of children and adolescents. It is a well-known fact that establishing healthy
behaviours during childhood is easier and more effective that trying to change unhealthy behaviour during adulthood. Therefore, schools play a critical role in helping students establish healthy behaviours for their lifetime.

Healthy children are the foundation for a healthy nation and nation’s future depends on the status of the children. Leaders around the world have acknowledged schools as an important setting where children develop behaviour skills for physical, emotional and social well-being. Other than the family, no social institution has greater influence on the lives of children than schools. Every day millions of children in the country go to school and spend a considerable amount of time interacting with their peers and teachers gaining knowledge, building attitudes and skills, and developing behaviours. Behavioural patterns that develop during childhood and adolescence are retained for life. Schools, therefore, play a crucial role in building healthier nations around the world.

8.2 OBJECTIVES

After going through the unit you will be able to;
- Understand the concept of school health services
- Ayushman Bharat, Rashtriya Bal Swasthya Karyakram (RBSK) and ‘Rashtriya Kishor Swasthya Karyakram’ (RKSK), - School Health Schemes by Government of India
- Objectives and components of School Health Programs
- Age Appropriate Health programs at varies school levels
- How to identify, motivate the teachers and children for health education
- How to coordinate with voluntary agencies for school health programs

8.3 WHAT IS SCHOOL HEALTH SERVICES / PROGRAMME?

A comprehensive school health program is an organized set of policies, procedures, and activities designed to protect and promote the health and well-being of students and staff which has traditionally included health services, healthful school environment, and health education.

8.3.1 AYUSHMAN BHARAT

The school environment is a natural entry point for reaching children and adolescents with health education, health promotion and health services. Schools present the ideal ecosystem for students to imbibe from peers and learn from role models, such as teachers and head of school. Students can be effective advocates for creating a healthy school and can become change
agents for the community health initiatives. Health and education are strongly connected—healthy children achieve better results at school, which in turn are associated with improved health later in life. Setting up positive and healthy school environment, then, plays an important role in improving the health, well-being, overall academic achievement. Recognizing schools as useful platform, Government of India has launched “School Health Program” under Ayushman Bharat to strengthen health promotion and disease prevention intervention. Intensification of school activities will serve as a booster program which will encompass a comprehensive and evidence based health promotion intervention in addition to offering age appropriate health education, health promotion activities, health screening, preventive services, documentation of health related data, and better skills for emergency care in government and government aided schools of India. This initiative will aim to strengthen the existing programs: Rashtriya Bal Swasthya Karyakram (RBSK) and Rashtriya Kishor Swasthya Karyakram (RKS) by strengthening the preventive and promotive aspects of health in environment of schools in line with the overall approach of Ayushman Bharat.

8.3.2 RASHTRIYA BAL SWASTHYA KARYAKRAM (RBSK) AND ‘RASHTRIYA KISHOR SWASTHYA KARYAKRAM’ (RKS)

Investment in education is an investment in health. Addressing health and education together underpins all Sustainable Development Goals (SDGs). National Health Policy (NHP) 2017 also envisages attainment of the highest possible level of health and wellbeing for all ages, through preventive and promotive health care. The policy lays greater emphasis on investment in school health by incorporating health education as part of the curriculum, promoting hygiene and healthy practices within the school environs. India is home to 47.3 crore children (0–18 years) comprising 39 percent of the country’s total population (Census 2011). The recent data suggests around 26 crore children in the age group of 6-18 years are attending schools. As more children survive to school age and with increased emphasis on Sarva Shiksha Abhiyan (SSA) and Right to Education Act (2010), the number of children attending school has increased considerably. For millions of young people including adolescents around the world, the onset of adolescence brings not only changes to their bodies, but also new vulnerabilities due to limited access to quality services, and health information, particularly on sexual and reproductive health, injuries and violence and digital challenges (e.g. cyber-bullying and pornography, Internet addiction). As per National Mental Health Survey 2015-16, prevalence of mental disorders in age group 13-17 years was 7.3% and nearly equal in both genders. Approximately 54% of the girls and 29% of boys in the age group of 15-19 years are anaemic in India (NFHS-4). A large proportion of girls are coerced into unwanted sex or marriage, putting
them at risk of unwanted pregnancies, unsafe abortions, sexually transmitted infections, including HIV. AIDS related deaths have fallen for every other age group except for adolescents where it has increased. As per NFHS 4, more than one-fourth (26.8%) of the girls in the country are still getting married below the legal age, 8% of girls aged 15-19 years were already mothers or pregnant at the time of survey, 58% girls in the age of 15-24 years use a hygienic method during menstruation and more than one-third married female 15-24 years (37%) have experienced physical, sexual, or emotional violence by their husbands. India has over a billion mobile users but access to toilets is only 66%. World Health Organization (WHO) indicates that India has the highest burden of soil-transmitted helminths (STH) in the world, with 220 million children aged 1-14 years estimated to be at risk of worm infestations. NFHS 4 data also shows that in the age 15-19 yrs 4.2% girls and 4.8% boys are obese while 42% girls and 44% boys are thin. It is important to educate the children early in life, about their health and the right behaviours, so that they lead a healthy life and realize their full potential. These educated, healthy and productive adults, will form the base of resilient, prosperous and sustainable communities. One of the key strategies to reach children and adolescents is through schools as schools serve as an ideal platform to impart education on health issues, instituting in them healthy behaviours, forge linkages with services and reach parents and community through the students. Evidence shows that school health programme offer high cost benefit ratio and schools can be used to efficiently implement health activities. In 2013, Government of India launched the Rashtriya Bal Swasthya Karyakram (RBSK) under the National Health Mission for early detection and timely management of illnesses among children (0-18 years) by periodic screening through the platform of Schools and Anganwadi centers. Government also launched a comprehensive programme called, ‘Rashtriya Kishor Swasthya Karyakram’ (RKSK) in 2014 to respond to the health and development requirements of adolescents in a holistic manner. Furthermore, the School Health Programme has been incorporated as a part of the Health and Wellness component of the Ayushman Bharat Programme of Government of India to strengthen the preventive and promotive aspects through health promotion activities. These activities will combine health education, 2 Operational Guidelines on School Health Programme under Ayushman Bharat health promotion, disease prevention, and improve access to health services in an integrated, systemic manner at the school level. There will be increased focus on emerging social morbidities like injuries, violence, substance abuse, risky sexual behaviors, psychological and emotional disorders. The School Health Promotion Activities under Ayushman Bharat Programme a joint initiative of Ministry of Health and Family Welfare and Department of School Education & Literacy, Ministry of Human Resource & Development.
Check your progress- 1
Note : a. Write your answer in the space given below
   b. Compare your answer with those given at the end of the unit

1. Name any two school health programmes by Government of India
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   ........................................................................................................................................
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2. Why such programmes are important at School level?
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   ........................................................................................................................................
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8.4 OBJECTIVES OF SCHOOL HEALTH PROGRAMS

- To provide age appropriate information about health and nutrition to the children in schools.
- To promote healthy behaviors among the children that they will inculcate for life.
- To detect and treat diseases early in children and adolescents including identification of malnourished and anemic children with appropriate referrals to PHCs and hospitals.
- To promote use of safe drinking water in schools
- To promote safe menstrual hygiene practices by girls
- To promote yoga and meditation through Health & Wellness Ambassadors.
- To encourage research on health, wellness and nutrition for children

8.4.1 PACKAGE OF SERVICES UNDER SCHOOL HEALTH

<table>
<thead>
<tr>
<th>School Health Promotion Activities</th>
<th>Age appropriate incremental learning for promotion of healthy behavior and prevention of various diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Delivered through school teachers/Health and Wellness Ambassadors trained in each school</td>
</tr>
<tr>
<td></td>
<td>The health promotion activities will be given a special focus. Age appropriate health education for the students will be taken up to influence behavior and enhance skills. The framework developed pays special attention to physical, psycho-social and mental aspects based on the developmental stages of the child.</td>
</tr>
</tbody>
</table>
### Health Screening
- The screening of children for commonly identified health conditions for early detection, free treatment and management through dedicated RBSK mobile health teams.

### Provision of Services
- Provision of IFA (Iron-Folic Acid Tablet)
- and Albendazole tablets by teachers through WIFS and NDD programme respectively.
- Provision of sanitary napkins
- Age appropriate vaccination

### Electronic Health Records
- Electronic health record for each child

### Imparting skills of emergency care
- Training of teachers on basic first aid
- Imparting skills of emergency care

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#### 8.4.2 THE BROAD COMPONENTS OF AGE APPROPRIATE HEALTH PROMOTION AT VARYING LEVELS

**Primary School**
- Health, growth and development
- Personal safety
- Nutrition and physical activity
- Hygiene practices
- Prevention of Diseases like Malaria, Dengue, TB, worms infestation, diarrhoea and vaccine preventable diseases

**Middle School**
- Puberty and related changes
- Eye care, oral hygiene
- Nutrition
- Bullying prevention
- Meditation and Yoga
- Internet safety and media literacy
- Prevention of substance abuse
- HIV/AIDS
- Mental Health

**High School**
- Prevention of substance abuse
- Sexual & Reproductive Health
- Violence Prevention
- Unintentional Injury
- Road safety
- Nutrition
- Meditation and Yoga
Check your progress- 2
Note: a. Write your answer in the space given below
b. Compare your answer with those given at the end of the unit

3. What is meant by age appropriate health education?

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.........................................................................................................................................

8.5 ASPECTS OF SCHOOL HEALTH SERVICES

1. Health appraisal of school children and school personnel
2. Remedial measure and follow up
3. Prevention of communicable diseases
4. Healthy school environment
5. Nutritional services
6. First-aid and emergency care
7. Mental health
8. Dental health
9. Eye health
10. Health education
11. Education and care of handicapped children
12. Proper maintenance and use of school health records

8.6 HELPING TEACHERS TO IDENTIFY THE PROBLEMS

The Programme has been developed based on the learning and experiences from a variety of global and national school based interventions. Two teachers, preferably one male and one female, in every school designated as “Health and Wellness Ambassadors” will be trained to transact health promotion and disease prevention information in the form of interesting activities for one hour every week. These health promotion messages will also have bearing on improving health practices in the country as students will act as Health and Wellness Messengers in the society. Every Tuesday may be dedicated as Health and Wellness Day in the schools. 4.1 Selection of Teachers as Health and Wellness Ambassadors It is recommended that proactive and self-motivated teachers with good communication skills, and ability to connect with students should be selected. The teachers from science, physical education background may be given preference. The age of teachers selected as Health and Wellness Ambassadors should be preferably below 45 years. States may consider giving special recognition at the time of promotions as an incentive for their contribution in promoting health in their respective schools. Health and Wellness Ambassadors will then carry out the health promotion activities with the students. The training module for this activity will include the themes of
the existing Rashtriya Kishor Swasthya Karyakram of MoHFW viz: Improving Nutrition, Improving Sexual and Reproductive Health, Enhancing Mental Health, Preventing Injuries and Violence, Preventing Substance Misuse, Addressing conditions for Non-Communicable Diseases and any other topics decided in consultation with MHRD.

Check your progress- 3
Note : a. Write your answer in the space given below
   b. Compare your answer with those given at the end of the unit

4. What is the importance of school health records?

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........................................................................................................................................................................

8.7 MAKING APPROPRIATE REFERRALS

Each school is expected to establish linkage with the nearby Primary Health Centers to make Referral. It is also responsibility of the Primary Health Centres to conduct periodic health checkups in both Government and Private schools under their jurisdiction. The role of local Village Health Nurse (VHN) and Sector Health Nurses (SHN) in the schools health services are important as it is part of their job profile. The school Headmasters or teachers are expected to know their VHN / SHN in their areas. Their mobile numbers and telephone number of the local Primary Health Care centres should be there with all concerned school authorities / teachers.

8.8 INVOLVING AND MOTIVATING TEACHERS AND CHILDREN

For any health education program, motivation of the educator and the recipients of the information are very crucial. It is strongly suggested to identify the highly motivated teachers and students for health education. Find and appoint the nodal teachers and then plan and organize health education programs. It is suggested to have a ratio of one teacher per 250 students. Health authorities can prepare the training materials along with the motivated school teachers and students so that their perspectives on the content and mode of education can be understood and implemented accordingly.

8.9 INVOLVEMENT OF VOLUNTARY AGENCIES

For carrying the health care activities in the schools, there is a growing need to work in close collaboration with the voluntary agencies. Resource mobilization and net working principles are important for this purpose. It
NOTES

is not possible for Government alone to provide the school health needs. Therefore, the schools are encouraged to net work with voluntary agencies. For example schools can be part of CSR- Corporate Social Responsibility projects of local companies available in their areas. There are several companies undertaking CSR projects among the schools especially focusing school health. Local NGOs, Lions Clubs, Rotary Clubs and youth clubs can be approached for conducting health camps in the schools. It is also a practical suggestion that while PHCs are organizing health programs in the schools, it can be jointly organized with the voluntary agencies.

8.10 LET US SUM UP

In this unit you have learnt about the concept and importance of school health programs. It is important to know the Government’s initiatives on school health as school health programs serve as mean of preventive measures. Various components of school health includes Health appraisal of school children and school personnel, Remedial measure and follow up, Prevention of communicable diseases, Healthy school environment, Nutritional services, First-aid and emergency care, Mental health, Dental health, Eye health, Education and care of handicapped children, Proper maintenance and use of school health records. While addressing the health needs of the students, their specific age and gender have to be taken into consideration. For providing health education motivation of both the educators and learners are very essential. Both Government resources and voluntary organizations resources have to be tapped for school health education.

8.11 UNIT – END EXERCISES

1. List out the common health problems of primary, middle and high school children
2. If possible make a visit to the local PHC and find out how is a school medical camp organized or discuss with your VHN/SHN about school health programs
3. Organize a Health and Wellness Day in a local school

8.12 ANSWER TO CHECK YOUR PROGRESS

1. RBSK & RKS
2. Rashtriya Bal Swasthya Karyakram (RBSK) under the National Health Mission for early detection and timely management of illnesses among children (0-18 years) by periodic screening through the platform of Schools and Anganwadi centers. Government also launched a comprehensive programme called, ‘Rashtriya Kishor
Swasthya Karyakram’ (RKSK) in 2014 to respond to the health and development requirements of adolescents in a holistic manner.

3. Each age has specific health needs. Addressing the specific health needs appropriate to their age and gender is known is important in school health programs.

4. Like how the progress reports of the students give details about the student’s academic progression, the health records give vital information about their health needs and problems. It is important for early diagnosis and treatment.

8.13 SUGGESTED READINGS


UNIT IX –
HEALTH CARE DELIVERY SYSTEMS

Structure

9.1 Introduction
9.2 Objectives
9.3 Health care delivery systems
  9.3.1 National
  9.3.2 State Levels,
  9.3.3 Primary Health Centre
9.4 Models of Community health.
  9.4.1 Community Organization Model
  9.4.2 Community Readiness Model
  9.4.3 The Community Health Action (CHA) Model
9.5 MTP Act, 2002
9.6 Mental Health Act, 1987
9.7 Factories Act, 1949
9.8 ESI Act, 1948
9.9 Allocation for health care in IX Five-year Plan
9.10 Health Policies 2003
9.11 Let us sum up
9.12 Unit – End Exercises
9.13 Answers to check your progress
9.14 Suggested readings

9.1 INTRODUCTION

Health care delivery system is the aggregate of institutions, organizations and persons who enter, the health care system, who has responsibility that, include the promotion of health, prevention of illness, detection and treatment of disease and rehabilitation.

Universal health care forms the platform over which the health care system of India takes its strength. It is a concerted effort made by the central governments and states/Union territories. The constitution charges every state for the improvement of public health among its primary duties. Laws are an obligation on the part of society imposed by the competent authority which have been instrumental in controlling such public health issues and hence referred to as public health legislations.

The Government is conscious of the need for dynamic Indian health planning and management. Innovative healthcare and development programs are the need of the hour. For this, major organizations like the National AIDS Control organization have been established by the Health Ministry. The areas to focus on in Health Planning have been laid down by the Ministry's National Health Policy.
9.2 OBJECTIVES

After going through this unit, you will be able to,

- Understand the Structure and functions of Health care Delivery systems at various levels
- Know about the Primary Health Centres and its impact on communities
- Understand Models of community health
- Empower others on the rights that a person has according to legislations related to health
- Know about the various health programmes and policies implemented

9.3 HEALTH CARE DELIVERY SYSTEM

India is a Union of 28 States and 9 Union territories. Under the Constitution of India, the States are largely independent in matters relating to the delivery of health care to the people. Each State, therefore, has developed its own system of health care delivery, independent of the Central Government. The Central responsibility consists mainly of policy making, planning, guiding, assisting, evaluating, and coordinating the work of the State Health Ministries, so that health services cover every part of the country, and no State lags behind for want of these services. The health system in India has 3 main links, i.e., Central, State and Local or peripheral.

9.3.1 NATIONAL LEVEL

The official "organs" of the health system at the national level consist of:

1. The Ministry of Health and Family Welfare;
2. The Directorate General of Health Services; and

1. UNION MINISTRY OF HEALTH AND FAMILY WELFARE

(1) ORGANIZATION

The Union Ministry of Health and Family Welfare is headed by a Cabinet Minister, a Minister of State and a Deputy Health Minister. These are political appointments. Currently, the Union Health Ministry has the following departments:

(1) Department of Health and
(2) Department of Family Welfare.

The Health Department is headed by a Secretary to the Government of India as its executive head, assisted by joint secretaries, deputy secretaries and a large administrative staff. The Department of Family Welfare was created in 1966 within the Ministry of Health and Family Welfare. The Secretary to the Govt. of India in the Ministry of Health and Family Welfare is in overall charge of the Department of Family Welfare. He is assisted by an Additional Secretary & Commissioner (Family Welfare), and one Joint Secretary.
(2) FUNCTIONS
The functions of the Union Health Ministry are set out in the seventh schedule of Article 246 of the Constitution of India under (a) the Union list and (b) the Concurrent list.

(a) Union list:
The functions given in the Union list are:
(1) International health relations and administration of port quarantine
(2) Administration of central institutes such as the All India Institute of Hygiene and Public Health, Kolkata; National Institute for the Control of Communicable Diseases, Delhi, etc.
(3) Promotion of research through research centres and other bodies
(4) Regulation and development of medical, pharmaceutical, dental and nursing professions
(5) Establishment and maintenance of drug standards
(6) Census, and collection and publication of other statistical data
(7) Immigration and emigration
(8) Regulation of labour in the working of mines and oil fields and
(9) Coordination with States and with other ministries for promotion of health.

(b) Concurrent list:
The functions listed under the concurrent list are the responsibility of both the Union and State governments. The Centre and the States have simultaneous powers of legislation; the powers of the latter are restricted to the framework of such legislation as may be undertaken by the Centre. The concurrent list includes:
(1) Prevention of extension of communicable diseases from one unit to another
(2) Prevention of adulteration of food stuffs
(3) Control of drugs and poisons
(4) Vital statistics
(5) Labour welfare
(6) Ports other than major
(7) Economic and social planning, and
(8) Population control and Family Planning.

2. DIRECTORATE GENERAL OF HEALTH SERVICES
(a) ORGANIZATION : The Director General of Health Services is the principal adviser to the Union Government in both medical and public health matters. He is assisted by an additional Director General of Health Services, a team of deputies and a large administrative staff. The Directorate comprises of three main units, e.g., medical care and hospitals, public health and general administration.

(b) FUNCTIONS:
The GENERAL functions are surveys, planning, coordination, programming and appraisal of all health matters in the country.

The SPECIFIC functions are
(1) *International health relations and quarantine*: All the major ports in the are directly controlled by the Directorate General of Health Services. All matters relating to the obtaining of assistance from International agencies and the coordination of their activities in the country are undertaken by the Directorate General of Health Services.

(2) *Control of drug standards*: The Drugs Control Organization is part of the Directorate General of Health Services, and is headed by the Drugs Controller. Its primary function is to lay down and enforce standards and control the manufacture and distribution of drugs through both Central and State Government Officers. The Drugs Act (1940) vests the Central Government with the powers to test the quality of imported drugs.

(3) *Medical store depots*: The Union Government runs medical store depots at Mumbai, Chennai, Kolkata, Kamal, Gauwahati and Hyderabad. These depots supply the civil medical requirements of the Central Government and of the various State Governments. These depots also handle supplies from foreign agencies. The Medical Stores Organization endeavours to ensure the highest quality, cheaper bargain and prompt supplies.

(4) *Post graduate training*: The Directorate General of Health Services is responsible for the administration of national institutes, which also provide post-graduate training to different categories of health personnel. Some of these institutes are: - the All India Institute of Hygiene and Public Health at Kolkata, All India Institute of Mental Health at Bangalore, College of Nursing at Delhi, National Tuberculosis Institute at Bangalore, National Institute of Communicable Diseases at Delhi, Central Research Institute at Kasauli, National Institute of Health and Family Welfare at Delhi, etc.

(5) *Medical education*: The Central Directorate is directly in charge of the following medical colleges in India: The Lady Hardinge, the Maulana Azad and the medical colleges at Puducherry, and Goa. Besides these, there are many medical colleges in the country which are guided and supported by the Centre.

(6) *Medical Research*: Medical Research in the country is organised largely through the Indian Council of Medical Research, founded in 1911 in New Delhi. The Council plays a significant role in aiding, promoting and coordinating scientific research on human diseases, their causation, prevention and cure. The research work is done through the Council's several permanent research institutes, research units, field surveys and a large number of ad-hoc research enquiries financed by the Council. It maintains Cancer Research Centre, Tuberculosis Chemotherapy Centre at Chennai, Virus Research Centre at Poona, National Institute of Nutrition at Hyderabad and Blood Group Reference Centre at Mumbai. The funds of the Council are wholly derived from the budget of the Union Ministry of Health.
(7) Central Government Health Scheme:

(8) National Health Programmes: The various national health programmes for the eradication of malaria and for the control of tuberculosis, filaria, leprosy, AIDS and other communicable diseases involve expenditure of crores of rupees. Health programmes of this kind can hardly succeed without the help of the Central Government. The Central Directorate plays a very important part in planning, guiding and coordinating all the national health programmes in the country.

(9) Central Health Education Bureau: An outstanding activity of this Bureau is the preparation of education material for creating health awareness among the people. The Bureau offers training courses in health education to different categories of health workers.

(10) Health Intelligence: The Central Bureau of Health Intelligence was established in 1961 to centralise collection, compilation, analysis, evaluation and dissemination of all information on health statistics for the nation as a whole. It disseminates epidemic intelligence to States and international bodies. The Bureau has an Epidemiological Unit, a Health Economics Unit, a National Morbidity Survey Unit and a Manpower Cell.

(11) National Medical Library: The Central Medical Library of the Directorate General Health Services was declared the National Medical Library in 1966. The aim is to help in the advancement of medical, health and related sciences by collection, dissemination and exchange of information.

3. CENTRAL COUNCIL OF HEALTH

A large number of health subjects fall in the Concurrent list which calls for continuous consultation, mutual understanding and cooperation between the Centre and the States. The Central Council of Health was set up by a Presidential Order on 9 August, 1952 under Article 263 of the Constitution of India for promoting coordinated and concerted action between the Centre and the States in the implementation of all the programmes and measures pertaining to the health of the nation. The Union Health Minister is the Chairman and the State Health Ministers are the members.

FUNCTIONS:
The functions of the Central Council of Health are:

1. To consider and recommend broad outlines of policy in regard to matters concerning health in all its aspects such as the provision of remedial and preventive care, environmental hygiene, nutrition, health education and the promotion of facilities for training and research.
2. To make proposals for legislation in fields of activity relating to medical and public health matters and to lay down the pattern of development for the country as a whole.
3. To make recommendations to the Central Government regarding distribution of available grants-in-aid for health purposes to the
States and to review periodically the work accomplished in different areas through the utilisation of these grants-in-aid.

(4) To establish any organisation or organisations invested with appropriate functions for promoting and maintaining cooperation between the Central and State Health administrations.

9.3.2 STATE LEVEL

Historically, the first milestone in State health administration was the year 1919, when the States (then known as provinces) obtained autonomy, under the Montague-Chelmsford reforms, from the Central Government, in matters of public health. By 1921-22, all the States had created some form of public health organization. The Government of India Act, 1935 gave further autonomy to the States. The health subjects were divided into three groups: federal, concurrent and state. The "state" list which became the responsibility of the State included provision of medical care, preventive health services and pilgrimages within the State. The position has largely remained the same, even after the new Constitution of India came into force in 1950. The State is the ultimate authority responsible for all the health services operating within its jurisdiction.

STATE HEALTH ADMINISTRATION

At present there are 29 States in India, with each state having its own health administration. In all the States, the management sector comprises the State Ministry of Health and a Directorate of Health.

1. STATE MINISTRY OF HEALTH

The State Ministry of Health is headed by a Minister of Health and Family Welfare and a Deputy Minister of Health and Family Welfare. In some States, the Health Minister is also in charge of other portfolios. The Health Secretariat is the official organ of the State Ministry of Health and is headed by a Secretary who is assisted by Deputy Secretaries, Under Secretaries and a large administrative staff. The Secretary is a senior officer of the Indian Administrative Service. The Bhore Committee (1946) recommended that the Director of Health Services should also be Secretary to the State Government to facilitate administration, but this recommendation has not been implemented.

2. STATE HEALTH DIRECTORATE

For a long time, two separate departments, medical and public health, were functioning in the States; the heads of these departments were known as Surgeon General and Inspector General of Civil Hospitals and Director of Public Health respectively.

The Bhore Committee (1946) recommended that the medical and public health organizations should be integrated at all levels and therefore, should have a single administrative officer for the curative and preventive departments of health. West Bengal led the process of integrating health
services at the State level by creating a post of the Director of Health Services in August 1947; the process was completed by Maharashtra in May 1970.

The Director of Health Services (known in some States as Director of Medical and Health Services) is the chief technical adviser to the State Government on all matters relating to medicine and public health. He is also responsible for the organization and direction of all health activities. With the advent of family planning as an important programme, the designation of Director of Health Services has been changed in some States and is now known as Director of Health and Family Welfare. A recent development in some States is the appointment of a Director of Medical Education in view of the increasing number of medical colleges. Some experts feel that there is no justification for the removal of medical education from general health services under the Director of Health Services. The health services and training institutions should develop into one logical whole designed to an end - the protection of the health of the people.

The Director of Health and Family Welfare is assisted by a suitable number of deputies and assistants. The Deputy and Assistant Directors of Health may be of two types - regional and functional. The Regional Directors inspect all the branches of public health within their jurisdiction, irrespective of their speciality. The Functional Directors are usually specialists in a particular branch of public health such as mother and child health, family planning, nutrition, tuberculosis, leprosy, health education etc. The Public Health Engineering Organization in most States is part of the Public Works Department of the State Government. It has been recommended by experts in the public health that the public health engineering organization in every State should be part of the State Health Department, and that the Chief Engineer of Public Health should have the status of an Additional Director of Health Services.

Check your Progress – 1
Note:  a. Write your answer in the space given below

b. Compare your answer with those given at the end of the unit.

1. The official "organs" of the health system at the national level consist of

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2. What are the departments under the Union Health Ministry?

9.3.3 PRIMARY HEALTH CENTRE LEVEL

The concept of primary health centre is not new to India. The Bhore committee in 1946 gave the concept of a primary health centre as a basic health unit, to provide, as close to the people as possible, an integrated curative and preventive health care to the rural population. with emphasis on preventive and promotive aspects of health care. The Bhore Committee
aimed at having a health centre to serve a population of 10,000 to 20,000 with 6 medical officers, 6 public health nurses and other supporting staff. But in view of the limited resources, the Bhore Committee's recommendations could not be fully implemented, even after a lapse of 60 years.

The health planners in India have visualized the primary health centre and its sub-centres as the proper infrastructure to provide health services to the rural population. The Central Council of Health at its first meeting held in January 1953 had recommended the establishment of primary health centres in community development blocks to provide comprehensive health care to the rural population. The number of primary health centres established since then had increased from 725 during the First Five Year Plan to 5484 by the end of the Fifth Plan (1975-1980) - each PHC covering a population of 100,000 or more spread over some 100 villages in each community development block. These centres were functioning as peripheral health service institutions with little or no community involvement. Increasingly, these centres came under criticism as they were not able to provide adequate health coverage, partly because they were poorly staffed and equipped, and partly because they had to cover a large population of one lakh or more.

The Mudaliar Committee in 1962 had recommended that the existing primary health centres should be strengthened and the population to be served by them to be scaled down to 40,000.

The Declaration of Alma-Ata Conference in 1978 setting the goal of Health for All by 2000 AD has ushered in a new philosophy of equity, and a new approach, the primary health care approach. The National Health Plan (1983) proposed reorganization of primary health centres on the basis of one PHC for every 30,000 rural population in the plains, and one PHC for every 20,000 population in hilly, tribal and backward areas for more effective coverage. As on March 2014, 25,020 primary health centres have been established in the country.

**FUNCTIONS OF THE PHC**

(1) The functions of the primary health center in India cover all the 8 "essential" elements of primary health care as outlined in the Alma-Ata Declaration. They are:

1. Medical care
2. MCH including family planning
3. Safe water supply and basic sanitation
4. Prevention and control of locally endemic diseases
5. Collection and reporting of vital statistics
6. Education about health
7. National Health Programmes - as relevant
8. Referral services
9. Training of health guides, health workers, local dais and health assistants
10. Basic laboratory services
It is proposed to equip the primary health centres with facilities for selected surgical procedures (e.g., vasectomy, tubectomy, MTP and minor surgical procedures) and for paediatric care. In order to reorient medical education (ROME Programme) towards the needs of the country and community care, three primary health centres have been attached to each of the 148 medical colleges.

**INDIAN PUBLIC HEALTH STANDARDS FOR PHCS**

The IPHS for primary Health Centres has been prepared keeping in view the resources available with respect to functional requirement for PHCs with minimum standards such as building, manpower, instruments and equipments, drugs and other facilities etc. The standards prescribed are for a PHC covering 20,000-30,000 population with six beds, as all the block level PHCs are ultimately going to be upgraded as CHC with 30 beds of providing specialized services.

The objectives of IPHS for PHCs are:

1. To provide comprehensive primary health care to the community through the Primary Health Centres.
2. To achieve and maintain an acceptable standard of quality of care.
3. To make the services more responsive and sensitive to the needs of the community.

Minimum requirements at primary health centre for meeting the IPHS The assured services cover all the essential elements of preventive, promotive, curative and rehabilitative primary health care. This implies a wide range of services that include:

1. Medical care:
   a) **OPD services**: 4 hours in the morning and 2 hours in the afternoon/evening. Time schedule will vary from state to state. Minimum OPD attendance should be 40 patients per doctor per day;
   b) **24 hours emergency services**: appropriate management of injuries and accident, First-aid, stabilization of the condition of patient before referral, dog bite/snake bite/ scorpion bite cases, and other emergency conditions;
   c) **Referral services**; and
   d) **In-patient services** (6 beds).

2. Maternal and child health care:

   **Antenatal care**:
   a) Early registration of pregnancy and minimum 3 antenatal check-ups;
   b) Minimum laboratory investigations such as haemoglobin, urine albumin and sugar .and RPR test for syphilis;
   c) Nutrition and health counselling;
d) Supplementation of folic acid and iron tablets and tetanus toxoid immunization;
e) Identification of high risk pregnancies and appropriate management;
f) Referral to First Referral Unit or other hospital in case of high risk pregnancy beyond the management capability of medical officer in PHC.

Intranatal care:
   (a) 24 hours services for normal delivery;
   (b) Promotion of institutional delivery;
   (c) Conducting assisted deliveries including forceps and vacuum delivery whenever required;
   (d) Manual removal of placenta; and
   (e) Appropriate and prompt referral for cases needing specialist care.

Postnatal care:
   (a) A minimum of 2 post-partum home visits, first within 48 hours of delivery and 2nd within 7 days through sub-centre staff;
   (b) Initiation of breast-feeding within half-hour of delivery;
   (c) Education on nutrition, hygiene and contraception; and
   (d) Provision of facilities under Janani Suraksha Yojana.

New born care:
   (a) Essential new born care;
   (b) Facilities and care for neonatal resuscitation; and
   (c) Management of neonatal hypothermia and jaundice.

Care of the child:
   (a) Emergency care of sick child including Integrated Management of Neonatal and Childhood Illness (IMNCI);
   (b) Care of routine childhood illness;
   (c) Promotion of breast-feeding for 6 months;
   (d) Full immunization of all infants and children against vaccine preventable diseases as per guidelines; and
   (e) Vitamin A prophylaxis.

3. Full range of family planning services including counselling and appropriate referral for couples having infertility.
4. Medical termination of pregnancy using manual vacuum aspiration technique, wherever trained personnel and facility exists.
5. Health education for prevention and management of RTI/STI.
6. Nutrition Services : Diagnosis ·and management of malnutrition, anaemia and vitamin A deficiency and coordination with ICDS.
7. School health services.
8. Adolescent health care.
9. Disease surveillance and control of epidemics.
10. Collection and reporting of vital events.
11. Promotion of sanitation including use of toilet and appropriate garbage disposal.
12. Testing of water quality and disinfection of water sources.
NOTES


- **Revised National Tuberculosis Control Programme (RNTCP)**: All PHCs to function as DOTS Centres to deliver treatment as per RNTCP treatment guidelines through DOTS providers and treatment of common complications of TB and side effects of drugs, record and report on RNTCP activities as per guidelines.

- **National Programme for Control of Blindness**:
  a) Basic services: Diagnosis and treatment of common eye diseases;
  b) Refraction services; and
  c) Detection of cataract cases and referral for cataract surgery.

- **National Vector Borne Disease Control Programme**:
  a) Diagnosis of malaria cases, microscopic confirmation and treatment;
  b) Cases of suspected JE and dengue to be provided symptomatic treatment, hospitalization and case management as per the protocols.
  c) Complete treatment to Kala-azar cases in Kala-azar endemic areas as per national policy.
  d) Complete treatment of microfilaria positive cases with DEC and participation and arrangement of Mass Drug Administration (MDA) along with management of side reactions, if any. Morbidity management of lymphoedema cases.

- **National AIDS Control Programme**:
  a) IEC activities to enhance awareness and preventive measures about STI's and HIV/AIDS, Prevention of Parents to Child Transmission (PPTCT) services.
  b) Organizing school health education programme.
  c) Screening of persons practicing high-risk behaviour with one rapid test to be conducted at the PHC level and development of referral linkages with the nearest VCTC at the district hospital level for confirmation of HIV status of those found positive at one test stage in the high prevalence states.
  d) Risk screening of antenatal mothers with one rapid test for HIV and to establish referral linkages with CHC or district hospital for PPTCT services in the six high HIV prevalence states of Tamil Nadu, Andhra Pradesh, Maharashtra, Karnataka, Manipur and Nagaland.
  e) Linkage with microscopy centre for HIV-TB coordination.
  f) Condom promotion and distribution of condoms to the high risk groups.
  g) Help and guide patients with HIV/AIDS receiving ART with focus on adherence.
  h) Pre and post-test counselling of AIDS patients by PHC staff in high prevalence states.

Appropriate and prompt referral of cases needing special care and providing transport facilities either by PHC vehicle or other available
referral transport. The funds should be made available for referral transport as per the provision under NRHM/RCH-11 programme.

15. Record of vital events, reporting of births and deaths, and maintenance of all relevant records concerning services provided in PHC.

16. Training:
   a) Health workers and traditional birth attendants.
   b) Initial and periodic training of paramedics in treatment of minor ailments.
   c) Training of ASHAs.
   d) Periodic training of doctors through continuing medical education, conferences, skill development training, etc. on emergency obstetric care.
   e) Training of ANM and LHV in antenatal care and skilled birth attendance.
   f) Training under Integrated Management of Neonatal and Childhood Illness (IMNCI).
   g) Training of pharmacist on AYUSH component with standard modules.
   h) Training of AYUSH doctor in imparting health services related to National Health and Family Welfare programme.

17. Basic laboratory services
   a) Routine urine, stool and blood tests.
   b) Bleeding time, clotting time.
   c) Diagnosis of RTI/STDs with wet mounting, Grams stain, etc.
   d) Sputum testing for tuberculosis (if designated as a microscopy center under RNTCP).
   e) Blood smear examination for malarial parasite.
   f) Rapid tests for pregnancy.
   g) RPR test for Syphilis/YAWS surveillance.
   h) Rapid diagnostic tests for typhoid (Tyhpi Dot) and malaria.
   i) Rapid test kit for faecal contamination of water.
   j) Estimation of chlorine level of water using orthotoludine reagent.

18. Monitoring and supervision:
   a) Monitoring and supervision of activities of subcenters through regular meetings/periodic visits, etc.
   b) Monitoring of all National Health Programmes.
   c) Monitoring activities of ASHAs.
   d) Medical officer should visit all sub-centres at least once in a month.
   e) Health assistants male and LHV should visit subcenters once a week.
19. Selected surgical procedures
The vasectomy, tubectomy (including laparoscopic tubectomy), MTP, hydrocelectomy and cataract surgeries as a camp/fixe day approach have to be carried out in a PHC having facilities of O.T.

20. Mainstreaming of AYUSH

STAFFING PATTERN
The manpower that should be available in the PHC is as follows:

<table>
<thead>
<tr>
<th>Staff</th>
<th>Existing</th>
<th>Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Officer</td>
<td>1</td>
<td>3 (At least 1 female)</td>
</tr>
<tr>
<td>AYUSH Practitioner</td>
<td>Nil</td>
<td>1 (AYUSH or any ISM system prevalent locally)</td>
</tr>
<tr>
<td>Account Manager</td>
<td>Nil</td>
<td>1</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Nurse-midwife (Staff) (Nurse)</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Health workers (F)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Health Educator</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Health Asst. (Male &amp; Female)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Clerks</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Laboratory Technician</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Driver</td>
<td>1</td>
<td>Optional/vehicles may be outsourced.</td>
</tr>
<tr>
<td>Class IV</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>24/25</td>
</tr>
</tbody>
</table>

Check your Progress – 2
Note:  
a. Write your answer in the space given below  
b. Compare your answer with those given at the end of the unit.

4. List out the functions of the primary health center in India

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9.4 MODELS OF COMMUNITY HEALTH

9.4.1 COMMUNITY ORGANIZATION MODEL

The Community Organization Model is a participatory decision-making process that empowers communities to improve health. It emphasizes active participation from the community in identifying key health issues and strategies to address them. Communities focus on their strengths and collectively mobilize to develop programs to achieve health goals.

Characteristics of the Community Organization Model include:
- Understanding the context and root causes of health issues
- Collaborative decision making and problem solving
- Focusing efforts on specific issues
• Actively engaging participation from various groups and organizations within the community
• Developing and maintaining capacity and power to produce lasting change
• Providing feedback to the community

Community health workers (CHWs) may support community organization through targeted activities to garner support for policy and social changes.

Successful health promotion and disease prevention programs rely on involvement from the community. When individual community members come together to identify problems and strategies to address them, it increases the ability of the program to affect change. Other benefits of community organization include empowerment of community members, increased ownership among community members for their health, and improved social support for achieving healthy changes.

9.4.2 COMMUNITY READINESS MODEL

In the Community Readiness Model, communities are motivated by the difference between current health situations or behaviors and the desire to reach a goal. Community readiness refers to how prepared the community is to take action to address a particular health issue.

There are several stages in community readiness. These stages are:

• Absence of awareness – the community does not recognize the health issue.
• Denial or resistance – there is little recognition or concern among community members about the health issue.
• Vague awareness – the community may be concerned about the health issue, but the motivation to address it is low.
• Pre-planning – the community recognizes that action is needed, but there is a lack of focused activity around the health issue.
• Preparation – leaders in the community begin to plan and support approaches to addressing the health issue.
• Initiation – the community begins activities to address the health issue.
• Stabilization – the community activities are supported by administrators and other community leaders.
• Confirmation/expansion – activities have been implemented and the community is comfortable with addressing the health issue.
• High level of community ownership – data are being gathered that support the efforts, and the approach may be replicated in other communities.

The Community Readiness Model is issue-specific because community readiness varies depending on the health topic being addressed. Community readiness also varies depending on the factors that influence health, such as knowledge, leadership, and resources. The Community Readiness Model is useful for identifying approaches for addressing new health issues, when looking to involve different segments or sub-
populations of the community, for identifying approaches to sustain an ongoing effort, and for community planning.

### 9.4.3 THE COMMUNITY HEALTH ACTION (CHA) MODEL

The CHA model is unique, however, in its ability to merge the community development process with a compatible community assessment, planning, implementation, and evaluation framework. Using this model, the community takes ownership, gives direction, and assumes responsibility for its activities and the resulting outcomes. Through public participation, community members come together and interact as a collective unit. They express and demonstrate a sense of community before moving to action to gather information, determine goals, implement plans, and evaluate outcomes. This community development process is not linear but may be sequential and is often iterative in nature. The CHA model supports community participation leading to community-engaged assessment and chang

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### 9.5 THE MEDICAL TERMINATION OF PREGNANCY ACT 2002 AMENDMENT

The Medical Termination of Pregnancy Act, 1971 lays down:

1. The conditions under which a pregnancy can be terminated.
2. The person or persons who can perform such terminations, and
3. The place where such terminations can be performed.

1. The conditions under which a pregnancy can be terminated under the MTP Act, 1971:

   There are 5 conditions that have been identified in the Act:
a. Medical - where continuation of the pregnancy might endanger the mother's life or cause grave injury to her physical or mental health.

b. Eugenic - where there is substantial risk of the child being born with serious handicaps due to physical or mental abnormalities.

c. Humanitarian - where pregnancy is the result of rape.

d. Socio-economic - where actual or reasonably foreseeable environments (whether social or economic) could lead to risk of injury to the health of the mother, and

e. Failure of contraceptive devices - The anguish caused by an unwanted pregnancy resulting from a failure of any contraceptive device or method can be presumed to constitute a grave mental injury to the health of the mother. This condition is a unique feature of the Indian law and virtually allows abortion on request, in view of the difficulty of proving that a pregnancy was not caused by failure of contraception.

The written consent of the guardian is necessary before performing abortion in women under 18 years of age, and in lunatics even if they are older than 18 years.

2. The person or persons who can perform abortion:
The Act provides safeguards to the mother by authorizing only a Registered Medical Practitioner having experience in gynaecology and obstetrics to perform abortion where the length of pregnancy does not exceed 12 weeks. However, where the pregnancy exceeds 12 weeks and is not more than 20 weeks, the opinion of two Registered Medical Practitioners is necessary to terminate the pregnancy.

3. Where abortion can be done
The Act stipulates that no termination of pregnancy shall be made at any place other than a hospital established or maintained by Government or a place approved for the purpose of this Act by Government. Abortion services are provided in hospitals in strict confidence. The name of the abortion seeker is kept confidential, since abortion has been treated statutorily as a personal matter.

MTP RULES (1975)
Rules and Regulations framed initially were altered in October 1975 to eliminate time-consuming procedures involved in MTP and to make services more readily available. These changes have occurred in 3 administrative areas

1. Approval by Board Under the new rules, the Chief Medical Officer of the district is empowered to certify that a doctor has the necessary training in gynaecology and obstetrics to do abortions. The procedure of doctors applying to Certification Boards was removed.

2. Qualification required to do abortion the new rules allow for registered medical practitioners to qualify through on the spot training: "If he has assisted a RMP in the performance of 25 cases of medical termination of
pregnancy in an approved institution”. The doctor may also qualify to do MTPs under the new rules if he has one or more of the following qualifications which are similar to the old rules:

   (a) 6 months housemanship in obstetrics and gynaecology.
   (b) a postgraduate qualification in OBG.
   (c) 3 years of practice in OBG for those doctors registered before the 1971 MTP Act was passed.
   (d) 1 year of practice in OBG for those doctors registered on or after the date of commencement of the Act.

3. The place where abortion is performed Under the new rules, non-governmental institutions may also take up abortions provided they obtain a licence, from the Chief Medical Officer of the district, thus eliminating the requirement of private clinics obtaining a Board licence Impact of liberalization of abortion Although abortion has been greatly liberalized, the annual number of legal abortions are about 6.1 per 1000 pregnancies, whereas the illegal abortions performed in the country are about 13.5 per 1000 pregnancies. In other words, illegal abortions are still rife although it is now more than 40 years since MTP Act was promulgated.

An amendment to the MTP Act in the year 2003 includes decentralization of power for approval of places as MTP centres, from state to district level with the aim of enlarging the network of safe MTP centres, and MTP service providers.

The strategy at the community level is:
(a) spread awareness regarding safe MTP in the community and the availability of services thereof;
(b) Enhance access to confidential counselling for safe MPT; train ANMs, AWWs, and link workers/ASHAs to provide such counselling; and
(c) Promote post-abortion care through ANMs, AWWs, link workers/ASHAs while maintaining confidentiality.

At the facility level the strategy is:
(1) To provide manual Vacuum Aspiration facility at all CHCs and at least 50 per cent of PHCs that are being strengthened for 24 hour deliveries;
(2) Provide comprehensive and high quality MTP services at all FRUs; and
(3) Encourage private and NGO sectors to establish quality MTP services

Repeated abortion is not conducive to the health of the mother. It has to be ensured that abortion does not replace the traditional methods of birth control. The numerous abortion hazards which are inherent should serve as a warning that abortions under the best of circumstances can never be as safe as efficient contraception.

9.6 MENTAL HEALTH ACT 1987

Mental health act was drafted by parliament in 1987 but it came into effect in all the states and union territories of India in April 1993. This act replaces the Indian Lunacy act of 1912, which had earlier replaced the Indian Lunatic Asylum act of 1858.
SALIENT FEATURES OF THE ACT
Mental health act is divided into 10 chapters

Chapter I: Deals with preliminaries of the act, definitions and provides for change of offensive terminologies used in Indian Lunacy act 1912.
Chapter II: Deals with the procedures for establishment of mental health authorities at central and state levels.
Chapter III: It lays down the guidelines for establishment and maintenance of psychiatric hospitals and nursing homes. There is a provision for licensing authorities to process applications for license which have to be renewed every five years.
Chapter IV: It deals with the procedures of admission and detention of mentally ill in psychiatric hospitals.
Chapter V: It deals with the inspection, discharge, leaves of absence and removal of mentally ill persons.
Chapter VI: It deals with the judicial inquisition regarding alleged mentally ill persons possessing property and its management.
Chapter VII: It deals with the maintenance of mentally ill persons in a psychiatric hospital or psychiatric nursing homes.
Chapter VIII: It deals with the protection of human rights of mentally ill persons.
Chapter IX: It deals with the penalties and procedures for infringement of guidelines of the act.
Chapter X: It deals with miscellaneous matters not covered in other chapters of the act.

OBJECTIVES OF THE ACT

1. To establish central and state authorities for licensing and supervising the psychiatric hospitals.
2. To establish such psychiatric hospitals and nursing homes.
3. To provide a check on working of these hospitals.
4. To provide for the custody of mentally ill persons who are unable to look after themselves and are dangerous for themselves and or, others.
5. To protect the society from dangerous manifestations of mentally ill.
6. To regulate procedure of admission and discharge of mentally ill persons to the psychiatric hospitals or nursing homes either on voluntary basis or on request.
7. To safeguard the rights of these detained individuals.
8. To protect citizens from being detained unnecessarily.
9. To provide for the maintenance charges of mentally ill persons undergoing treatment in such hospitals.
10. To provide legal aid to poor mentally ill criminals at state expenses.
11. To change offensive terminologies of Indian Lunacy act to new soother ones.

9.7 FACTORIES ACT 1949
The first Indian Factories Act dates as far back as 1881. The Act was revised and amended several times, the latest being the Factories (Amendment) Act, 1987. A brief description of the Act is given below:

(1) SCOPE: The Act defines factory as an establishment employing 10 or more workers where power is used, and 20 or more workers where power is not used. There is no distinction between perennial and seasonal factories. The 1976 amendment modifies the definition of the term 'worker' so as to include within its meaning contract labour employed in the manufacturing process. The Act applies to the whole of India except the State of Jammu and Kashmir. The State Governments are authorized to appoint besides the Chief Inspector of Factories as many Additional Chief Inspectors, Joint Chief Inspectors, Deputy Chief Inspectors and Inspectors as they think fit to enforce the provisions of the law.

(2) HEALTH, SAFETY AND WELFARE: (Chapter III, IV, IVA, & V). Elaborate provisions have been made in the Act with regard to health, safety and welfare of the workers. In addition to such matters as cleanliness, lighting and ventilation, the Act provides for the treatment of wastes and effluents so as to render them innocuous, and for their disposal, the elimination of dusts and fumes, the provision of spittoons, control of temperature, supply of cool drinking water during summer and for the employment of cleaners to keep the water closets clean. A minimum of 500 Cu.ft of space for each worker has been prescribed (not taking into account space more than 14 feet above the ground level). For factories installed before the 1948 Act, a minimum of 350 Cu.ft of space has been prescribed. The Act also prescribes in detail the precautions which should be taken for ensuring the safety of workers. Some of the safety provisions relate to the casing of new machinery, devices for cutting off the power, hoists and lifts, cranes and other lifting devices, protection of the eyes and precautions against dangerous fumes, explosive and inflammable material. The Act provides that no worker shall be required to lift or carry loads which are likely to cause him injury. The State Governments are empowered to prescribe maximum weights which may be lifted or carried by men, women and children. The 1976 amendment (Section 40 B) provides for the appointment of 'Safety Officers' in every factory wherein 1,000 or more workers are ordinarily employed. The Act contains a separate Chapter (Chapter V) relating to specific welfare measures, e.g., washing facilities, facilities for storing and drying clothes, facilities for sitting, first-aid appliances, shelters, rest-rooms and lunch rooms, canteens and creches. The Act specifies that wherein more than 250 workers are ordinarily employed, a canteen shall be provided. The 1976 amendment provides for creches in every factory wherein more than 30 women workers are ordinarily employed. In every factory, wherein 500 or more workers are ordinarily employed, there should be a Welfare Officer.

(3) EMPLOYMENT OF YOUNG PERSONS: The Act prohibits employment of children below the age of 14 years and declares persons between the ages 15 and 18 to be adolescents. Adolescents should be duly certified by the "Certifying Surgeons" regarding their fitness for work. Restrictions have been laid down on employment of women and children in certain dangerous occupations. Child who has not completed his
fourteenth year of age has been restricted from employment in any factory. Adolescent employee is allowed to work only between 6AM & 7P.M.

(4) HOURS OF WORK: The Act has prescribed a maximum of 48 working hours per week, not exceeding 9 hours per day with rest for at least 1/2 hour after 5 hours of continuous work. For adolescents, the hours of work have been reduced from 5 to 41/2 per day. The 1976 amendment makes a provision to increase the spread-over period of work (including rest intervals) of an employee in a factory upto 12 hours from the existing 101/2 hours. The total number of hours of work in a week including overtime shall not exceed 60.

(5) LEAVE WITH WAGES: The Act lays down that besides weekly holidays, every worker will be entitled to leave with wages after 12 month's continuous service at the following rate; adult - one day for every 20 days of work, children - one day for every 15 days of work. The leave can be accumulated up to 30 days in case of adults and 40 days in case of children.

(6) OCCUPATIONAL DISEASES: It is obligatory on the part of the factory management to give information regarding specified accidents which cause death, serious bodily injury or regarding occupational diseases contracted by employees. The Act gives a schedule of notifiable diseases. The 1976 amendment includes Byssinosis, Asbestosis, occupational dermatitis and noise-induced hearing loss among the list of notifiable diseases and provides for enquiry in every case of a fatal accident. Provision has also been made in the 1976 amendment for safety and occupational health surveys in factories and industries.

(7) EMPLOYMENT IN HAZARDOUS PROCESSES: The Central Govt. has incorporated a new Chapter IV-A by the Factories (Amendment) Act, 1987, relating to hazardous processes. Site Appraisal Committee consisting of Chief Inspector and other members, not more than 14 in number, for examination of service conditions of employees in a factory, involving hazardous processes, is to be constituted for recommendations. Specific responsibility of the occupier in relation to hazardous processes were also made with workers’ participation in safety management. List of industries involving hazardous processes is prescribed in 1st schedule of the Act.

9.8 ESI ACT 1948


SCOPE The Act extends to the whole of India. The ESI Act of 1948 covered all power-using factories other than seasonal factories wherein 10 or more persons were employed (excluding mines, railways and defence establishments).
The provisions of the ESI (Amendment) Act of 1975 were extended to the following new classes of establishments:

a. Small factories employing 10 or more persons, whether power is used in the process of manufacturing or not.
b. Shops;c. Hotels and restaurants;d. Cinemas and theatres;e. Road-motor transport establishments; andf. Newspaper establishments.
g. The scheme has been extended to private medical and educational institutions employing 20 or more persons in some states. With effect from 1.5.2010 the Act covers all employees manual, clerical, supervisory and technical getting upto Rs.15,000 per month. The provisions of the Act can be extended to any other agricultural or commercial establishment.

ADMINISTRATION

The administration of the ESI Scheme under the Act is entrusted to an autonomous body called the ESI Corporation. The Union Minister for Labour is the Chairman and the Secretary to Govt. of India Ministry of Labour is the Vice-Chairman of this corporation. It consists of members representing Central and State Governments, employers and employees' organizations, medical profession and Parliament. There is a Standing Committee, constituted from the members of the Corporation, which acts as an executive body for the administration of the Scheme. The chief executive officer of the Corporation is the Director General who is assisted by four Principal Officers –

1. Insurance Commissioner
2. Medical Commissioner
3. Financial Commissioner
4. Actuary.

There is a Medical Benefit Council which is headed by the Director General of Health Services, Government of India who is assisted by the Medical Commissioner in all matters relating to medical relief. Besides the head office in New Delhi, the corporation has 23 regional offices and 26 sub-regional offices at 2 divisional offices and 624 branch offices, 197 cash offices and 406 inspection offices all over the country for the administration of the scheme. Given the huge number of beneficiaries - about 720 lakhs by 31.3.13 the corporation has set up a wide spread network of service outlets for prompt delivery of benefits in cash and kind that includes full medical care. ESI gives coverage to about 185 lakh family units of about 165 lakh employees including about 26.79 lakh females, as on 31.3.13. Medical facilities are provided through a network of 1384 ESI dispensaries, over 2100 panel clinics, 307 diagnostic centres, besides 151 ESI hospitals and 42 hospital annexes with over 27,000 beds. For providing super-speciality medical care the corporation has tie up arrangements with advanced medical institutions in the country, both in public and private sector. The medical benefit is administered with the active co-operation of state governments. The payment of cash benefits is
made at the grass root level through as many as 624 branch offices, 197 cash offices that function under the direct control of the corporation. There are 406 inspection offices throughout the country to inspect factories and for checking insurability of employees and correct payment of contributions.

FINANCE The scheme is run by contributions by employees and employers and grants from Central and State Governments. The employer contributes 4.75 per cent of total wage bill; the employee contributes 1.75 per cent of wages (revised rates w.e.f. 1.1.97). Employees getting daily wages of below Rs. 70 are exempted from payment of contribution. The State Government's share of expenditure on medical care is 1/8 of total cost of medical care; the ESI Corporation's share of expenditure on medical care is 7/8 of total cost of medical care.

BENEFITS TO EMPLOYEES The Act has made provision for the following benefits to insured persons or, to other dependants as the case may be:

1. Medical benefit
2. Sickness benefit
3. Maternity benefit
4. Disablement benefit
5. Dependant's benefit
6. Funeral expenses
7. Rehabilitation allowance.

Check your Progress – 3

Note: a. Write your answer in the space given below
   b. Compare your answer with those given at the end of the unit.

5. What are the strategies for MTP at community Level?

6. What are the hours of work recommended under Factories Act?

7. List out the benefits to employees under ESI Act

9.9 ALLOCATION FOR HEALTH CARE IN IX FIVE-YEAR PLAN

During the Ninth Plan efforts will be further intensified to improve the health status of the population by optimising coverage and quality of care by identifying and rectifying the critical gaps in infrastructure, manpower, equipment, essential diagnostic reagents and drugs. Efforts will be directed to improve functional efficiency of the health care system through:
NOTES

- Creation of a functional, reliable health management information system and training and deployment of health manpower with requisite professional competence
- Multi professional education to promote team work
- Skill upgradation of all categories of health personnel, as a part of structured continuing education
- Improving operational efficiency through health services research.
- Increasing awareness of the community through health education.
- Increasing accountability and responsiveness to health needs of the people by increasing utilisation of the Panchayati Raj institutions in local planning and monitoring
- Making use of available local and community resources so that operational efficiency and quality of services improve and the services are made more responsive to user's needs.

APPROACH DURING THE NINTH PLAN

An absolute and total commitment to improve access to, and enhance the quality of, primary health care in urban and rural areas by providing an optimally functioning primary health care system as a part of the Basic Minimum Services;

- To improve the efficiency of existing health care infrastructure at primary, secondary and tertiary care settings through appropriate institutional strengthening, improvement of referral linkages and operationalisation of Health Management Information System (HMIS);
- To promote the development of human resources for health, adequate in quantity and appropriate in quality so that access to essential health care services is available to all so that there is improvement in the health status of community, periodically organise programmes for continuing education in health sciences, update knowledge and upgrade skills of all workers and promote cohesive team work;
- To improve the effectiveness of existing programs for control of communicable diseases to achieve horizontal integration of ongoing vertical programmes at the district and below district level; to strengthen the disease surveillance with the focus on rapid recognition, reporting and response at district level; to promote production and distribution of appropriate vaccines of assured quality at affordable cost; to improve water quality and environmental sanitation; to improve hospital infection control and waste management
- To develop and implement integrated non-communicable disease prevention and control program within the existing health care infrastructure;
- To undertake screening for common nutritional deficiencies especially in vulnerable groups and initiate appropriate remedial measures; to evolve and effectively implement programmes for improving nutritional status, including micronutrient status of the population;
- To strengthen programmes for prevention, detection and management of health consequences of the continuing deterioration
of the ecosystems; to improve linkage between data from ongoing environmental monitoring and that on health status of the population residing in the area including health impact assessment as a part of environmental impact assessment in developmental projects;

- To improve the safety of the work environment and worker's health in organised and unorganised industrial and agricultural sectors especially among vulnerable groups of the population;
- To develop capabilities at all levels for emergency and disaster prevention and management; to implement appropriate management systems for emergency, disaster, accident and trauma care at all levels of health care;
- To ensure effective implementation of the provisions for food and drug safety; strengthen the food and drug administration both at the Centre and in the States;
- To increase the involvement of ISM and H practitioners in meeting the health care needs of the population;
- To enhance research capability with a view to strengthening basic, clinical and health systems research aimed at improving the quality and outreach of services at various levels of health care;
- To increase the involvement of voluntary, private organisations and self-help groups in the provision of health care and ensure inter-sectoral coordination in implementation of health programmes and health-related activities;
- To enable the Panchayati Raj Institutions (PRI) in planning and monitoring of health programmes at the local level so that there is greater responsiveness to health needs of the people and greater accountability; to promote inter-sectoral coordination and utilise local and community resources for health care.

9.10 HEALTH POLICIES

NATIONAL HEALTH POLICY 2002

The Ministry of Health and Family Welfare, Govt, of India, evolved a National Health Policy in 1983 keeping in view the national commitment to attain the goal of Health for All by the year 2000. Since then there has been significant changes in the determinant factors relating to the health sector, necessitating revision of the policy, and a new National Health Policy-2002 was evolved. NHP – 2002 focuses on the need for enhanced funding and an organizational restructuring of the national public health initiatives in order to facilitate more equitable access to the health facilities.

The Policy is focused on those diseases which are principally contributing to the disease burden – TB, Malaria and Blindness from the category of historical diseases; and HIV/AIDS from the category of ‘newly emerging diseases’.

The governments and private sector programme planners will have to design separate schemes, tailor-made to the health needs of women, children, geriatrics, tribals and other socio-economically under-served sections.
An adequately robust disaster management plan has to be in place. Consistent with the primacy given to ‘equity’, a marked emphasis has been provided for expanding and improving the primary health facilities, including the new concept of the provisioning of essential drugs through Central funding.

The Policy also commits the Central Government to an increased underwriting of the resources for meeting the minimum health needs of the people. Thus, the Policy attempts to provide guidance for prioritizing expenditure, thereby facilitating rational resource allocation.

This Policy broadly envisages a greater contribution from the Central Budget for the delivery of Public Health services at the State level. However, it highlights the expected roles of the State administration, NGOs and other institutions of civil society. The attainment of improved health levels would be significantly dependent on population stabilisation, as also on complementary efforts from other areas of the social sectors – like improved drinking water supply, basic sanitation, minimum nutrition, etc. - to ensure that the exposure of the populace to health risks is minimized.

In the ultimate analysis, the quality of health services, and the consequential improved health status of the citizenry, would depend not only on increased financial and material inputs, but also on a more empathetic and committed attitude in the service providers, whether in the private or public sectors. Any policy in the social sector is critically dependent on the service providers treating their responsibility not as a commercial activity, but as a service, albeit a paid one. In the area of public health, an improved standard of governance is a prerequisite for the success of any health policy.

The National Health Policy of 1983 and the National Health Policy of 2002 have served well in guiding the approach for the health sector in the Five-Year Plans. The current context has however changed in four major ways. First, the health priorities are changing. Although maternal and child mortality have rapidly declined, there is growing burden on account of non-communicable diseases and some infectious diseases. The second important change is the emergence of a robust health care industry estimated to be growing at double digit. The third change is the growing incidences of catastrophic expenditure due to health care costs, which are presently estimated to be one of the major contributors to poverty. Fourth, a rising economic growth enables enhanced fiscal capacity. Therefore, a new health policy responsive to these contextual changes is required.

The National Health Policy, 2017 (NHP, 2017) seeks to reach everyone in a comprehensive integrated way to move towards wellness. It aims at achieving universal health coverage and delivering quality health care services to all at affordable cost.

9.11 LET US SUM UP

In both developed and developing countries currently the aim is not only to reach the whole population with sufficient & adequate health care services,
but also to secure an acceptable level of health for all through the application of primary health care programmes

Public health legislation concerns the legal power and duties of the state to improve the health of the general population (e.g. to identify, prevent and ameliorate risks to health in the population) and the limitations on the power of the state to constrain the autonomy, privacy, liberty, proprietary or other legally protected interests of individuals for the protection or promotion of community health. The scope of public health law is not limited; it is as broad as public health itself and both have expanded a lot to meet the needs of the society.

The primary aim of the National Health Programmes and Policies is to inform, clarify, strengthen and prioritize the role of the Government in shaping health systems in all its dimensions- investments in health, organization of healthcare services, prevention of diseases and promotion of good health through cross sectoral actions, access to technologies, developing human resources, encouraging medical pluralism, building knowledge base, developing better financial protection strategies, strengthening regulation and health assurance.

9.12 UNIT – END EXERCISE

1. Visit a PHC and observe their functions.
2. Visit ESI hospital or Clinic
3. List out the health care services provided at National & State level
4. Organise an awareness programme on Mental Health Act in a community.

9.13 ANSWERS TO CHECK YOUR PROGRESS

1. The official "organs" of the health system at the national level consist of:
   (1) The Ministry of Health and Family Welfare;
   (2) The Directorate General of Health Services; and

2. Union Health Ministry has the following departments:
   (1) Department of Health and
   (2) Department of Family Welfare.

3. In all the States, the management sector of the state health administration comprises of
   (1) State Ministry of Health and
   (2) Directorate of Health.

4. The functions of the primary health center in India cover all the 8 "essential" elements of primary health care as outlined in the Alma-Ata Declaration. They are:
   1. Medical care
   2. MCH including family planning
   3. Safe water supply and basic sanitation
   4. Prevention and control of locally endemic diseases
5. Collection and reporting of vital statistics
6. Education about health
7. National Health Programmes - as relevant
8. Referral services
9. Training of health guides, health workers, local dais and health assistants
10. Basic laboratory services

5. The strategy for MTP at the community level is:
   (a) spread awareness regarding safe MTP in the community and the availability of services thereof;
   (b) Enhance access to confidential counselling for safe MPT; train ANMs, AWWs, and link workers/ASHAs to provide such counselling; and
   (c) Promote post-abortion care through ANMs, AWWs, link workers/ASHAs while maintaining confidentiality.

6. The Act has prescribed a maximum of 48 working hours per week, not exceeding 9 hours per day with rest for at least 1/2 hour after 5 hours of continuous work. For adolescents, the hours of work have been reduced from 5 to 41/2 per day. The 1976 amendment makes a provision to increase the spread-over period of work (including rest intervals) of an employee in a factory upto 12 hours from the existing 101/2 hours. The total number of hours of work in a week including overtime shall not exceed 60.

7. The Act has made provision for the following benefits to employees of insured persons or, to other dependants as the case may be:
   (1) Medical benefit
   (2) Sickness benefit
   (3) Maternity benefit
   (4) Disablement benefit
   (5) Dependant's benefit
   (6) Funeral expenses
   (7) Rehabilitation allowance.

9.14 SUGGESTED READING

1. Batliwala, Srilatha, 1978: The Historical Development of Health Services in India,FRCH, Bombay
2. Expert Committee on Public Health Systems, 1993, MoHFW, GOI, New Delhi
UNIT X – USE OF AUDIO-VISUAL AIDS AND FIRST AID

Structure
10.1 Introduction
10.2 Objectives
10.3 Audio – Visual aids
10.4 Mass media
10.5 Health Education
  10.5.1 Role of health care providers
  10.5.2 Contents of Health Education
  10.5.3 Principles of Health Education
10.6 First aid
10.7 Methods of dealing with accident victims
  10.7.1 First aid dos and don’ts
10.8 Health education in Hospital
10.9 Health education in Rural areas
10.10 Health education in Slum areas
10.11 Health education in Tribal areas
10.12 Let us sum up
10.13 Unit End – Exercises
10.14 Answers to check your process
10.15 Suggested Readings

10.1. INTRODUCTION

Health education is indispensable in achieving individual and community health. It can help to increase knowledge and to reinforce desired behaviour patterns. First Aid through health education programs can help in promoting the health of the population. Health education is the foundation of a preventive health care system. Health Education provides communities with the knowledge and skills they need to maintain health and wellness throughout their lifetime. The intent of a comprehensive health education program is to motivate students to improve their health, prevent disease, and avoid or reduce health related risk behaviors. Health literate people have the ability to maintain and enhance personal health and fitness, create safe environments, and manage personal and community resources. Health education provides real life learning experiences with personal applications of scientifically research-based health knowledge and skills in relevant situations. Health Education creates opportunities and experiences that engage and challenge people to assess, explore, and question their health, while personalizing, adapting and evaluating their learning.

10.2 OBJECTIVES

After going through the unit you will be able to understand;
  • The concept and meaning of health education
• Concept of first aid and how it has to be given at the time of dealing with accident victims
• Functions of Health Education
• Practice of Health education
• Health Education Approaches
• Aims and objectives of Health Education
• Role of health care providers
• Contents of Health education
• Principles of Health education
• First Aid tips for road accident victims
• Health education in various settings such as rural, slum and tribal

10.3 AUDIO – VISUAL AIDS- PRACTICE OF HEALTH EDUCATION

Educational material should be designed to focus attention to provide new knowledge, to facilitate interpersonal and group discussion and to reinforce or clarify prior knowledge and behaviour.

Audio-visual aids
No health education can be effective without audiovisual aids. They help to simplify unfamiliar concepts; bring about understanding where words fail; reinforce learning by appealing to more than one sense, and provide a dynamic way of avoiding monotony. Modern science has made available an endless array of audiovisual aids which can be classified into three groups:

(1) AUDITORY AIDS
Radio, tape-recorder, microphones, amplifiers, earphones.

(2) VISUAL AIDS
  a) Not requiring projection: Chalk-board, leaflets, posters, charts, flannelgraph, exhibits, models, specimens, etc.
  b) Requiring projection: Slides, film strips.

(2) COMBINED A-V AIDS
Television, sound films (Cinema), slide-tape combination. A knowledge of the advantages, disadvantages and limitations of each audio-visual aid is necessary in order to make proper use of them. Audio-visual aids are means to an end, not an end in themselves

10.4 MASS MEDIA AND HEALTH EDUCATION APPROACHES

1. Individual approach
   a) Personal contact
   b) Home visits
   c) Personal Letters

2. Group approach
   1. Lectures
2. Demonstrations
3. Discussion methods - Group discussion - Panel discussion - Symposium Workshop - Conferences Seminars - Role play

3 Mass approach
4. Television
5. Radio
6. Newspaper
7. Printed material
8. Direct mailing
9. Posters
10. Health museums and exhibitions
11. Folk methods
12. Internet

Check your progress - 1
Note: a. Write your answer in the space given below
b. Compare your answer with those given at the end of the unit

i. Which approach will be of more effective while providing health education to illiterate population?
ii. Health education through Internet will be effective for which populations?

11.5 HEALTH EDUCATION - AIMS AND OBJECTIVES

DEFINITIONS OF HEALTH EDUCATION
Concepts of health education as a process or an activity for inducing behavioural changes are emphasized in the following definitions

1. Health education is the translation of what is known about health, into desirable individual and community behaviour patterns by means of an educational process

2. The definition adopted by John M Last is "The process by which individuals and groups of people learn to behave in a manner conducive to the promotion, maintenance or restoration of health"

3. Any combination of learning opportunities and teaching activities designed to facilitate voluntary adaptations of behaviour that are conducive to health.

4. The definition adopted by the National Conference on Preventive Medicine in USA is "Health education is a process that informs, motivates and helps people to adopt and maintain healthy practices and lifestyles, advocates environmental changes as needed to facilitate this goal and conducts professional training and research to the same end”.

5. Health education is the part of health care that is concerned with promoting healthy behaviour
The Declaration of Alma-Ata (1978) by emphasizing the need for "individual and community participation" gave a new meaning and direction to the practice of health education. The dynamic definition of health education is now as follows: "a process aimed at encouraging people to want to be healthy, to know how to stay healthy, to do what they can individually and collectively to maintain health, and to seek help when needed".

The Alma-Ata Declaration has revolutionized the concepts and aims of health education: The modern concept of health education emphasizes on health behaviour and related actions of people.

Check your progress- 2
Note: a. Write your answer in the space given below
    b. Compare your answer with those given at the end of the unit

1. Name two important emphasizes of Health education

The definition adopted by WHO in 1969 and the Alma-Ata Declaration adopted in 1978 provide a useful basis for formulating the aims and objectives of health education, which may be stated as below:
   1. To encourage people to adopt and sustain health promoting lifestyle and practices;
   2. To promote the proper use of health services available to them;
   3. To arouse interest, provide new knowledge, improve skills and change attitudes in making rational decisions to solve their own problems; and
   4. To stimulate individual and community self-reliance and participation to achieve health development through individual and community involvement at every step from identifying problems to solving them.

The educational objectives are aimed at the group to be taught in the educational programme. The objectives flow from the health needs which have been discovered. They should be carefully unambiguously defined in terms of knowledge to be acquired, behaviour to be acquired or actions to be mastered. They must be pertinent if the programme is to be appropriate and successful. The focus of health education is on people and on action. Its goal is to make realistic improvements in the basic quality of life. Many health education programmes hope, in some way, to influence behaviour or attitudes. The implication of these new concepts is that health education is an integral part of the national health goals. The fact remains that effective health education has the potential for saving many more lives than has any one research discovery in the foreseeable future.
FUNCTIONS OF HEALTH EDUCATION

Health education has to cater to the following needs:
1. Information
2. Education
3. Motivation
4. Persuasion
5. Counselling
6. Raising morals
7. Health development
8. Organization

10.5.1 ROLE OF HEALTH CARE PROVIDERS

It is clear that education is necessary, but education alone is not sufficient to achieve optimum health. The role of health care providers in this regard comprise to:
   a) Provide opportunities for people to learn how to identify and analyze health and health related problems, and how to set their own targets and priorities;
   b) Make health and health related information easily accessible to the community;
   c) Indicate to the people alternative solutions for solving the health and health-related problems. They have identified; and d. People must have access to proven preventive measures.

10.5.2 CONTENTS OF HEALTH EDUCATION

The scope of health education extends beyond the conventional health sector. It covers every aspect of family and community health. While no definite training curricula can be proposed, the content of health education may be divided into the following divisions for the sake of simplicity. Since health education has a limited impact when directed from general education, most of the needed information must be integrated into the educational system (by way of books, class-room material, etc.) and must have the young population as the principal target.

1. Human biology
Understanding health, demands an understanding of the human biology, i.e., the structure and functions of the body; how to keep physically fit ~ the need for exercise, rest and sleep; the effects of alcohol, smoking and drugs on the body; cultivation of healthy lifestyles, etc. Reproductive biology is another area of current interest. UNICEF's "State of the World's Children report 1989" has drawn up a basic list of health information which it believes, every family has a right to know. The list comprises of child spacing, breast-feeding, safe motherhood, immunization, weaning and child growth, diarrhoeal disease, respiratory infections, house hygiene - which could enable families to bring about significant improvements in their own and their children's health. The best place to teach human biology is the school. It is only the school, through its sequential health curriculum, which can provide continuous in-depth learning experiences.
for millions of students. The provision of information and advice on human biology and hygiene is vital for each new generation.

2. Nutrition
The aim of nutrition education is to guide people to choose optimum and balanced diets, remove prejudices and promote good dietary habits - not to teach the familiar jargon of calories and the biochemistry of nutrients. Nutritional problems such as ignorance about the value of breast feeding beyond the first year of life, misconceptions about proper weaning, ignorance of the appropriateness of certain diets for infants and pregnant women, traditional food allocation pattern within the families, etc. can be best solved by nutrition education. In recent years, the link between dietary habits and certain chronic diseases of middle age such as obesity, diabetes and cardio-vascular diseases has been established. Nutrition education is a major intervention for the prevention of malnutrition, promotion of health and improving the quality of life.

3. Hygiene
This has two aspects - personal and environmental. The aim of personal hygiene is to promote standards of personal cleanliness within the setting of the condition where people live. Personal hygiene includes bathing, clothing, washing hands after toilet; care of nails, feet and teeth; spitting, coughing, sneezing, personal appearance and inculcation of clean habits in the young. Training in personal hygiene should begin at a very early age and must be carried through school age. Environmental hygiene has two aspects domestic and community. Domestic hygiene comprises that of the home, use of soap, need for fresh air, light and ventilation; hygienic storage of foods; hygienic disposal of wastes, need to avoid pests, rats, mice and insects. Improvement of environmental health is a major concern of many governments and related agencies throughout the world. In the developing countries, the emphasis is on the improvement of basic sanitary services consisting of water supply, disposal of human excreta, other solid and liquid wastes, vector control, food sanitation and housing which are fundamental to health. In many areas, poor sanitary practices among the people have their roots in centuries - old customs, styles of living and habits. These are not easily altered. An environmental sanitation programme should include health education. It is not enough to provide sanitary wells, latrines and waste collecting facilities. People will continue to suffer from the diseases caused by poor sanitation if they do not use the facilities. If a health education approach is taken the people will participate from the beginning in identifying their sanitation problems and will choose the solutions and facilities they want. They will then be more likely to use these facilities and improve their health.

4. Family health
The family is the first defence, as well as the chief reliance for the well-being of its members. Health largely depends on the family's social and physical environment and its lifestyle and behaviour. The role of the family in health promotion and in prevention of disease, early diagnosis and care of the sick is of crucial importance. One of the main tasks of health education is to promote the family's self-reliance, especially regarding the
family's responsibilities in childbearing, child rearing, self-care and in influencing their children adopt a healthy lifestyle.

5. **Disease prevention and control**
Drugs alone will not solve health problems without health education, a person may fall sick again and again from the same disease. The experiences of western countries have shown the role of education in the eradication of cholera, typhoid, malaria and tuberculosis etc. Education of the people about the prevention and control of locally endemic diseases is the first of eight essential activities in primary health care. Several public health programmes are in operation on a national scale to eradicate diseases such as malaria, tuberculosis, leprosy, filaria, goitre, etc. The recent experience of malaria eradication has indicated that antimalarial spray with insecticides cannot solve the problem without health education.

6. **Mental health**
Mental health problems occur everywhere. They become more prominent when major killer diseases are brought under control. There is a tendency to an increase in the prevalence of mental diseases when there is a change in the society from an agricultural to an industrial economy, and when people move from the warm intimacy of a village community to the isolation found in big cities. The aim of education in mental health is to help people to keep mentally healthy and to prevent a mental breakdown. People should enjoy their relationships with others and learn to live and work without mental breakdown. There are certain special situations when mental health is of great importance - mother after child birth; child at entry into school for the first time, school child entering the secondary school, decision about a future career, starting a new family and at the time of death, bereavement and widowhood. These are critical periods of life when external pressure tends to breakdown mental health. Health workers should help people achieve mental health by showing sympathy, understanding and by social contact.

7. **Prevention of accidents**
Accidents are a feature of the complexity of modern life. In the developed countries, they are taking an increasing toll of life and limb. Accidents occur in three main areas: the home, road and the place of work. Safety education should be directed to these areas. It should be the concern of the engineering department and also the responsibility of the police department to enforce rules of road safety. Accidents occur in workshops, factories, railways and mines. Management must provide a safe environment and promote general order and cleanliness. There should be a place for everything, and everything should be in its place in the factory, in the home, and in the office. The predominant factor in accidents is carelessness and the problem can be tackled through health education.

8. **Use of health services**
Many people particularly in rural areas do not know what health services are available in their community, and many more do not know what signs to look for that indicate a visit to the doctor is necessary. Studies indicate that the public attitude towards health services is still apprehensive. There is a communication gap between the public and the state health administration in the form of "feedback" for further improvement of health services. One of the declared aims of health
education is to inform the people about the health services that are available in the community and how they can utilize them (e.g., screening programmes, immunization, family planning services etc.) and use the health care resources.

10.5.3 PRINCIPLES OF HEALTH EDUCATION

Refer UNIT XI – 11.3.2

10.6 FIRST AID

Accidents can happen to anyone but knowing about the first-aid can help you save a life. First aid is the first and immediate assistance given to any person suffering from either a minor or serious illness or injury, with care provided to preserve life, prevent the condition from worsening, or to promote recovery. It includes initial intervention in a serious condition prior to professional medical help being available, such as performing cardiopulmonary resuscitation (CPR) while waiting for an ambulance, as well as the complete treatment of minor conditions, such as applying a plaster to a cut. A First aid is generally performed by someone with basic medical training.

10.7 METHODS OF DEALING WITH ACCIDENT VICTIMS

- Make sure that you have alerted oncoming traffic that an accident has taken place. This is so that you ensure your own safety first before helping the victim. This prevents further casualties.
- Your next step would be to turn off the vehicle ignition as there might be spilled fuel or other fire hazards. If this is not the case then make sure to turn on the hazard lights.
- Shift the victim to a safer area by the road, away from oncoming traffic, glass pieces, and leaking fluids from the vehicle or any other harmful material close by.
- Contact or have a bystander call the nearest hospital or police station. If the victim is unconscious or is experiencing difficulty in breathing, then your immediate action should be to send the victim to the nearest hospital.

10.7.1 FIRST AID DOS AND DON’TS

1. **Check yourself first:** If you have been injured in the accident, first check yourself for any injuries. Try to assess how well you can move your limbs, and if you experience symptoms such as dizziness etc. Remember you need to be fit enough to help the others.

2. **Check the other person(s) for injuries:** If other people are injured, first assess the extent of his/ her injuries. For e.g. is he bleeding from the head, neck, arms, legs, abdomen back etc. Treat the quietest person first, they are usually more seriously injured or cannot breathe. People who can talk or scream, on the other hand, can breathe therefore can be treated a little later. Ask for the patient’s name, if he responds, it
means he is able to understand the situation and has most likely not suffered a severe head injury.

3. **Look for signs of breathing:** Next, check if the person is breathing and if he has a pulse.

4. **Call for help:** Immediately call for an ambulance or rush the person to a hospital. Once you know more about the patient’s condition you will be in a better position to tell the doctors about his/her condition.

5. **Check for obstructions in the person’s mouth and throat:** If you do not hear any breath sounds, check his/her mouth for any obstructions. If there is something obstructing the airway, use your index and middle finger to clear the airway.

6. **Perform life saving techniques:** If there is no pulse, start CPR or EAR. Keep the person’s neck straight to start EAR (External Air Resuscitation) or CPR (Cardio Pulmonary Resuscitation). There are 3 types of EAR; Mouth-to-mouth, Mouth-to-Nose, Mouth-to-Mask.

7. **Ways to help him/her in grave situations:** If there is bleeding from the mouth or the patient is vomiting, turn the person to his/her side. This will avoid any chances of the person choking. Place the person’s arm that is under him straight out and the arm closest to you across his chest.

8. **Deal with open wounds:** If there are extensive wounds, try to control the bleeding using pressure to the area using a cloth.

9. **Always suspect spinal injuries:** If the person’s neck is in an awkward position (not normally placed) or the person is unconscious, do not move the patient. Get help immediately. This could mean that the person’s neck is broken, and moving him/her in such a situation can cause more harm than good.

10. **Keep the person warm:** Usually accident victims feel excessively cold due to shock. Therefore keeping them warm is essential to survival. You can use whatever you have to do this, such as a T-shirt, jacket, etc.

11. **Avoid feeding the person:** Do not give the person any water, food or other fluids through the mouth, it could lead to the patient choking.

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**Check your progress- 3**

Note: a. Write your answer in the space given below
   b. Compare your answer with those given at the end of the unit

1. Why it is EAR (External Air Resuscitation)
   
   …………………………………………………………………………………
   …………………………………………………………………………………
TIPS TO REMEMBER WHILE SHIFTING A PERSON TO THE HOSPITAL

- The patient should be transported on a stretcher or a stiff board. This is important as reducing the amount of movement the person experiences is essential to avoid his/her injuries from becoming worse.
- Keep the person’s neck and back straight. You could place a rolled up towel or thick cloth under the neck for better support.
- Ensure that the person is lying down flat.
- If there is only a limb injury, the patient can be transported in a sitting position.
- In case of a bleeding injury, lift the injured part above the person’s body level and apply pressure on the region. Keep applying pressure till you reach the hospital. This helps control and eventually stop the bleeding.
- Make sure the person has a pulse and is breathing on the way to the hospital. If he/she stops breathing, be prepared to start CPR or EAR in the vehicle.

LAWS REGARDING ROAD TRAFFIC ACCIDENTS

According to a Supreme Court Judgment, an accident victim is entitled to immediate emergency medical care. A doctor is duty bound to provide primary care to the patient and informing the police is the hospital’s responsibility. In the case of an accident the police will be called by the hospital, while they file an MLC (medicolegal cases). If the hospital is not equipped to handle the patient’s injuries, it is the hospital’s responsibility to stabilize the patient and provide an ambulance to be transferred to another better equipped hospital. The hospital also has no right to delay first aid or life saving measures on the basis of procedural delays for reasons such as absence of a relative to sign forms etc. According to the law, this is again a punishable offence.

DUTY OF THE DRIVER INVOLVED IN THE ACCIDENT

It is mandated by the Supreme court order under the Motor vehicles act 1988 (sec 134), that the primary duty of the driver of the vehicle involved in the accident is to take the injured to the hospital. The only exception to this rule is that if the driver of the vehicle himself is grievously injured. He must answer all questions asked by the police and submit to tests that are required. He must provide the police and
the victim with his insurance details, to help with the payment of any damages. If the person does not comply with any of these laws, he/she liable to be punishable with a jail sentence of 3 months and a fine of 1000 rupees.

Finally, these tips are essential for any kind of injury, such as in the case of a heart attack, burn injury or drowning. While the basics remain, the same there may be some subtle changes in the procedure.

**HEALTH EDUCATION IN VARIOUS SETTINGS**

The concepts, definitions, principles, content, approach, media and tools used in health education will be almost the same for all population. However the cultural competency, socio religious beliefs, educational back ground, gender and geographical characteristics of the receiver of the information have to be taken into consideration while providing health education.

**10.8 HEALTH EDUCATION IN THE HOSPITALS**

Any one visits any type hospital (PHC, Government, Private, IP, OP, Community) need information about the hospital systems, structures, administration, protocols, procedures, people involved, services provided, facilities available, cost involved etc. Therefore, these aspects have to be taken into consideration and proper information has to be provided to the patients and their significant others. Therefore;

- It is the responsibility of the health care system to provide information and education about the hospital and procedures to the patients
- Hospital routines have to informed to them
- Their needs, confidentiality and privacy should be respected. Their cultural and religious beliefs have to respected. Their individuality and gender need have to be respected.
- Irrespective of caste, creed, colour, social strata or area of domicile proper treatment information as well as treatment has to be given to the patients
- They are consumers of health services and hence their rights as patients must be respected
- Different persons involved in the team has to be known to them
- Informed consent has to be received from them about treatment or surgery.
- Proper discharge plans have to be known to them
- Insurance or workplace regulations have to be assessed and helped.

**10.9 HEALTH EDUCATION IN THE RURAL AREAS**

While providing health education to the rural communities, it is important to understand the characteristics of the rural community. The essential characteristics of the rural community are as follows:
In rural areas, since more illiterate population are there, more audio-video equipments can be used. Rural people heavily rely on home based and traditional ecological knowledge. The elders and local dais are highly respected and revered in health-related matters. For example, community cohesiveness is very high in rural communities in case of birth, or death or taking care of the sick. Social capital enjoyed by the rural people in the matters related to their health and ill health is a positive sign and it has to be significantly considered in health education. Open air defecation, close proximity with the cattle and water borne diseases are major health concerns in rural communities. Nowadays irrespective of any type of communities, alcoholism and drug abuse are very common.

10.10 HEALTH EDUCATION IN SLUM AREAS

The main characteristics of slum population are listed below:
   a) High rate of poverty;
   b) High incidence of unemployment;
   c) Huge extent of urban decay;
   d) Breeding grounds for social problems like crime, drug addiction, alcoholism etc.;
   e) High rates of mental illness and suicide etc.;
   f) Low level of economic status of its residents;
   g) Inadequate infrastructural facilities;
   h) Acute problem of malnutrition
   i) Lack of drinking water;
   j) Lack of basic healthcare;
   k) Unsanitary and unary environment;
   l) Low standard of living or poor quality of life.

In slum areas, since it is geographically more cluttered, small group discussions and meetings can be of more use. Domestic violence, alcohol and drug abuse, road traffic accidents are very high in slum communities. They also suffer from occupational health hazards as they mainly involve in menial jobs such as manual scavenging. Shortage in space of the house, and thick population affects the physical and mental health of the slum dwellers. One good thing is that they have more and quick access to urban health facilities.
10.11 HEALTH EDUCATION IN TRIBAL AREAS

Tribes are relatively isolated from larger cultural influences, have a relative cultural homogeneity and a simple technology. They believe in spirits, magic and witchcraft. They have their own taboos which prohibit certain actions that are punishable by the community, by the supernatural, or by magical consequences. Large number of the tribes believe in animism, according to which all objects—both animate and inanimate—are permanently or temporarily inhabited by spirits or souls. Often, an activity is believed to be caused by these spirits. Some spirits are worshipped and treated with fear and respect. Some scholars have maintained that animism was the earliest form of religion of the tribes. Many tribes believe in ancestor worship too.

The main characteristics of tribal population are listed below:

1. **Common name:**
   Each caste has a distinct name of its own through which it is distinguished from others.

2. **Common territory:**
   Tribes generally occupy common geographical areas.

3. **Common language:**
   Members of one tribe speak the same language. Each tribe has its own dialect, if not the script.

4. **Common culture:**
   Each tribe has prescribed patterns of behaviour and festivals and deities to worship.

5. **Endogamy:**
   Each tribe has the practice of marrying members within their own tribe.

6. **Political organisation:**
   All tribes have their own political organisation. They have councils of elders which control members.

Some other features of the tribal are: most of them live in isolated terrains; the main sources of their livelihood are agriculture and gathering of forest produce; they do not cultivate for profit; they still largely rely on barter system; they spend a greater part of their earnings on social and religious ceremonies; and a large number of them are illiterate and are victimized by unscrupulous forest contractors and moneylenders.

In Tribal areas superstitious beliefs, natural worship, ancestral worships, animal sacrifices are very common. Tribal people mostly rely on using herbs, shrubs and traditional medicinal knowledge. These unique characteristics of tribal culture have to be considered seriously in providing health education to tribal people. On contrary to slum communities tribal lack quick and appropriate health facilities.

10.12. LET US SUM UP

Health education is any combination of learning experiences designed to help individuals and communities improve their health, by increasing their knowledge or influencing their attitudes. While providing health education to different communities like slum, rural, tribal as well as to the people in all kinds of hospitals, their unique characteristics have to be taken into
consideration. Use of audio-visual aids, social media and other health education techniques, principles and approaches will be of immense use to social workers. Health education is an integral part of community health. Nowadays accidents are increasing alarmingly. Therefore, it is important to know the first aid techniques to deal with accident victims.

10.13 UNIT END EXERCISES

1. How would you use your cell phones in providing health education?
2. What are functions of 1098 ambulance service?
3. What are the common mental health problems of slum dwellers?
4. Write short notes any two tribal medicinal techniques.

1.14 ANSWER TO CHECK YOUR PROGRESS

1. Posters, Folklore
   Students and Educated people
2. The modern concept of health education emphasizes on health behaviour and related actions of people.
3. It is also known as expired air resuscitation (EAR), expired air ventilation (EAV), rescue breathing, or colloquially the kiss of life. Expired Air Resuscitation (EAR) is the method by which a rescuer breathes for a person who is in respiratory arrest. The rescuer closes the victim's mouth, covers the nose with their mouth, breathes gently, then releases the victim's jaw to allow exhalation. Cardiopulmonary resuscitation (CPR) making it an essential skill for first aid. If the person is not breathing, the first aider will need to perform CPR. Its purpose is to maintain the flow of oxygenated blood to the brain and heart, preventing or at least delaying tissue death. CPR can extend the brief window of time during which successful resuscitation can take place without permanent brain damage.

10.15 SUGGESTED READINGS


UNIT XI - HEALTH EDUCATION

Structure

11.1 Introduction
11.2 Objectives
11.3 Health Education:
   11.3.1 Meaning and importance,
   11.3.2 Principle of health education,
   11.3.3 Strategies for various community groups
      11.3.3.1 Woman-to-woman strategy
      11.3.3.2 Child-to-child strategy
      11.3.3.3 Community contact
   11.3.4 Techniques for various community groups
      11.3.4.1 Individual approach
      11.3.4.2 Group approach
      11.3.4.3 Mass approach - education of the general public
11.4 Family Planning
   11.4.1 Importance and Techniques
   11.4.2 Contraceptive Methods
11.5 Let us sum up
11.6 Unit – End Exercises
11.7 Answers to check your progress
11.8 Suggested readings

11.1 INTRODUCTION

This unit is going to educate you about health education. Health education is a type of education designed for individuals or the public at large to gain the knowledge, skills, value, and attitudes necessary to promote, maintain, improve, and restore their, or another person's, health. We will be learning about the need and importance of health education. Looking into the various strategies to connect and influence various community groups towards health promotion using health education techniques. We will also learn about family planning and contraceptive methods as family planning is vital in public health.

11.2 OBJECTIVES

In this unit you will be able to,

- Understand the concept of health education and its importance
- Learn the principle of health education,
- Know the techniques and strategies for various community groups,
- Understand the idea of family planning and its influence on public health
- Get to know various family planning techniques
11.3 HEALTH EDUCATION

Health education is indispensable in achieving individual and community health. It can help to increase knowledge and to reinforce desired behaviour patterns.

11.3.1 MEANING AND IMPORTANCE

Health education is any combination of learning experiences designed to help individuals and communities improve their health, by increasing their knowledge or influencing their attitudes.

Health education is one strategy for implementing health promotion and disease prevention programs. Health education provides learning experiences on health topics. Health education strategies are tailored for their target population. Health education presents information to target populations on particular health topics, including the health benefits/threats they face, and provides tools to build capacity and support behavior change in an appropriate setting.

DEFINITION

"The process by which individuals and groups of people learn to behave in a manner conducive to the promotion, maintenance or restoration of health" - John M Last

"Health education is a process that informs, motivates and helps people to adopt and maintain healthy practices and lifestyles, advocates environmental changes as needed to facilitate this goal and conducts professional training and research to the same end” - National Conference on Preventive Medicine

OBJECTIVES


- To make an individual learn the habits and practices that promote health and follow them throughout his life faithfully
- To enable every one to make use of all available community facilities and resources to preserve and improve health
- An individual / community refrains from doing anything that may be injurious to the health of any other individual or community
- Adoption of healthy life-style

11.3.2 PRINCIPLES OF HEALTH EDUCATION

Health education brings together the art and science of medicine, and the principles and practice of general education. The link is to be found in the
Health education cannot be "given" to one person by another. It involves, among other things, the teaching, learning and inculcation of habits concerned with the objective of healthful living. Psychologists have given a great deal of attention to the learning process. Every individual learns and through learning develops the modes of behaviour by which he lives. Learning and teaching is a two-way process of transactions in human relations, between the teacher and taught. The teacher cannot teach unless the pupil wants to learn. Learning takes place not only in the class room, but also outside in the wider world. There is internal learning by which a man grows into an adult individual. It is possible to abstract certain principles of learning and use them in health education. These include:

1. **Credibility:** It is the degree to which the message to be communicated is perceived as trustworthy by the receiver. Good health education is based on facts - that means it must be consistent and compatible with scientific knowledge and also with the local culture, educational system and social goals. Unless the people have trust and confidence in the communicator, no desired action will ensue after receiving the message.

2. **Interest:** It is a psychological principle that people are unlikely to listen to those things which are not to their interest. It is salutary to remind ourselves that health teaching should relate to the interests of the people. The public is not interested in health slogans such as "Take care of your health" or "be healthy". A health education programme of this kind would be as useless as asking people to "be healthy", as a nutrition programme asking people to "eat good food". Health educators must find out the real health needs of the people. Psychologists call them "felt needs", that is needs the people feel about themselves. If a health programme is based on "felt needs" people will gladly participate in the programme; and only then it will be a people’s programme. Very often, there are groups who may have health needs of which they are not aware. This is especially true in India where about 25 per cent of the people are illiterate. The health educator will have to bring about a recognition of the needs before he proceeds to tackle them.

3. **Participation:** Participation is a key word in health education. It is based on the psychological principle of active learning. Health education should aim at encouraging people to work actively with health workers and others in identifying their own health problems and also in developing solutions and plans to work them out. Participation of family members in patient care will create...
opportunity for more effective, practically based health education. A high degree of participation tends to create a sense of involvement, personal acceptance and decision-making. It provides maximum feedback. The Alma-Ata Declaration states: "The people have a right and duty to participate individually and collectively in the planning and implementation of their health care". If community participation is not an integral part, health programmes are unlikely to succeed.

4. **Motivation:** In every person, there is a fundamental desire to learn. Awakening this desire is called motivation. There are two types of motives: primary and secondary. Primary motives (e.g. sex, hunger, survival) are driving forces initiating people into action; these motives are inborn desires. Secondary motives are based on desires created by outside forces or incentives. Some of the secondary motives are praise, love, rivalry, rewards and punishment, and recognition. In health education, motivation is an important factor; that is, the need for incentives is a first step in learning to change. The incentives may be positive (the carrot) or negative (the stick). To tell a lady, faced with the problem of overweight, to reduce her weight because she might develop cardiovascular disease or it might reduce her life span, may have little effect; but to tell her that by reducing her weight she might look more charming and beautiful, she might accept health advice. When a father promises his child a reward for getting up early everyday, he is motivating the child to inculcate a good habit. In health education, we make use of motivation to change behaviour. Motivation is contagious; one motivated person may spread motivation throughout a group. For example, men who have already had vasectomies are among the best advertisements for male sterilization.

5. **Comprehension:** In health education we must know the level of understanding, education and literacy of people to whom the teaching is directed. One barrier to communication is using words which cannot be understood. A doctor asked the diabetic to cut down starchy foods; the patient had no idea of starchy foods. A doctor prescribed medicine in the familiar jargon "one teaspoonful three times a day"; the patient, a village woman, had never seen a teaspoon, and could not follow the doctor's directions. In health education, we should always communicate in the language people understand, and never use words which are strange and new to the people. Teaching should be within the mental capacity of the audience.

6. **Reinforcement:** Few people can learn all that is new in a single period. Repetition at intervals is necessary. If there is no
reinforcement, there is every possibility of the individual going back to the pre-awareness stage. If the message is repeated in different ways, people are more likely to remember it.

7. **Learning by doing**: Learning is an action-process; not a "memorizing" one in the narrow sense. The Chinese proverb: "If I hear, I forget; if I see, I remember; if I do, I know" illustrates the importance of learning by doing.

8. **Known to unknown**: In health education work, we must proceed "from the concrete to the abstract"; "from the particular to the general"; "from the simple to the more complicated"; "from the easy to more difficult"; and "from the known to the unknown". These are the rules in teaching. We start where the people are and with what they understand and then proceed to new knowledge. We use the existing knowledge of the people as pegs on which to hang new knowledge. In this way systematic knowledge is built up. New knowledge will bring about a new, enlarged understanding which can give rise to an insight into the problem. The way in which medicine has developed from religion to modern medicine serves us as an illustration, the growth of knowledge from the unknown to the known. It is a long process full of obstacles and resistance, and we must not expect quick results.

9. **Setting an example**: The health educator should set a good example in the things he is teaching. If he is explaining the hazards of smoking, he will not be very successful if he himself smokes. If he is talking about the "small family norm", he will not get very far if his own family size is big.

10. **Good human relations**: Sharing of information, ideas and feelings happen most easily between people who have a good relationship. Building good relationship with people goes hand in hand with developing communication skills.

11. **Feedback**: Feedback is one of the key concepts of the systems approach. The health educator can modify the elements of the system (e.g., message, channels) in the light of feedback from his audience. For effective communication, feedback is of paramount importance.

12. **Leaders**: Psychologists have shown and established that we learn best from people whom we respect and regard. In the work of health education, we try to penetrate the community through the local leaders - the village headman, the school teacher or the political worker. Leaders are agents of change and they can be
made use of in health education work. If the leaders are convinced first about a given programme, the rest of the task of implementing the programme will be easy. The attributes of a leader are: he understands the needs and demands of the community; provides proper guidance, takes the initiative, is receptive to the views and suggestions of the people; identifies himself with the community; selfless, honest, impartial, considerate and sincere; easily accessible to the people; able to control and compromise the various factions in the community; possesses the requisite skill and knowledge of eliciting cooperation and achieving coordination of the various official and non-official organizations.

Check your Progress – 1

Note:  a. Write your answer in the space given below

        b. Compare your answer with those given at the end of the unit.

1. What is Health Education?

2. What are objectives of Health education?

.................................................................
.................................................................

11.3.3. STRATEGIES FOR VARIOUS COMMUNITY GROUPS

CHARACTERISTICS OF HEALTH EDUCATION STRATEGIES

- Participation of the target population.
- Completion of a community needs assessment to identify community capacity, resources, priorities, and needs.
- Planned learning activities that increase participants' knowledge and skills.
- Implementation of programs with integrated, well-planned curricula and materials that take place in a setting convenient for participants.
- Presentation of information with audiovisual and computer based supports such as slides and projectors, videos, books, CDs, posters, pictures, websites, or software programs.

Ensuring proficiency of program staff, through training, to maintain fidelity to the program model.
11.3.3.1 WOMAN-TO-WOMAN STRATEGY

As is evident from the name, sharing of knowledge, skill and confidence amongst women (in 1:1 ratio) is the woman-to-woman strategy. The strategy is formulated based on the following assumptions:

- Woman has a natural tendency to share some information with her neighbours, Friends and relatives,
- Some women have the leadership skills,
- Self-reliance begins at home,
- Woman is the main care taker of the family, and
- Women accept the message or practice given by their fellow women easily.

PROCESS OF WOMAN-TO-WOMAN STRATEGY

The process of this strategy will help you to understand how these principles are considered and to plan activities in your community.

The first step in this strategy is.

1. a) Identification of local key women
   i) Whom do you meet and talk quite often during leisure time?
   ii) When you are having any problem, whom do you consult?
   iii) Before adapting any new practice advocated, do you consult any of your relative, friend or neighbour?

b) Identification of needy women:
   Approaching the needy women at the hospital site when they come with the sick children for treatment or at the Nutrition rehabilitation centre or at home through the key-woman when they are suffering with the problem.

2) Transfer of message or practice from nutrition educator to key-women
   The nutrition educator transfers the message on any topic to the key women. You could be the nutrition educator. The message is then transmitted through a lecture but is woven into a friendly informal conversation (dialogue approach) between the educator and the local key women

3) Continuous transfer of message practice
   Among women, key/needy women gets the message, skill and confidence in handling the problem, she will act as a model to the rest of the women in the community.

11.3.3.2 CHILD-TO-CHILD STRATEGY

As the child gets older, the child becomes more resistant to change. Pre and elementary school children are more open-minded and are likely to be receptive to changes in ideas and agreeable to modifications, they accept
new knowledge and ideas, these new ideas fit into the growing concept of children

Group pressures also play a part. The desire to imitate others or even excel them in their nutritional experiences, contributes greatly to the change in habits and attitudes of pupils. A person's behaviour is influenced by other people in, as much as, he derives satisfaction or disappointment by comparing his lot with theirs. The people he uses for comparison are for him a reference group.

ORIGIN OF THE STRATEGY

The Child-&child strategy has been formulated in the recent past. The principle on which this strategy is based is that the older children are the care takers and reference models to the younger children. Child-to-child is a strategy designed to educate and encourage older children to concern themselves with their own food behaviour and the health of their younger brothers’ and sisters. The children learn simple preventive and curative measures related to nutrition/health problems appropriate for their communities. They pass on what they learn, to their siblings and parents in their own families and to their friends as well as neighbours and through them to their families.

The rationale behind this strategy are as follows:

- Children are subjected to peer group pressures.
- They are not yet set in their habits. Individual Strategies
- They are more open-minded and tend to accept new ideas as part of growing up.
- They have great curiosity and wide interests and eagerness to learn
- They form a useful bridge in approaching families. They form a captive audience.
- They will be future parents.

Principles behind the Child-to-child Strategy

The Child-to-child strategy is based on the following principles:

- Excitement of learning through immediate application of knowledge and skills learnt in the families.
- Learning continues like a chain from one child to another. Everybody teaches and everybody learns from each other, rather than trying to end up on top of others.
- Helping one self and helping each other.
- Emphasises learning through experience rather than simply king told things. The children conduct simple identification of problems, perform activities to discover solutions by themselves and finally acting on the same.
- Gaining respect and trust by taking responsible roles in the family like maintaining family's health, etc.
11.3.3.3 COMMUNITY CONTACT

Community contact, as a strategy follows the given five steps in its implementation:

a) Establishing community rapport
b) Learning 'in', 'from' and 'with' the community
c) Assessing the community readiness for change
d) Enhancing community participation
e) Introducing a new concept and practice

Let us learn about each of these steps in detail.

Establishing Rapport in the Community
The primary and essential step in any educational programme is getting to know the community and the problem at hand. It is important that the community worker familiarise herself/himself with the knowledge, attitudes and practices prevalent in the community. Once she/he is acquainted with this background information, the chances of them being accepted as a part of the community are definitely enhanced. In the context of nutrition and health education.

Learning 'from' and 'with' the Community
A community diagnosis is a self-analysis by a community of the problems that concern people most. To conduct self-analysis by the community he change agent can adopt the following mode of operation:

1) Go to people's home and get to know them
2) Gather Information
3) Ask only for information that makes sense
4) Involve local people
5) Try to avoid taking along written questionnaire
6) Look for ways of making the survey a learning, exploring experience for those being questioned.
7) Learn to look and listen
8) Go slowly when giving advice to people, especially when it concern their attitudes and habits
9) Consolidate all the information gathered in term of needs and problems, influencing factors and resources

Assessment of Community's (readiness for change) Participation
The needs of the community, as identified by the change agent may or may not be felt by each member of the community alike. Before launching an educational programme, the change agent must necessarily assess the degree of resistance the community will or is likely to exhibit at the fact of new ideas. The attitude of the target group should serve as a basis for the selection of an appropriate education approach.

Enhancing Community Participation
Community participation is a process of involving people in identifying the needs, improving their own understanding and in analysing their work situations and problems.
Introducing a New Concept/Practice
The introduction of a new idea and practice must be based on the community's need as well as its resistance/readiness to accept new ideas. Where the community presents a positive attitude towards solving a problem at hand, the educator's task is much simpler. In cases where the community is not likely to react favourably to the educational messages, the educator has to work much harder.

11.3.4 Techniques for Various Community Groups

Any one or a combination of these methods can be used selectively at different times, depending upon the objectives to be achieved, the behaviour to be influenced and available funds.

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11.3.4.1 Individual Approach

There are plenty of opportunities for individual health education. It may be given in personal interviews in the consultation room of the doctor or in the health centre or in the homes of the people. The individual comes to the doctor or health centre because of illness. Opportunity is taken in educating him on matters of interest - diet, causation and nature of illness and its prevention, personal hygiene, environmental hygiene, etc. Topics for health counselling may be selected according to the relevance of the situation. By such individual health teaching, we will be equipping the individual and the family to deal more effectively with the health problems. The responsibility of the attending physician in this regard, is very great because he has the confidence of the patient. The patient will listen more readily to the physician's health counselling. A hint from the doctor may have a more lasting effect than volumes of printed word. The nursing staff have also ample opportunities for undertaking health education. Florence Nightingale said that the nurse can do more good in the home than in the hospital. Public health nurses, health visitors and health inspectors are visiting hundreds of homes, they have plenty of opportunities for individual health teaching. In working with individuals, the health educator must first create an atmosphere of friendship and allow the individual to talk as much as possible. The biggest advantage of individual health
teaching is that we can discuss, argue and persuade the individual to change his behaviour. It provides opportunities to ask questions in terms of specific interests. The limitation of individual health teaching is that the numbers we reach are small, and health education is given only to those who come in contact with us.

### 11.3.4.2 GROUP APPROACH

Our society contains groups of many kinds school children, mothers, industrial workers, patients, etc. Group teaching is an effective way of educating the community. The choice of subject in group health teaching is very important; it must relate directly to the interest of the group. For example, we should not broach the subject of tuberculosis control to a mother who has come for delivery; we should talk to her about child-birth and baby care.

Similarly, school children may be taught about oral hygiene; tuberculosis patients about tuberculosis; and industrial workers about accidents. We have to select also the suitable method of health education including audio-visual aids for successful group health education. A brief account of the methods of group teaching is given below:

1. **Chalk and talk (Lecture)**

A lecture may be defined as carefully prepared oral presentation of facts, organized thoughts and ideas by a qualified person. The "chalk" lends the visual component. The chalk and talk communication have still a very important place in small group education. Its effectiveness depends to a large extent on the speaker's ability to write legibly and to draw with chalk on a black board. The talk should be based on a topic of current interest or health needs of the group. The group should not be more than 30 and the talk should not exceed 15 to 20 minutes. If the talk is too long people may become bored and restless.

The lecture method can be made more effective by combining with suitable audio-visual aids such as:

- **Flipcharts:** They consist of a series of charts (or posters), about 25 by 30 ems or more, each with an illustration pertaining to the talk to be given. They are meant to be shown one after another. Each chart is "flashed" or displayed before a group as the talk is being given. The message on the charts must be brief and to the point. These charts are primarily designed to hold attention of the group and help the lecture to proceed.

- **Flannelgraph:** A piece of rough flannel or khadi fixed over a wooden board provides an excellent background for displaying cut-out pictures, graphs, drawings and other illustrations. The cutout
pictures and other illustrations are provided with a rough surface at
the back by pasting pieces of sand paper, felt or rough cloth and
they adhere at once when put on the flannel. Flannelgraph offers the
advantage that pre-arranged sequence of pictures displayed one
after another helps maintain continuity and adds much to the
presentation. The other advantages are that the flannelgraph is a
very cheap medium, easy to transport and promotes thought and
criticism

(c) Exhibits: Objects, models, specimens, etc. convey a specific
message to the viewer. They are essentially mass media of
communication, which can also be used in group teaching.

(d) Films and charts: These are mass media of communication. If
used with discrimination, they can be of value in educating small
groups. Lectures can be faulted on a number of grounds. Their
disadvantages include the following: students are involved to a
minimum extent; learning is passive; do not stimulate thinking or
problem-solving capacity; the comprehension of a lecture varies
with the student; and the health behaviour of the listeners is not
necessarily affected.

(2) Demonstrations
A demonstration is a carefully prepared presentation to show how to
perform a skill or procedure. Here a procedure (e.g. lumbar puncture,
disinfection of a well) is carried out step by step before an audience or the
target group, the demonstrator ascertaining that the audience understands
how to perform it. The demonstrator involves the audience in discussion.
Demonstration

(a) dramatizes by arousing interest
(b) persuades the onlookers to adopt recommended practices
(c) upholds the principles of "seeing is believing" and "learning by
doing", and
(d) can bring desirable changes in the behaviour pertaining to the
use of new practice.

Demonstration as a means of communication has been found to have a high
educational value in programmes like environmental sanitation (e.g.,
installation of a hand-pump, construction of a sanitary latrine); mother and
child health (e.g. demonstration of oral rehydration technique) and control
of diseases (e.g., scabies). The clinical teaching in hospitals is based on
demonstrations. This method has a high motivational value.
(3) Group discussion

A "group" is an "aggregation of people interacting in a face-to-face situation". This contrasts sharply to the group of students in a class room situation. Group discussion is considered a very effective method of health communication. It permits the individuals to learn by freely exchanging their knowledge, ideas and opinions. Group discussion provides a wider interaction among members than is possible with other methods. Where long term compliance is involved (e.g., cessation of smoking, obesity reduction) group discussion is considered valuable.

For effective group discussion, the group should comprise not less than 6 and not more than 12 members. The participants are all seated in a circle, so that each is fully visible to all the others. There should be a group leader who initiates the subject, helps the discussion in the proper manner, prevents side-conversations, encourages everyone to participate and sums up the discussion in the end. If the discussion goes well, the group may arrive at decisions which no individual member would have been able to make alone. It is also desirable to have a person to record whatever is discussed. The "recorder" prepares a report on the issues discussed and agreements reached. In a group discussion, the members should observe the following rules:

(a) express ideas clearly and concisely
(b) listen to what others say.
(c) do not interrupt when others are speaking
(d) make only relevant remarks
(e) accept criticism gracefully and
(f) help to reach conclusions.

Group discussion is successful if the members know each other beforehand, when they can discuss freely.

A well concluded group discussion with adequate resources is very effective in reaching decisions, based on the ideas of ALL people. The decision taken by the group tends to be adopted more readily than in situations where the decision is a solitary one. Thus, the group acceptance has a binding effect on the individual member to translate their acceptance into action. A well-conducted group discussion is effective for changing attitudes and the health behaviour of people.

Limitations: Group discussion is not without limitations. Those who are shy may not take part in the discussions. Some may dominate the discussion. Thus, there may be unequal participation of members in a group discussion, unless properly guided. Some members may deviate from the subject and make the discussion irrelevant or unprofitable.
(4) Panel discussion

In a panel discussion, 4 to 8 persons who are qualified to talk about the topic sit and discuss a given problem, or the topic, in front of a large group or audience. The panel comprises, a chairman or moderator and from 4 to 8 speakers. The chairman opens the meeting, welcomes the group and introduces the panel speakers. He introduces the topic briefly and invites the panel speakers to present their points of view. There is no specific agenda, no order of speaking and no set speeches. The success of the panel depends upon the chairman; he has to keep the discussion going and develop the train of thought. After the main aspects of the subject are explored by the panel speakers, the audience is invited to take part. The discussion should be spontaneous and natural. If members of the panel are unacquainted with this method, they may have a preliminary meeting, prepare the material on the subject and decide upon the method and plan of presentation. Panel discussion can be an extremely effective method of education, provided it is properly planned and guided.

(5) Symposium

A symposium is a series of speeches on a selected subject. Each person or expert presents an aspect of the subject briefly. There is no discussion among the symposium members like in panel discussion. In the end, the audience may raise questions. The chairman makes a comprehensive summary at the end of the entire session.

(6) Workshop

The workshop is the name given to a novel experiment in education. It consists of a series of meetings, usually four or more, with emphasis on individual work, within the group, with the help of consultants and resource personnel. The total workshop may be divided into small groups and each group will choose a chairman and a recorder. The individuals work, solve a part of the problem through their personal effort with the help of consultants, contribute to group work and group discussion and leave the workshop with a plan of action on the problem. Learning takes place in a friendly, happy and democratic atmosphere, under expert guidance. The workshop provides each participant opportunities to improve his effectiveness as a professional worker.

(7) Role playing

Role playing or socio-drama is based on the assumption that many values in a situation cannot be expressed in words, and the communication can be more effective if the situation is dramatised by the group. The group members who take part in the socio-drama enact their roles as they have observed or experienced them. The audience is not passive but actively concerned with the drama. They are supposed to pay sympathetic attention
to what is going on, suggest alternative solutions at the request of the
leader and if requested, come up and take an active part by demonstrating
how they feel a particular role should be handled, or the like. The size of
the group is thought to be best at about 25. Role playing is a useful
technique to use in providing discussion of problems of human
relationship. It is a particularly useful educational device for school
children. Role playing is followed by a discussion of the problem.

(8) Conferences and seminars

This category contains a large component of commercialized continuing
education. The programmes are usually held on a regional, state or national
level. They range from once half-day to one week in length and may cover
a single topic in depth or be broadly comprehensive. They usually use a
variety of formats to aid the learning process from self instruction to multi-
media.

11.3.3.3 MASS APPROACH - EDUCATION OF THE GENERAL
PUBLIC

No health worker or health team can mount an effective health education
programme for the whole community, except through mass media of
communication. The evolution of the media has been rapid. Until the early
1920s, mass communication depended largely on what was printed -
posters, pamphlets, books, periodicals and newspapers. Then came the
radio and with it a new dimension of experience. TV went a gigantic step
further and has become a very powerful weapon. The press caters primarily
to the eye, the radio appeals to the ear, and TV to both eye and ear. A final
word about radio and TV - they come close to the warmth and motivational
effect of a person-to-person communication. They have become part of the
fabric of modern civilization.

Mass media are a "one-way" communication. They are useful in
transmitting messages to people even in the remotest places. The number
of people who are reached usually count in millions. Their effectiveness
can give high returns for the time and money involved.

Mass media alone are generally inadequate in changing human behaviour.
For effective health communication, they should be used in combination
with other methods. The power of mass media in creating a political will in
favour of health, raising the health consciousness of the people, setting
norms, delivering technical messages, popularising health knowledge and
fostering community involvement. are well recognized. Public health
methodologies should be culturally appropriate; they should be carefully
thought-out before use. A brief account of the mass media is given below:
1. Television

Television has become the most popular of all media. It is effective in not only creating awareness, but also to an extent influencing public opinion and introducing new ways of life. It is raising levels of understanding and helping people familiarise with things they have not seen before, including crime and violence which are shown as part of feature programmes. TV is a one-way channel. It can only be an aid to teaching. It cannot cover all areas of learning. It has much potential for health communication.

2. Radio

Radio is found nearly in every home. In many developing countries the radio has a broader audience than TV. Both radio and TV can reach illiterate population not accessible through printed word. It is a purely didactic medium. It can be valuable aid in "putting across" useful health information, in the form of straight talks, plays, questions and answers and quiz programmes. Radio is much cheaper than TV. Doctors and health workers may speak out on radio. Local health issues may be identified and discussed leading to increased general awareness.

3. Internet

This new means of computer-based communication system has opened vast capability of transfer of knowledge, and has made it possible to get into direct and instant communication across the world by means of e-mail and even a on-line chat. This is a fast-growing communication media and holds very large potential to become a major health education tool. Already a fairly large number of persons in India are using this media, and the numbers are growing every day. Vast amount of health-related literature from WHO and other health agencies is available online. The Health-related information from the ministry of health and family welfare Govt. of India, is also available on their website.

4. Newspapers

Newspapers are the most widely disseminated of all forms of literature. News must be newsworthy before it is printed. Whereas many people turn to radio or TV for entertainment, newspaper readers are often seeking newspapers. Newspapers should, therefore provide more factual, detailed and even statistical material. Unfortunately, health problems have little of value to newspapers. Newspapers have limitation of having low readership in rural areas because of illiteracy. They reach only a limited group, i.e. the literates in the community.
5. **Printed material**

Magazines, pamphlets, booklets and hand-outs have long been in use for health communication. They are aimed at those who can read. Their usefulness lies in the fact that they can convey detailed information. They can be produced in bulk for very little cost, and can be shared by others in the family and community.

6. **Direct mailing**

This is a new innovation in health communication in India. The intention is to reach the remote areas of the country with printed word (e.g., folders and newsletters and booklets on family planning, immunization and nutrition etc.). These are sent directly to village leaders, literate persons, panchayats and local bodies and others who are considered as opinion leaders. Direct mailing has been a successful mass media in creating public awareness. It is possibly the most personal of mass communication.

7. **Posters, billboards and signs**

These are intended to catch the eye and create awareness. Therefore, the message to be communicated must be simple, and artistic. Posters are not expensive when one considers they are seen by a large number of people. Motives such as humour and fear are introduced into posters in order to hold the attention of the public. In places where the exposure time is short (e.g., streets), the message of the poster should be short, simple, direct and one that can be taken at a glance and easy to understand immediately. In places where people have some time to spend (e.g., bus stops, railway stations, hospitals, health centres) the poster can present more information. The right amount of matter should be put up in the right place and at the right time. That is, when there is an epidemic of viral hepatitis, there should be posters displayed on viral jaundice, but not on cholera. The life of a poster is usually short; posters should be changed frequently, otherwise they will lose their effect. As a media of health education, posters have much less effect in changing behaviour than its enthusiastic users would hope. Indiscriminate use of posters by pasting them on walls serves no other useful purpose than covering the wall.

8. **Health museums and exhibitions**

If properly organized, health museums and exhibitions can attract large numbers of people. By presenting a variety of ideas, they do increase knowledge and awareness. Photographic panels attract more persons than graphic panels. This is because photos give a humanized touch to the communication. The three dimensional models with lighted visuals are even more effective than photos.

In exhibitions, there is a big element of personal communication through workers who explain each item on the exhibit. Printed literature explaining
the exhibits is often freely distributed. Health exhibitions and museums thus offer a package of both personal and impersonal methods of communication.

9. Folk media

The term "mass communication" ought to refer to the totality of communication which takes within its compass not only the electronic media, but also folk (or indigenous) media such as keerthan, katha, folk songs, dances and dramas and puppet shows which have roots in our culture. The muslims have their own traditional folk forum like the ghazals, the kawali. The mass media are only "instruments". As such they are neither good nor bad; what matters is the message they carry and the way the message is delivered. There is no single way to do public education. Health education is still art rather than a science. Each community and country should develop techniques that meet its own needs.

Check your Progress – 2

Note:  a. Write your answer in the space given below
       b. Compare your answer with those given at the end of the unit.

3. What are the rules the members of the group should observe in a group discussion?

................................................................................................................................................

4. What is mass media?

11.4 FAMILY PLANNING

Family planning allows people to attain their desired number of children and determine the spacing of pregnancies. It is achieved through use of contraceptive methods and the treatment of infertility

BENEFITS OF FAMILY PLANNING / CONTRACEPTION

- Preventing pregnancy-related health risks in women
- Reducing infant mortality
- Helping to prevent HIV/AIDS
- Empowering people and enhancing education
- Reducing adolescent pregnancies
- Slowing population growth

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11.4.1 IMPORTANCE AND TECHNIQUES

Contraceptive methods are, by definition, preventive methods to help women avoid unwanted pregnancies. They include all temporary and permanent measures to prevent pregnancy resulting from coitus.

The last few years have witnessed a contraceptive revolution, that is, man trying to interfere with the ovulation cycle.

It is now generally recognized that there can never be an ideal contraceptive - that is, contraceptive that is safe, effective, acceptable, inexpensive, reversible, simple to administer, independent of coitus, long-lasting enough to obviate frequent administration and requiring little or no medical supervision. Further, a method which may be quite suitable for one group may be unsuitable for another because of different cultural patterns, religious beliefs and socio-economic milieu. As there is no single method likely to meet the social, cultural, aesthetic and service needs of all individuals and communities, the search for an "ideal contraceptive" has been given up. The present approach in family planning programmes is to provide a "cafeteria choice" that is to offer all methods from which an individual can choose according to his needs and wishes and to promote family planning as a way of life.

The term conventional contraceptives is used to denote those methods that require action at the time of sexual intercourse, e.g., condoms, spermicides, etc. Each contraceptive method has its unique advantages and disadvantages. The success of any contraceptive method depends not only on its effectiveness in preventing pregnancy but on the rate of continuation of its proper use.

The contraceptive methods may be broadly grouped into two classes spacing methods and terminal methods, as shown below:

I. Spacing methods

1. Barrier methods
   (a) Physical methods (b) Chemical methods (c) Combined methods
2. Intra-uterine devices
3. Hormonal methods
4. Post-conceptional methods
5. Miscellaneous.

II. Terminal methods

1 Male sterilization 2 Female sterilization.
## MODERN METHODS

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
<th>How it works</th>
<th>Effectiveness to prevent pregnancy</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Combined oral contraceptives (COCs) or “the pill”</td>
<td>Contains two hormones (estrogen and progestogen)</td>
<td>Prevents the release of eggs from the ovaries (ovulation)</td>
<td>&gt;99% with correct and consistent use</td>
<td>Reduces risk of endometrial and ovarian cancer</td>
</tr>
<tr>
<td>Progestogen-only pills (POPs) or “the minipill”</td>
<td>Contains only progestogen hormone, not estrogen</td>
<td>Thickens cervical mucous to block sperm and egg from meeting and prevents ovulation</td>
<td>99% with correct and consistent use</td>
<td>Can be used while breastfeeding; must be taken at the same time each day</td>
</tr>
<tr>
<td>Implants</td>
<td>Small, flexible rods or capsules placed under the skin of the upper arm; contains progestogen hormone only</td>
<td>Thickens cervical mucous to block sperm and egg from meeting and prevents ovulation</td>
<td>&gt;99%</td>
<td>Health-care provider must insert and remove; can be used for 3–5 years depending on implant; irregular vaginal bleeding common but not harmful</td>
</tr>
<tr>
<td>Progestogen-only injectables</td>
<td>Injected into the muscle or under the skin every 2 or 3 months, depending on product</td>
<td>Thickens cervical mucous to block sperm and egg from meeting and prevents ovulation</td>
<td>&gt;99% with correct and consistent use</td>
<td>Delayed return to fertility (about 1–4 months on the average) after use; irregular vaginal bleeding common, but not harmful</td>
</tr>
<tr>
<td>Monthly injectables or combined injectable contraceptives (CIC)</td>
<td>Injected monthly into the muscle, contains estrogen and progestogen</td>
<td>Prevents the release of eggs from the ovaries (ovulation)</td>
<td>&gt;99% with correct and consistent use</td>
<td>Irregular vaginal bleeding common, but not harmful</td>
</tr>
<tr>
<td>Method</td>
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<td>Effectiveness to prevent pregnancy</td>
<td>Comments</td>
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<tr>
<td>Combined contraceptive patch and Combined contraceptive vaginal ring (CVR)</td>
<td>Continuously releases 2 hormones – a progestin and an estrogen - directly through the skin (patch) or from the ring.</td>
<td>Prevents the release of eggs from the ovaries (ovulation)</td>
<td>The patch and the CVR are new and research on effectiveness is limited. Effectiveness studies report that it may be more effective than the COCs, both as commonly and consistent or correct use.</td>
<td>The Patch and the CVR provide a comparable safety and pharmacokinetic profile to COCs with similar hormone formulations.</td>
</tr>
<tr>
<td>Intrauterine device (IUD): copper containing</td>
<td>Small flexible plastic device containing copper sleeves or wire that is inserted into the uterus</td>
<td>Copper component damages sperm and prevents it from meeting the egg</td>
<td>&gt;99%</td>
<td>Longer and heavier periods during first months of use are common but not harmful; can also be used as emergency contraception</td>
</tr>
<tr>
<td>Intrauterine device (IUD) levonorgestrel</td>
<td>A T-shaped plastic device inserted into the uterus that steadily releases small amounts of levonorgestrel each day</td>
<td>Thickens cervical mucous to block sperm and egg from meeting</td>
<td>&gt;99%</td>
<td>Decreases amount of blood lost with menstruation over time; Reduces menstrual cramps and symptoms of endometriosis; amenorrhea (no menstrual bleeding) in a group of users</td>
</tr>
<tr>
<td>Male condoms</td>
<td>Sheaths or coverings that fit over a man's erect penis</td>
<td>Forms a barrier to prevent sperm and egg from meeting</td>
<td>98% with correct and consistent use</td>
<td>Also protects against sexually transmitted infections, including HIV</td>
</tr>
<tr>
<td>Female condoms</td>
<td>Sheaths, or linings, that fit loosely</td>
<td>Forms a barrier to prevent</td>
<td>90% with correct and consistent use</td>
<td>Also protects against sexually transmitted infections, including HIV</td>
</tr>
<tr>
<td>Method</td>
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<tr>
<td>Male sterilization (vasectomy)</td>
<td>Permanent contraception to block or cut the vas deferens tubes that carry sperm from the testicles</td>
<td>Keeps sperm out of ejaculated semen</td>
<td>&gt;99% after 3 months semen evaluation</td>
<td>3 months delay in taking effect while stored sperm is still present; does not affect male sexual performance; voluntary and informed choice is essential</td>
</tr>
<tr>
<td>Female sterilization (tubal ligation)</td>
<td>Permanent contraception to block or cut the fallopian tubes</td>
<td>Eggs are blocked from meeting sperm</td>
<td>&gt;99%</td>
<td>Voluntary and informed choice is essential</td>
</tr>
<tr>
<td>Lactational amenorrhea method (LAM)</td>
<td>Temporary contraception for new mothers whose monthly bleeding has not returned; requires exclusive or full breastfeeding day and night of an infant less than 6 months old</td>
<td>Prevents the release of eggs from the ovaries (ovulation)</td>
<td>99% with correct and consistent use</td>
<td>A temporary family planning method based on the natural effect of breastfeeding on fertility</td>
</tr>
<tr>
<td>Emergency contraception pills</td>
<td>Pills taken to prevent pregnancy up</td>
<td>Delays ovulation</td>
<td>If all 100 women used progestin-only</td>
<td>Does not disrupt an already existing</td>
</tr>
<tr>
<td>Method</td>
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<tr>
<td>(ulipristal acetate 30 mg or levonorgestrel 1.5 mg)</td>
<td>to 5 days after unprotected sex</td>
<td>emergency contraception, one would likely become pregnant.</td>
<td>Can be used to identify fertile days by both women who want to become pregnant and women who want to avoid pregnancy. Correct, consistent use requires partner cooperation.</td>
<td></td>
</tr>
<tr>
<td>Standard Days Method or SDM</td>
<td>Women track their fertile periods (usually days 8 to 19 of each 26 to 32 day cycle) using cycle beads or other aids</td>
<td>Prevents pregnancy by avoiding unprotected vaginal sex during most fertile days.</td>
<td>88% with common use (Arevalo, et al 2002)</td>
<td></td>
</tr>
<tr>
<td>Basal Body Temperature (BBT) Method</td>
<td>Woman takes her body temperature at the same time each morning before getting out of bed observing for an increase of 0.2 to 0.5 degrees C.</td>
<td>Prevents pregnancy by avoiding unprotected vaginal sex during fertile days. If the BBT has risen and has stayed higher for 3 full days, ovulation has occurred and the fertile period has passed. Sex can resume on the 4th day until her next monthly bleeding.</td>
<td>75% with typical use of FABM (Trussell, 2009)</td>
<td></td>
</tr>
<tr>
<td>TwoDay Method</td>
<td>Women track their fertile periods by observing presence of cervical mucus (if any type color or consistency)</td>
<td>Prevents pregnancy by avoiding unprotected vaginal sex during most fertile days.</td>
<td>Difficult to use if a woman has a vaginal infection or another condition that changes cervical mucus. Unprotected coitus may be resumed after 2 consecutive dry days (or without secretions)</td>
<td>86% with typical or common use. (Arevalo, 2004)</td>
</tr>
</tbody>
</table>
### Method

<table>
<thead>
<tr>
<th>Method</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Sympto-thermal Method</td>
<td>Women track their fertile periods by observing changes in the cervical mucus (clear texture), body temperature (slight increase) and consistency of the cervix (softening).</td>
<td>Prevents pregnancy by avoiding unprotected vaginal sex during most fertile period</td>
<td>98% with correct and consistent use. Reported 98% with typical use (Manhart et al, 2013)</td>
<td>May have to be used with caution after an abortion, around menarche or menopause, and in conditions which may increase body temperature.</td>
</tr>
</tbody>
</table>

### TRADITIONAL METHODS

<table>
<thead>
<tr>
<th>Method</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Calendar method or rhythm method</td>
<td>Women monitor their pattern of menstrual cycle over 6 months, subtracts 18 from shortest cycle length (estimated 1st fertile day) and subtracts 11 from longest cycle length (estimated last fertile day)</td>
<td>The couple prevents pregnancy by avoiding unprotected vaginal sex during the 1st and last estimated fertile days, by abstaining or using a condom.</td>
<td>91% with correct and consistent use.</td>
<td>May need to delay or use with caution when using drugs (such as anxiolytics, antidepressants, NSAIDS, or certain antibiotics) which may affect timing of ovulation.</td>
</tr>
</tbody>
</table>
### NOTES

<table>
<thead>
<tr>
<th>Method</th>
<th>Description</th>
<th>How it works</th>
<th>Effectiveness</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Withdrawal (coitus interruptus)</td>
<td>Man withdraws his penis from his partner's vagina, and ejaculates outside the vagina, keeping semen away from her external genitalia</td>
<td>Tries to keep sperm out of the woman's body, preventing fertilization</td>
<td>96% with correct and consistent use</td>
<td>One of the least effective methods, because proper timing of withdrawal is often difficult to determine, leading to the risk of ejaculating while inside the vagina.</td>
</tr>
</tbody>
</table>

**Check your Progress – 3**

**Note**:  
a. Write your answer in the space given below  
b. Compare your answer with those given at the end of the unit.

5. What is family planning?
   …………………….
   …………………….

6. What is male & female sterilization?
   …………………….
   …………………….

**11.5 LET US SUM UP**

Health education is very essential in health promotion. The numerous techniques and strategies learnt will be vital in implementation of services in communities and with various community groups. The family planning programme has undergone transformation in terms of policy and actual programme implementation. There occurred a gradual shift from clinical approach to the reproductive child health approach and this holistic and target free approach helped in reduction of fertility.

Family planning provides a choice & freedom to Women for deciding their Family size Number of children and determine the spacing of pregnancies. A woman’s freedom to choose “When to become pregnant” has a direct impact on her health and well-being as well as the neonate.

**11.6 UNIT – END EXERCISES**

1. Write about the need of Health Education
2. Read about the National Programme for Family Planning
3. Explain the various contraceptives methods.
4. Describe the strategies and techniques for various people groups.
1. "Health education is a process that informs, motivates and helps people to adopt and maintain healthy practices and lifestyles, advocates environmental changes as needed to facilitate this goal and conducts professional training and research to the same end”

2. Objectives of health education are,
   - To make an individual learn the habits and practices that promote health and follow them throughout his life faithfully
   - To enable every one to make use of all available community facilities and resources to preserve and improve health
   - An individual / community refrains from doing anything that may be injurious to the health of any other individual or community
   - Adoption of healthy life-style.

3. In a group discussion, the members should observe the following rules

   (a) express ideas clearly and concisely
   (b) listen to what others say.
   (c) do not interrupt when others are speaking
   (d) make only relevant remarks
   (e) accept criticism gracefully and
   (f) help to reach conclusions.

4. Mass media are a "one-way" communication. They are useful in transmitting messages to people even in the remotest places. The number of people who are reached usually count in millions. Their effectiveness can give high returns for the time and money involved.

5. Family planning allows people to attain their desired number of children and determine the spacing of pregnancies. It is achieved through use of contraceptive methods and the treatment of infertility

6. Male sterilization (vasectomy): Permanent contraception to block or cut the vas deferens tubes that carry sperm from the testicles

   Female sterilization (tubal ligation): Permanent contraception to block or cut the fallopian tubes
11.8 SUGGESTED READINGS


UNIT XII - HEALTH WORK IN THE COMMUNITY

Structure
12.1 Introduction
12.2 Objectives
12.3 Major health problems related to Women
12.4 Major health problems related to Children
12.5 Understanding socio cultural factors in community health
12.6 Beliefs, myths influencing community health in India
12.7 Defining a community
  12.7.1 Common identity factors of community
12.8 Assessing Community Health Needs (ACHN)
  12.8.1 Steps involved in ACHN
12.9 Mobilizing Core groups
12.10 Community participation
  12.10.1 Promoting Community self-help
12.11 Let us sum up
12.12 Unit End – Exercises
12.13 Answers to check your process
12.14 Suggested Readings

12.1. INTRODUCTION

Community health focuses on the physical and mental well-being of the people in a specific geographic region. This important subsection of public health includes initiatives to help community members maintain and improve their health, prevent the spread of infectious diseases and prepare for natural disasters. Working at the community level promotes healthy living, helps prevent chronic diseases and brings the greatest health benefits to the greatest number of people in need. Strong community health requires residents to look beyond themselves and take “collective responsibility,” Community health worker are members of a community who are chosen by community members or organizations to provide basic health and medical care to their community capable of providing preventive, promotional and rehabilitation care to these communities. Understanding the health needs of women and children and the traditional beliefs existing in the communities, community participation and role of community leaders are core elements of community health work.

12.2 OBJECTIVES

After going through the unit, you will be able to;

- Understand the concept of Community Health, Community Participation and Community Health Needs Assessment.
- Understand the common health issues of women and children in the community.
NOTES

- Appreciate the role of traditional beliefs and myths influencing Community Health.
- Recognize the significance of community mobilization and core groups in the community

12.3 MAJOR HEALTH PROBLEMS RELATED TO WOMEN

1. Premenstrual syndrome (PMS)
Bloating, abdominal cramps, breast swelling or tenderness, constipation, joint or muscle pain, acne along with emotional symptoms like mood swings are only some of the symptoms occur one to two weeks before the periods. Some women could even suffer from a very severe form of PMS called the Premenstrual Dysphoric disorder (PMDD).

2. Endometriosis
Every month the cells of the endometrium (inner lining of the womb) swell and get thicker, and are shed during menstruation. Endometriosis is a condition in which endometrial cells grow in other areas of the body most commonly in the area lining the abdominal cavity. It causes irregular bleeding and mild to severe cramping pain in the pelvis which may radiate to legs. It may even lead to infertility in some women.

3. Polycystic ovary syndrome (PCOS or PCOD)
When women are struggling with obesity, acne and unwanted body hair this is commonly known as PCOD or PCOS (Polycystic ovarian disease or syndrome). There is an increase in male sex hormones leading to increased body hair, decreased breast size, etc. The periods are irregular and the ovaries produce many small, immature eggs instead of healthy, mature eggs. If the right kind of eggs isn’t produced, the chances of conceiving reduce.

4. Fibroids
Every 3rd or 4th woman in the cities has ‘fibroids’ these days. Usually detected when women approach the doctor due to very heavy bleeding and pain during menstruation or when they have problems conceiving, fibroids are nothing but fibrous growths in the uterus. They grow fairly slowly, and are formed in response to the female hormone oestrogen. They occur naturally, and sometimes shrink after menopause due to the lack of the hormone in the body.

5. Vaginal infections (Vaginitis)
The common symptoms are Itching and redness around vagina, abnormal vaginal discharge with an unpleasant smell, burning sensation during urination and/or pain during intercourse. It could be vaginitis, an infection or inflammation of the vagina. Some women may not have any symptoms. Extreme illness, creams, tight clothing, douching, sexual activity, faecal contamination, etc. disrupt the normal bacterial environment of the vagina and cause vaginitis. Vaginal yeast infections can be treated with over-the-counter creams and vaginal suppositories, and bacterial vaginosis with antibiotics.
6. Urinary Tract Infection
Women have much shorter urethras – a good enough reason for easy upward movement of germs to their bladders. Urinary tract infection (UTI) affects the urinary tract and is more commonly seen in women than men. The risk of UTI increases during menopause. Cystitis (bladder infection) is the lower urinary tract infection and pyelonephritis (kidney infection) is the upper urinary tract infection. UTI may cause burning pain during urination, frequent urination and/or urgency to urinate. Fever and pain may also be seen in pyelonephritis. In uncomplicated cases, urinary tract infections are easily treated with a short course of antibiotics. UTI is most commonly caused by E. coli bacteria.

7. Anaemia
Feeling tired often, pale skin, brittle nails are due to lack of enough red blood cells. Low RBC count means reduced oxygen carrying haemoglobin (Hb) count which translates to low oxygen in blood making you feel exhausted, irritable and dizzy. Smooth, swollen painful red tongue, cracks or fissures at the corners of the mouth and sore and pale mouth are other signs. Blood loss from menstruation, increased blood supply demand during pregnancy, deficiencies of vitamins like vitamins B2, B6, B12, and folic acid due to poor eating habits can cause anaemia.

8. Breast cancer
One of the greatest health fears for a woman is breast cancer. According to medical experts, about 4 out of 5 breast cancer patients in India are at an advanced stage when they come to a hospital. A lump or mass in the breast, discharge from or rash around the nipples, skin dimpling on the breast are some of the signs you should look out for.

9. Cervical cancer
Cervical cancer is known to occur because of a virus called the Human Papilloma Virus (HPV) transmitted through sexual contact. Bad local hygiene, too many children, not enough spacing between children, low nutrition levels and early marriage all contribute to the risk factors. The high risk group includes girls who have had premature sex as teenagers, those who have had multiple pregnancies or multiple sex partners and don’t use contraceptives.

Check your progress- 1
Note : a. Write your answer in the space given below
    b. Compare your answer with those given at the end of the unit

i. Cervical cancer is caused by the virus

ii. Name any two social causes of Cervical cancer among women
9. Heart disease
Earlier, cases of heart attacks were exclusive to post-menopausal women but now even younger women seem to suffer from them. Hectic schedules and increased instances of smoking and drinking are to be blamed. Other factors like increased use of oral contraceptives, irregular meal-times, tendency to eat junk food and lack of exercise are all taking a toll as well. Young women have higher death rates than men due to heart attacks because of the fact that they don’t undergo chest pains usually associated with disease and unlike men, who usually have blockage in the major arteries, women have blockage in smaller arteries which does not get detected in angiography. Some common symptoms in women are shortness of breath with or without chest discomfort; pain or discomfort in one or both arms, the back, neck, jaw or stomach; breaking out in a cold sweat; nausea or light-headedness.

10. Osteoporosis
Women require certain essential nutrients like iron, folic acid and most importantly calcium during various stages in their life. The term osteoporosis is synonymous with women, low calcium, weak bones leading to fractures. Vitamin D deficiency caused by low exposure to sunlight and low dietary vitamin D are the main causes. Over-exercising (e.g. marathon running), especially in young women, increases osteoporosis risk because of excessive weight loss and early termination of menstruation. Osteoporosis is often asymptomatic until a bone fractures, then an X-ray and bone density measurement confirms the diagnosis. Prevention and treatment choices include lifestyle changes such as no smoking, minimizing alcohol intake, regular (weight-bearing) exercise, maintaining healthy weight, low-salt and calcium plus vitamin D-rich diet.

11. Arthritis
Women are affected with arthritis more than men. They usually develop osteoarthritis after the age of 40. Arthritis is not a single disease – there are over 100 different forms of arthritis. It is a collective term for different individual illnesses, with different features, treatments, complications, and prognoses. The similarity is that they have a tendency to affect the joints and many have the possibility to affect other internal parts of the body. It is mostly related to wear and tear of cartilage (osteoarthritis) or associated with an overactive immune system causing inflammation (rheumatoid arthritis). Some of the causes of arthritis are hereditary factors, infections (bacterial and viral), lack of joint fluid, autoimmunity, etc. Arthritis causes pain and limits the function of your joints. If your arthritis is due to inflammation of the joints then you may experience joint swelling, redness, warmth and stiffness.

12. Obesity
Compared to people with a healthy weight, obese and overweight individuals have an increased risk of diabetes, heart disease and stroke, and tend to die younger. Obesity in women also causes menstrual abnormality, infertility and miscarriage. Obese pregnant women are at
an increased risk of infections, pregnancy hypertension and gestational diabetes.

13. **Metabolic syndrome**
Metabolic syndrome, (syndrome X) is a set of abnormalities related to the body’s metabolism in which insulin-resistant diabetes (type 2 diabetes) is almost always present along with high blood pressure, high fat levels in the blood, cardiovascular disease, central obesity and abnormalities in blood clotting and inflammatory responses. It increases your risk of developing heart disease (heart attack, stroke, etc.) and diabetes. Being overweight or obese, not getting enough exercise and genetic factors increase your risk of developing metabolic syndrome. Women also have specific circumstances like pregnancy, polycystic ovary syndrome (PCOS), use of oral contraceptive and menopause, which increase their chances of developing metabolic syndrome. Gestational diabetes during pregnancy and PCOS increases the likelihood of developing insulin resistance, a risk factor tied to the disorder. Women who have had gestational diabetes or who have had a heavy baby are at higher risk for developing type 2 diabetes later in life.

14. **Mental Illness**
Evidence suggests that women are more prone than men to experience anxiety, depression, and somatic complaints – physical symptoms that cannot be explained medically. Depression is the most common mental health problem for women and suicide a leading cause of death for women under 60. Helping sensitise women to mental health issues, and giving them the confidence to seek assistance, is vital. Depression affects more women than men. It is a physically debilitating and an emotionally painful condition. A depressed person finds it difficult to enjoy anything or even function normally. Reasons could be many – trauma, grief, love and relationship troubles, genetic, alcohol consumption, obesity, etc. Women have an added risk factor – the hormones. Hormonal changes, particularly after pregnancy (postpartum) or around menopause, can trigger the condition. 80% of all mothers experience postpartum depression of one form or another. Though most of them usually get over normal ‘baby blues’ in a few days or at most a couple of weeks, some women take longer to recover and suffer more severe symptoms. They may exhibit suicidal tendencies, frequent bouts of crying, sleep disturbance, weight loss, a feeling of guilt and a general lack of interest in their surroundings. Some women suffer from a serious condition called postpartum psychosis which results in hallucination, delusion and obsessive thoughts particularly involving the baby. Recognizing depression and seeking help is the first and most critical towards recovery.

15. **Reproductive health**: Sexual and reproductive health problems are responsible for one third of health issues for women between the ages of 15 and 44 years. Unsafe sex is a major risk factor – particularly among women and girls in developing countries.
16. **Maternal health**: Many women are now benefitting from massive improvements in care during pregnancy and childbirth introduced in the last century. But those benefits do not extend everywhere and many women died from complications in pregnancy and childbirth. Most of these deaths could have been prevented, had access to family planning and to some quite basic services been in place.

17. **HIV**: Three decades into the AIDS epidemic, it is young women who bear the brunt of new HIV infections. Too many young women still struggle to protect themselves against sexual transmission of HIV and to get the treatment they require. This also leaves them particularly vulnerable to tuberculosis - one of the leading causes of death in low-income countries of women 20–59 years.

18. **Sexually transmitted infections**: It is important to protect against HIV and human papilloma virus (HPV) infection (the world’s most common STI). But it is also vital to do a better job of preventing and treating diseases like gonorrhoea, chlamydia and syphilis. Untreated syphilis is responsible for early foetal deaths every year.

19. **Violence against women**: Women can be subject to a range of different forms of violence, but physical and sexual violence – either by a partner or someone else – is particularly invidious. Today, one in three women under 50 has experienced physical and/or sexual violence by a partner, or non-partner sexual violence – violence which affects their physical and mental health in the short and long-term. It’s important for health workers to be alert to violence so they can help prevent it, as well as provide support to people who experience it.

20. **Noncommunicable diseases**: In 2018, some 4.7 million women died from noncommunicable diseases before they reached the age of 70 —most of them in low- and middle-income countries. They died as a result of road traffic accidents, harmful use of tobacco, abuse of alcohol, drugs and substances, and obesity -- more than 50% of women are overweight in Europe and the Americas. Helping girls and women adopt healthy lifestyles early on is key to a long and healthy life.

21. **Being young**: Adolescent girls face a number of sexual and reproductive health challenges: STIs, HIV, and pregnancy. About 13 million adolescent girls (under 20) give birth every year. Complications from those pregnancies and childbirth are a leading cause of death for those young mothers. Many suffer the consequences of unsafe abortion.

22. **Getting older**: Having often worked in the home, older women may have fewer pensions and benefits, less access to health care and social services than their male counterparts. Combine the greater risk of
poverty with other conditions of old age, like dementia, and older women also have a higher risk of abuse and generally, poor health.

12.4 MAJOR HEALTH PROBLEMS RELATED TO CHILDREN

Nearly 6.9 million children under the age of five died in 2011 – nearly 800 every hour – but most could survive threats and thrive with access to simple, affordable interventions. The risk of death is highest in the first month of life. Preterm birth, birth asphyxia and infections cause most newborn deaths. Health risks to newborns are minimized by:

- Quality care during pregnancy;
- Safe delivery by a skilled birth attendant; and
- Strong neonatal care: immediate attention to breathing and warmth, hygienic cord and skin care, and early initiation of exclusive breastfeeding.

- From one month to five years of age, the main causes of death are pneumonia, diarrhoea, malaria and measles. Malnutrition is estimated to contribute to more than one third of all child deaths.

- Pneumonia is the prime cause of death in children under five years of age. Addressing the major risk factors – including malnutrition and indoor air pollution – is essential to preventing pneumonia, as are vaccination and breastfeeding. Antibiotics and oxygen are vital tools for effectively managing the illness.

- Diarrhoeal diseases are a leading cause of sickness and death among children in developing countries. Breastfeeding helps prevent diarrhoea among young children. Treatment for sick children with Oral Rehydration Salts (ORS) combined with zinc supplements is safe, cost-effective, and saves lives.

- One child dies every minute from malaria. Insecticide-treated nets prevent transmission and increase child survival.

- Over 90% of children with HIV are infected through mother-to-child transmission; this can be prevented with antiretrovirals, as well as safer delivery and feeding practices.

- Worldwide, about 20% of deaths among children under-five could be avoided if feeding guidelines are followed. WHO recommends exclusive breastfeeding for six months, introducing age-appropriate and safe complementary foods at six months, and continuing breastfeeding for up to two years or beyond.

- National Family Health Survey (NFHS) India 2017 estimates show that 61 million children under the age of 5 are stunted, and 53 million are underweight. Another 25 million have a low weight to height ratio. One-third of the world's 'wasted' children live in India, and rampant in rural areas, among scheduled tribes.
• About two-thirds of child deaths are preventable through practical, low-cost interventions. WHO is improving child health by helping countries to deliver integrated, effective care in a continuum - starting with a healthy pregnancy for the mother, through birth and care up to five years of age. Investing in strong health systems is key to prevention and delivery of quality care.

Check your progress- 2
Note : a. Write your answer in the space given below
       b. Compare your answer with those given at the end of the unit

1. Write any two means to deal with common childhood illness

......................................................................................................................................
...

• Low birth weight

The birth weight of babies born to well-nourished mothers is usually about 3.5 kg. But the average birth weight of Indian babies is 2.7 to 2.9 kg. It’s very important to record the weight of the baby within one hour of birth. It determines the growth and chances of survival of the baby.

The low birth weight internationally has been defined as a birth weight of less than 2.5 kg (up to and including 2.499 kg) the measurement being taken preferably within the first hour of life, before significant post-natal loss has occurred. The baby may be born full term or pre-term.

• Infectious diseases

There are number of infectious diseases which are common among children and are the cause of high mortality in them. These include diarrhea, acute respiratory infections (ARI). Measles, pertussis (whooping cough), diphtheria, polio, tetanus and tuberculosis.

• Accidents and poisoning

Accidents and poisoning are quite common in children because of hazards in home, on the roads, schools etc. they are prone to get burns, injures, drowning, poisoning, falls, electric shock, road accidents etc.

12.5 UNDERSTANDING SOCIO CULTURAL FACTORS IN COMMUNITY HEALTH

India's past involves a political structure of several dynasties and empire-building attempts resulting in a conglomerate of cultures and religious
throughout India's society. Religion is central to life in Indian families. Approximately 80% of Indians practice Hinduism. In the Hindu tradition, methods of prayer, ritual cleansing, social order, and familial harmony are based on religious teachings. The belief in 'Karma,' or repercussions for actions and judgment errors in past lives is strong.

The Caste system created India's social determinism. Intermarrying between castes was unacceptable. Each caste has their unique ways of dealing with health and illness. Families are multi-generational entities in Indian society. Respect for elders is highly valued. After marriage, the daughter typically moves in with her husband's family. Gender roles are very distinct. Women manage the house, finances and family while men are the breadwinners and family conduit with outsiders, such as health workers. Children are often reared by their grandparents.

12.6 BELIEFS, MYTHS INFLUENCING COMMUNITY HEALTH IN INDIA

Belief systems and moral values are intrinsic to human life, and for many people cultural and religious considerations exert strong, positive influences on their lives. But norms bound by culture and belief can also negatively impact on people in terms of mental and physical well-being. Culture-bound syndromes are not uncommon within primary care in India and Asian communities more generally, with cases arising that display psychiatric and associated somatic symptoms recognizing that there is an element of controversy surrounding the diagnosis, an example we wish to consider is that of dissociative trance or possession-like state, most commonly encountered amongst young adult women. Dissociative trance or possession states capture the essence of the problems we are addressing, and we offer the following case as a way of exploring them further.

Health beliefs treatment and medicine mixes fluidly with religion in Indian culture. India has a variety of medical systems, of which Western medicine is only one. The medical heritage of Muslim practices, called unani tibbi, integrates Arabic medicine, homeopathic systems, and regional and local health practices. Ayurveda, roughly translated as "the science of life," is a complex medical system that emphasizes physical, mental, and spiritual health. This includes a regulated daily life, rejuvenating measures, and the practice of yoga. The most commonly practiced Ayurvedic treatments in the west are massage, dietary and herbal advice, due to the strong regulations surrounding medical practice. Ayurveda classifies patients by body types, or prakriti, which are determined by proportions of the three body humors, or doshas. Contrary to scientific understanding of germs, viruses and genetic faults, illness and disease are considered to be a matter of imbalance in the doshas. Disease is caused by an imbalance of the bodily humors, and cured by a restoration of the balance through
meditation, diet, and natural medicine. Society prefers to treat patients holistically, emphasizing prevention. The majority of Indians use herbal remedies to cure illness. Root causes for diseases are considered to include many things such as physical ailments, stress, and karma. Treatment for illness mostly involves changes in diet, herbal remedies, massage, application of oil to key areas and rest.

Women's Health In rural India, girls were often married at a very young age and experience medical problems from closely spaced multiple pregnancies. It was uncommon for Indians to want to take western modem medicines, thus acceptance for birth control pills is low. This has now significantly changed by government laws prohibiting child marriages and incentives for birth control. Pregnancy is considered a 'hot state,' meaning "a time of increased body heat."

Breast feeding is highly valued and strongly encouraged. The use of cow's milk diluted with sugar water is a common supplement. Indian women that have difficulty breast feeding use traditional feeding cups called paladai which have long, grooved spouts.

Following birth, recuperation time is believed to be forty days long, where the mother is encouraged to stay at home, rest, and eat special foods.

Traditionally, Hindu families perform a ritual on the sixth day after delivery called "The Sixth". This ritual includes wrapping the newborn in a religious blanket and the application of a mixture of holy red powder and water to the feet and hands of the baby. Often prayers are recited, following which the baby is to remain untouched while the Holy Spirit descends with a blessing and to "write the fate" of the baby. There is also a "Cradle Ceremony" on the eleventh day where the baby is officially named.

Belief that sickness or suffering is a direct result of karma from a past life can impede symptom control. Family members will desire to be present for a dying patient. The process includes chanting, prayers and incense.

Hindus tend to prefer cremation so their ashes can be spread over the holy river Ganges, which is credited for creating the essence of Hinduism, Buddhism, Jainism, and Sikhism. Mourning family males may shave their heads. A Brahman is usually requested at the funeral to recite holy chants.
Diet and Nutrition Most devout Hindus are vegetarians. However, some find eating eggs, fish, or even occasionally meat.
Rice and tea are served at every meal.
Punjabi Sikhs also prefer a largely vegetarian diet, but they have no religious prohibitions against eating meat.
Unleavened wheat bread, vegetables, fruit, yogurt-based food, and curries remain important in the diets of most Asian Indians.
Because sons are expected to take care of their parents in old age, in the past daughters were neglected or given less nutritious, smaller portions of food.

Women prepare and serve meals, and may take their meals separately from the males in the family. Women traditionally are forbidden to cook during their menstrual period. Women may have particular concerns regarding eating certain foods during pregnancy. Be aware that they may wish to avoid certain foods, such as citrus because it is "hot." Be prepared with several alternatives.
Lentils, a staple of the Indian diet, often causes gas. They are not recommended for breastfeeding women.

Indian culture encourages increased fat intake, particularly after giving birth. Ghee, a food which primarily consists of heated butter, is made into a wide variety of foods. It is believed to aid in healing the uterus, and is taken in large quantities for ten days after giving birth. This is one cause of post-delivery weight gain, common in Indian women. Patients should be cautioned to take ghee in moderation. Methi is another Indian food with medicinal value. It is believed to be beneficial for the back, for fibrous tissue, and to help the uterus involute. Honey is an important part of the Indian diet. Physicians should be vigilant in cautioning parents not to give it to children under two years old. There may be conflict in the household between older and younger women about giving of honey to children. Older Indians are not aware of botulism, the physician should be sure to explain it to grandmothers as well.
Indian women may need to evaluated for conditions such as protein malnutrition, beriberi or thiamine deficiency, pellagra or niacin deficiency, iron-deficient anemia, and lathyrism that may be related to a vegetarian diet.

12.7 DEFINING A COMMUNITY

First, a community is a group of people who interact with one another, for example, as friends or neighbors. Second, this interaction is typically viewed as occurring within a bounded geographic territory, such as a neighborhood or city. Third, the community's members often share common values, beliefs, or behaviors.
12.7.1 COMMON IDENTITY FACTORS

- Geography
- Language
- Values
- Attitudes
- Behavior patterns
- Interests
- Beliefs
- Culture
- Trauma/disaster experience

12.8 ASSESSING COMMUNITY HEALTH NEEDS

What is a Community Health Assessment?
A community health assessment refers to a state, local, or territorial (eg. Tribal) health assessment that identifies key health needs and issues through systematic, comprehensive data collection and analysis. Community health assessments use such principles as

- Multisector collaborations that support shared ownership of all phases of community health improvement, including assessment, planning, investment, implementation, and evaluation
- Proactive, broad, and diverse community engagement to improve results
- A definition of community that encompasses both a significant enough area to allow for population-wide interventions and measurable results, and includes a targeted focus to address disparities among subpopulations
- Maximum transparency to improve community engagement and accountability
- Use of evidence-based interventions and encouragement of innovative practices with thorough evaluation
- Evaluation to inform a continuous improvement process
- Use of the highest quality data pooled from, and shared among, diverse public and private sources

12.8.1 STEPS IN COMMUNITY HEALTH NEED ASSESSMENT (CHNA)

Step 1: Identify and engage stakeholders. Establishing trusting relationships early in the CHNA process encourages community stakeholders to become engaged, creating a stronger sense of joint ownership of the process. CHNA developers may consider approaching individuals currently involved in patient and family advisory councils: They are already bringing a community perspective to hospital programs
and operations and are likely to be enthusiastic about improving health through the CHNA process.

**Step 2: Define the community.** Defining the community is a key component of the CHNA process as it determines the scope of the assessment and intervention. While scope is often determined by the hospital’s predefined service area, bringing community members and patients into the conversation can ensure that the definition of the community is inclusive.

**Step 3: Collect and analyze data.** Aggregating primary and secondary data, both qualitative and quantitative, will help prioritize community health needs. Patients and community stakeholders can provide perspectives to complement quantitative findings through surveys, interviews, focus groups, and community or town meetings. Asking community stakeholders to share information they have access to is an important part of data collection: Hospitals and health care systems may not otherwise be aware of or obtain these data.

**Step 4: Select priority community health issues.** The quantitative and qualitative data collected and analyzed in step 3 are used for prioritizing community health needs. While quantitative data can illuminate the scope and severity of particular health issues, stakeholders in the community and the health care system can explain the urgency of these issues. Including patients, families and community members in making final decisions on which health issues to prioritize will help them feel more invested in the outcome. It is also important to document the prioritization process by recording which factors were considered most important and how decisions were made, so that the assessment is transparent.

**Step 5: Document and communicate.** Sharing CHNA drafts before they are finalized gives stakeholders a chance to comment and provide additional feedback about how the information should be presented (length of document, language level), what format it should be in (written or audio), if it needs be translated into other languages and what forms of communication would best reach subpopulations within the community. Hospitals and health systems also can encourage community members and patients who were involved in the CHNA process to serve as community ambassadors, spreading the word about the needs assessment outcomes.

**Step 6: Plan improvement strategies.** It is important to keep patient, family and community stakeholders involved throughout the improvement planning process as they will have valuable feedback about the feasibility and acceptability of interventions and strategies in their communities. In addition, individuals who are invested in the process and their community will likely value the opportunity to be part of the solution.
NOTES

Step 7: Implement improvement plans. Engaging patient and community stakeholders in customizing the evidence-based interventions identified in step 6 creates a sense of ownership and shared responsibility; it also fosters ongoing dialogue among the hospital, community organizations and the populations they serve. Stakeholders also can discuss what role patients and community members want to play, as there may be many opportunities for ongoing involvement.

Step 8: Evaluate progress. Patients, families and community members can be involved in determining which outcomes should be measured and in providing feedback on how the implementation is progressing so adjustments can be made. After reviewing outcomes, it is important to reflect and strategize with community members and patients to consider what worked well, what could be improved and how to scale up programs.

By participating in the CHNA process, patients and community members can gain a more comprehensive understanding of their community, including the health issues it faces, the causes of those issues and the availability of resources to address them. The CHNA process also can strengthen bonds between the community and the hospital, enhance community investment in an effective process, and foster willingness for future collaboration.

12.9 MOBILIZING CORE GROUPS

Community mobilization is the process of bringing together as many stakeholders as possible to raise people's awareness of and demand for a particular programme, to assist in the delivery of resources and services, and to strengthen community participation for sustainability and self-reliance. A lot can be achieved when people from different parts of the community share a common goal and actively participate in both identifying needs and being part of the solution. Community mobilization helps to empower communities and enable them to initiate and control their own development.

Community core group consists of local community (people including the poor, vulnerable, marginalized, disabled people from the community along with people those who has health needs), community leaders, PRI members, PHC staff, local teachers, Anganwadi and ICDS workers, NGOo representatives, DPOs, SHG leaders and other significant local political leaders who can influence and make considerable contributions in the matters related to local community health.

- Involvement of local leaders is an essential part of community participation
- Identify leaders who:
o Are locally accepted, trusted and respected.
o Accurately represent their communities.
o Will work towards helping the community to achieve its collective goals.
o Have sufficient status to attract other members to be involved.

All communities have leaders. Trust in and respect for leaders is very important, since leaders represent their communities and should be seen to be working towards helping the community to achieve its collective goals. Therefore, involvement of respected leaders is an essential part of community participation.

Some communities are more active than others and some members of a community participate more than others. One characteristic which influences community action is status. Status is found in all societies and seems to function as a guide to expected behavior of members. For instance, we an expect some group members to participate in some activities but not others because of their status. Thus, understanding and respecting how a community views the status of its members can be of key importance to setting up any cooperative projects.

Decision-making is a key element. It is, however, not always a smooth process. People are likely to have differences of opinion, and might have difficulty deciding on a common goal. Facilitators must be aware of early signs of conflict or tension, and bring their observation to the attention of the concerned group. This should be done with a view to finding mutually acceptable ways of resolving the tension. In bringing observations to the group, avoid pointing out individuals, but rather assist the group in recognizing its responsibility to the whole community.

12.10 COMMUNITY PARTICIPATION

- The term ‘community participation’ was included in the Alma Ata declaration of 1978 as one of the key principles of the Health For All movement which it sought to promote at all levels.
- Community Participation may take place in decision-making, in implementation, in benefits, and in evaluation. The participating individuals or groups may be local residents, local leaders, government personnel, and foreign personnel. Heterogeneity in these groups should be considered by looking at age, sex, family status, education, occupation, income, and residence.
- The declaration mentions that primary health care ‘requires and promotes maximum community and individual self reliance and participation in the planning, organization, cooperation and control of primary health care, making fullest use of local, national and
other available resources and to this end develops through appropriate education the ability of communities to participate’.

- Over the years civil society, and some governments efforts at primary health care all over the world have experimented and studied the phenomena of community involvement and participation in various ways. More recently this whole process of community involvement which now involves participation at all level, processes and stages – from planning, managing, monitoring and evaluating is becoming formalized in some primary health care strategy and public health systems.
- Community participation helps establish ownership of support or relief initiatives and may lead to more sustainable recovery

### 12.10.1 PROMOTING COMMUNITY SELF-HELP

- Identify and involve community leaders or influential persons
- Establish a sense of ownership by the community
- Identify community resources
- Promote psychological well-being
- Mobilize resources
- Encourage joint decision making and consensus

Community responders are in a good position to promote the process of community self-help. In many instances, they are part of the affected Community - they share the same language and often cultural background, and may be better able to provide support to affected people than someone coming in from outside the community.

### Check your progress- 3

Note : a. Write your answer in the space given below
   b. Compare your answer with those given at the end of the unit
1. What do you mean by Community Resources?
   ............................................................................................................................
   ............................................................................................................................
   .................................................................

### 12.11. LET US SUM UP

Improving community health is a huge undertaking that involves cooperation between public health workers, local government, volunteers and local community people to improve the overall health of the community. Education also plays a large role in maintaining community health. Health fairs and advertising campaigns that expose the dangers of risk factors like tobacco exposure, poor nutrition and physical inactivity can raise awareness about the importance of choosing a healthy lifestyle. Understanding the cultural perspectives and dynamics of the communities

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are important for community health. It is a multi stake holders approach and demands intersectoral cooperation. The success of community health outcomes depends on effective community participation and leadership. The collective responsibilities that individuals have for their communal health can lead to positive interactions within the community as a whole and it is a key feature of Primary level health care.

12.12 UNIT END EXERCISES

1. List any 5 social causes of illness among women and children
2. Why breastfeeding and vaccination are important for both women and children?
3. Suggest ways to enhance involvement SHGs in Community Health?

12.13 ANSWER TO CHECK YOUR PROGRESS

1. Human Papilloma Virus (HPV)  
   Early Marriage and Low nutrition
2. Vaccination and Breast feeding
3. Community Resources refers to People, Money and Materials. Social capita, advocacy l and networking also can be considered as important community resources.

12.14 SUGGESTED READINGS

4. Physicians for a National Health Program. Health Care Systems - Four Basic Model  
   http://www.pnhp.org/single_payer_resources/health_care_systems_four_basic_models.php
3. Rajeev Ahuja. Think big to reach goal of a $5 Trillion economy, boost healthcare for all, 23.08.19 Times of India
UNIT XIII - COMMUNITY PARTICIPATION

Structure

13.1 Introduction
13.2 Objectives
13.3 Community Participation
13.4 Practice of Community Participation
13.5 Concept of Multipurpose workers
13.6 Training of Multipurpose workers in community health programmes.
13.7 Let us sum up
13.8 Unit – End Exercises
13.9 Answers to check your progress
13.10 Suggested readings

13.1 INTRODUCTION

In this unit we will be looking at Community participation as the involvement of people in a community in projects to solve their own problems. People cannot be forced to ‘participate’ in projects which affect their lives but should be given the opportunity where possible. This is held to be a basic human right and a fundamental principle of democracy.

13.2 OBJECTIVES

In this unit you will be able to,

- Understand the concept of Community Participation
- Know the Principles and Practice of Community participation
- Study about Multipurpose workers
- Distinguish the training given to MPW for community participation

13.3 COMMUNITY PARTICIPATION

Community participation is the process by which individuals and families assume responsibility for their own health and of the community they live in. Community participation is also known as community engagement or community action.
COMMUNITY PARTICIPATION ENSURES:

1. **Self-reliance and sustainability:**
   a) Individuals come to know of the health problems of the community and learn the ways and means of overcoming these. They no longer are mere passive beneficiaries of Government aid.
   b) They can demand supplies from the administration for health work.

2. **Overcoming cultural barriers to healthcare:**
   a) They don’t remain obliged to accept conventional solutions to their problems if these are in conflict with local culture. They can improvise and innovate to make these suitable.
   b) Of course they need to be trained and acquire this capability for this and have to consult technical persons for the validity of the improvisation. It is the responsibility of the health system to explain and provide clear information about the favourable and adverse consequences of these interventions.

3. **Better communication with the community:**
   Health education can penetrate better in the community if the trained community workers are involved and motivated. Also, the specific concerns of the community are conveyed better to the planners.

4. **Community can provide labour and even financial resources** for healthcare if needed.

**DIMENSIONS OF COMMUNITY PARTICIPATION**

Community participation has three dimensions; (World Bank, 1978).
- Involvement of all those affected in decision making about what should be done and how
- Mass contribution to the development efforts i.e to the implementation of decision
- Sharing in the benefits of the programme

**APPROACH TO COMMUNITY PARTICIPATION**

- **TOP-DOWN – APPROACH**
  In traditional approach health care planning, the decisions are made by senior persons in health services, the so-called “experts”. Research may be carried out through surveys to what the community thinks or believes to be the problem, but in the end it’s usually the health workers who make the decisions on what goes into the programme based on medically-defined needs.

  Traditional education is often indoctrinating. We make decisions and expect them to follow. This is always the case and you will need to look carefully to find out what is really going on. All the decision-making and priorities are set by the external agency.
• **BOTTOM-UP – APPROACH**
  In this approach members of the community make decisions.

**THE NEED FOR A COMMUNITY APPROACH**

- The need to shift the emphasis from the individual to the community. This is because many influences on a behavior are at the community level and not under the control of individuals, these include:
  - Social pressure from other people through norms,
  - Shared culture and the local social economic situation.

**13.4 PRACTICE OF COMMUNITY PARTICIPATION ACTIVITIES**

- **Needs assessment** – expressing opinions about desirable improvements, prioritising goals and negotiating with agencies
- **Planning** – formulating objectives, setting goals, criticising plans
- **Mobilising** – raising awareness in a community about needs, establishing or supporting organisational structures within the community
- **Training** – participation in formal or informal training activities to enhance communication, construction, maintenance and financial management skills
- **Implementing** – engaging in management activities; contributing directly to construction, operation and maintenance with labour and materials; contributing cash towards costs, paying of services or membership fees of community organisations
- **Monitoring and evaluation** – participating in the appraisal of work done, recognising improvements that can be made and redefining needs

**THE PARTICIPATORY METHODS USED IN RAPID ASSESSMENT OF SITUATIONS**

- Daily routine schedule
- Seasonal calendar
- Time trends
- Direct observation
- Transect walk
- Venn diagram
- Key informants’ interviews of individuals from the community
- Focus group discussion (FGD)

According to WHO, the most realistic method of attaining community participation is to employ community health workers, because of following reasons,

- The community health worker provides the first level of contact between individuals and health care system.
- They can be trained in short time to perform specific tasks and carry out a vast range of activities.
They come from and are chosen by the community they live in.
Training and re-training of these workers is the responsibility of the administration.
When more complicated care or advice on complex problems is required, the community health workers should have access to technically trained staff.

Examples of community participation in India:

1. Village Health Guides (now discontinued)
2. Accredited Social Health Activist (ASHA)
3. Anganwadi worker (AWW)
4. Trained Dais
5. Village Health Sanitation and Nutrition Committee
The immediate technically trained worker above them is the Auxiliary Nurse Midwife (ANM)

Check your Progress – 1

Note:  
a. Write your answer in the space given below
b. Compare your answer with those given at the end of the unit.

1. What is community Participation?

2. List the participatory methods

13.5 CONCEPT OF MULTIPURPOSE HEALTH WORKERS

The concept of Multipurpose Health Workers (Male and Female) was introduced in 1974 for the delivery of preventive and promotive health care services to the community at the level of Sub-Health Centres (SHCs), the most peripheral health facilities, covering 5000 population in plains and 3000 population in hilly/tribal/difficult areas.

The Multipurpose Health Worker (Male) is the grass root health functionary for the control of communicable diseases including Malaria, TB, Leprosy, Water Borne Diseases, as well as Environmental Sanitation, detection of disease outbreaks and their control, health education etc. The non-availability of MPHW (Male) across the states has been one of the critical issues in implementation of national programmes including,

- National Vector Borne Disease Control Program (NVBDCP),
- Revised National Tuberculosis Control Programme (RNTCP), and
- National Leprosy Eradication Programme (NLEP).

The worst impact has been on malaria control. The malaria workers were originally supported by the Central Government, and the States had to take
them over once the National Malarial Eradication Programme entered into maintenance phase. These malaria workers and other basic health workers, vaccinators, family planning workers etc. were later on designated as MPHW (Male) on introduction of Multipurpose Health Workers Scheme as per the recommendation of Kartar Singh Committee (1973). They were given a smaller population to meet the community health needs by establishing health linkages with the local community.

Health is a fundamental human right. Maintenance of optimum level of Health entails individual as well as social responsibility. However, Health can never be adequately protected by health services without active involvement of the community. MPHW (Female) plays a vital role in the rural health care delivery system. The candidate should be sensitive and accountable to meet the health needs of the community. She should be able to provide accessible, acceptable equitable, affordable, and quality health care. MPHW (Female) can act as a catalyst for promoting inter-sectoral convergence in promotive and preventive health care.

MPHW (Female) Curriculum intends to prepare skilled and effective female Health workers to achieve the goals of National Rural Health Mission, which aims at bringing about dramatic improvement in the health system and health status of the country. MPHW (Female) in community health skills to practice basic health care at a defined level of proficiency in accordance with local conditions and to meet local needs. Further, the programme fits into the general educational pattern as well as nursing education system.

### 1.3.6 TRAINING OF MULTIPURPOSE HEALTH WORKERS

1. The selected candidates will undergo one-year training to obtain Multi-Purpose Health Worker (DMPW) Diploma. Class X pass candidates selected due to non-availability of Class XII pass candidates in notified tribal areas will undergo three months pre-course training in basic sciences.

2. The training course for MPHW (Male) was initiated by the Government of India to meet the shortage under 100% centrally sponsored Family Welfare programme. During 1982-85, the course was started at 47 Health & Family Welfare Training Centres (HFWTCs). Subsequently during 1985-87, 77 MPHW (Male) schools were started in 19 States with an annual admission capacity of over 6,700 and 88,344 male health workers were made available by the year 1987 (RHS Bulletin 1992). Subsequently several of these institutions have reduced their annual intake or discontinued the course even though infrastructure and staff continued to be available. Their present activities are limited to short term (3 to 6 days) training under RCH Program. As per the information available, the State-wise functional status of these training centres.

3. The MPHW (Male) training course duration, which was initially of 1 1/2 years, was reduced to one year from 1987. The syllabus revised last in 1991 included four months field training at PHCs.
The candidate admitted for the course are bonded for minimum period of 3 years on completion of the course. The examinations are conducted by a State board under the chairmanship of Director of Health and Family Welfare Services. The training included basic health science (anatomy, physiology, microbiology, hygiene), public health including sanitation, primary health care, community health, communicable diseases, national health programmes, maternal and child health (including immunization, family planning, nutrition and nutrition education), and basic medical care, (treatment of minor ailments, first aid, emergency care, health education).

The practical training areas included surveillance for diarrhoeal diseases, worm infestations, malnutrition in children and women, typhoid, malaria, filaria, TB, Leprosy, STD/AIDS as well as drug dispensing, dressing of wounds, collection of blood smears, chlorination of drinking water, disinfection, school health, surveys, notification of disease and statistics. Since IX plan, assistance is being provided by the Government of India to the States for strengthening of ANM training schools and 56 MPW training centres/schools.

Auxiliary nurse midwife, commonly known as ANM, is a village-level female health worker in India who is known as the first contact person between the community and the health services. Their services are considered important to provide safe and effective care to village communities.

OBJECTIVES OF TRAINING

OBJECTIVES OF THE MPHW (MALE) TRAINING

The overall objective of the MPHW (Male) training is to impart knowledge and skill sets to equip them to carry out core activities in the field of prevention and control of diseases of public health importance, environmental sanitation, health education detection and control of epidemic prone diseases, First aid in emergencies such as accidents, injuries, burns etc. and treatment of minor illnesses.

The specific objectives of the training are indicated below:

1. To impart basic knowledge of environmental sanitation, safe-drinking water and other public health measures
2. To develop competency in early identification and treatment of diseases under national health programs in the community and extend referral services.
3. To enable MPW to take public health action in the event of an outbreak (fever, diarrhea, acute respiratory infections, jaundice etc).
4. To provide first aid in emergencies, accidents and injuries and treatment for minor ailments.
5. To impart health education and health promotion practices in respect of life style diseases.
6. To extend support to the female health worker in regard to maternal and child health, immunization and family planning services.
7. To maintain logistics & supply chain management at SHC level.
8. To maintain proper reports and records & utilizing them in preparation of the annual action plan.

OBJECTIVES OF THE MPHW (FEMALE) TRAINING

The overall objectives of MPHW (Female) training is to be able to perform Holistic care of the individuals, families and community in both institutional settings and also community health organizations independently. Participate in local, state and National Health programmes and campaigns.

Specific objectives of the training are indicated below

1. The student will able to participate as members of Health team in preventive & promotive Health services.
2. Render First Aid & Referral services
3. Identifies common Ailments and provide treatment.
4. Provide maternal and child health care in institutions and in rural set up.
5. Provide referral services for diagnosis treatment and rehabilitation.
6. Participate in the prevention and control measures of Nutritional and communicable problems.
7. Participate in Family Welfare Programme

MPHW (MALE) TRAINING CENTRES/ SCHOOLS

The Government of India will provide financial assistance, for a period of three years to states for engaging contractual MPHW (M). Government of India will also consider providing financial assistance to states for rejuvenation of the erstwhile MPHW (Male) training centres/ schools and starting new schools in underserved districts subject to the ceiling prescribed. Stipendiary support of Rs. 500 per trainee per month will also be provided

The proposal for providing financial assistance for strengthening MPHW (Male) Training Centres/Schools should be included in the annual Project Implementation Plan of NRHM by the states. NRHM is now known as NHM, National Health Mission. The states are required to ensure that MPHW (Male) training centres/Schools are immediately made functional with adequate facility for hostel.
FACULTY IN MPW TRAINING CENTRE/SCHOOL

The faculty positions sanctioned by State governments for HFWTC/MPW schools should be in place before the training of MPHW is taken up. The training centres should also make a list of guest faculty, who may be invited for imparting training to MPHW trainees on specific programmes/subjects. The programme officers of the respective programmes should invariably be invited for teaching and training in the relevant national health programmes and the activities to be undertaken by the MPHW in the field. The training centre should also identify one or more block level PHC/CHC where the trainees will be posted for field training and practice. The medical officer in charge and health supervisors from the identified PHC/CHC should also be included in training of trainers for MPHW training as they will act as mentors of trainees in the field.

NGOs

The states may also make use of training facilities with NGOs with funding support for recurring expenditure components of items as per ceiling prescribed.

TEACHING AIDS

Imparting quality training requires teaching aids including overhead projector, LCD projector, TV, DVD player etc. The centre should ensure that all such equipment are made available and functional.

TEACHING MATERIAL

Each trainee should be provided with training manual in local language and workbook for field posting. The Government of India’s assistance includes support for library in MPHWTC/MPW schools, training material related to national health programs etc. These should be made available in the library for easy accessibility to the trainees for acquiring all the requisite knowledge in all the subjects as per the course curriculum.

TRANSPORTATION

Check your Progress – 2

Note:  a. Write your answer in the space given below
         b. Compare your answer with those given at the end of the unit.

3. What is MPHW and when was it introduced?

4. List the teaching aids for training MPHW

5. Name the nodal agency and its role in MPHW trainings
The training institutions need to provide for the transportation of students for various field trainings to acquire hands on experience on day to day basis. To facilitate this vital component of training, the Government of India may provide assistance upto Rs 75,000 per year per training institution.

**STIPEND**

During training, a stipend of Rs 500 per month will be paid to each trainee. The states should release fund to the respective training centres for ensuring regular payment of stipend to all the trainees. However, it should be ensured that stipend should be given to the trainees at the end of the month after verification that they have attended all the sessions both theory and practical. If the trainees fail to attend more than 10 percent of the scheduled sessions of theory and practical, the stipend should be reduced proportionately.

**TRAINING STRATEGY**

The National Institute of Health and Family Welfare (NIHFW) will be the nodal agency for overall planning, coordination and monitoring & evaluation of MPHW (Male) trainings in the states through the State Institutes of Health and Family Welfare (SIHFW) and other partner institutions.

**13.7 LET US SUM UP**

Effective health promotion practice places people at the heart of all activities. Health promotion needs to be carried out by people and with people, rather than on people or to people. This requires us to engage with communities in ways that allow people to have ownership of and involvement in all stages of health promotion activities. Involvement of MPHW personnel in effective implementation of National Health programmes from the grassroot level is vital in primary health care.

**13.8 UNIT – END EXERCISES**

1. Write about the Participatory Rural Appraisal
2. List out the objectives of MPHW (Male & Female) Trainings
3. Read on National Health Programmes implemented through MPHW

**13.9 ANSWERS TO CHECK YOUR PROGRESS**

1. Community participation is the process by which individuals and families assume responsibility for their own health and of the community they live in. Community participation is also known as community engagement or community action

2. The Participatory methods are,
   - Daily routine schedule
• Seasonal calendar
• Time trends
• Direct observation
• Transect walk
• Venn diagram
• Key informants’ interviews of individuals from the community
• Focus group discussion (FGD)

3. The concept of Multipurpose Health Workers (Male and Female) was introduced in 1974 for the delivery of preventive and promotive health care services to the community

4. Imparting quality training requires teaching aids including overhead projector, LCD projector, TV, DVD player etc.

5. The National Institute of Health and Family Welfare (NIHFW) is the nodal agency for overall planning, coordination and monitoring & evaluation of MPHW (Male) trainings in the states through the State Institutes of Health and Family Welfare (SIHFW) and other partner institutions.

13.10 SUGGESTED READINGS


UNIT XIV
SOCIAL WORK INTERVENTIONS

Structure
14.1 Introduction
14.2 Objectives
14.3 Immunization
14.4 Nutrition
14.5 Family planning
14.6 Maternal and Child Health
14.7 Environmental issues
  14.7.1 Pollution and sanitation
14.8 Accident prevention
  14.8.1 Suicide prevention
14.9 Alcoholism and drug prevention
14.10 Let us sum up
14.11 Unit End – Exercises
14.12 Answers to check your process
14.13 Suggested Readings

14.1. INTRODUCTION

The primary purpose of social work intervention continues to the enhancement of social functioning. Social worker enables individuals, groups, families and communities to function more effectively within their various environments. Social workers strive to eliminate discrimination and to create just social environments. The ways in which social workers implement their purpose take different forms, approaches, and methodologies. Workers engage in direct practice with client in such roles as counselor, enabler, broker, case manager, and advocate. They may also assume various indirect practice roles, such as supervisors, managers, administrators, teachers, researcher, and consultants. They work to prevent, resolve, or minimize human problems.

1.2 OBJECTIVES

After going through the unit you will be able to;
- Understand the concept of Social work intervention
- Understand specific social work interventions in the areas of
  - Immunization
  - Nutrition
  - Family planning
  - Maternal and Child Health
  - Environmental issues
  - Pollution and sanitation
  - Accident prevention
  - Suicide prevention
SKILLS OF SOCIAL WORKERS FOR INTERVENTION

With the continued growth of the social work field comes increased opportunities for social workers and human service professionals to improve the lives of challenged individuals. Before entering the field of social work, it is important to consider the core skills that are essential for successful career as a social worker.

1. Assessment Skills
According to the National Association of Social Workers, a significant number of social workers spend half of their time in case management. In order to be successful in case management, it is important to complete quality assessments. The assessment process reveals which clients need assistance obtaining resources, and it also allows a social worker to re-evaluate clients periodically in order to ascertain whether or not services remain effective and necessary.

2. Communication Skills
Communication in social work involves written and verbal correspondence with clients and other professionals. As an example, social workers considering grant writing careers must effectively communicate with elected officials to advocate for their causes and obtain necessary funding for programs. In any social work capacity, effectively communicating helps a professional advocate appropriately, remain clear and concise, appear professional and avoid or overcome crisis situations.

3. Advocacy and Leadership
Social workers frequently advocate for their clients. Well-developed advocacy skills allow social workers to properly represent their clients and obtain the services communities need. Excellent advocacy skills lead to positive change, and this helps clients to live empowered lives. These skills are used on the local, state and federal level to fight for existing programs, create new programs and remove or revise outdated policies.

4. Problem Solving Skills
One goal of social workers is to empower individuals. In order to empower someone, professionals must help that person work through challenges. Excellent problem solving skills are crucial in finding solutions for individuals and communities. In addition, social workers often work with limited resources and tight budgets. Problem solving skills are essential if one hopes to overcome budgetary obstacles and fiscal constraints.

5. Critical Thinking Skills
Applying social work theories and making informed decisions helps professionals to best serve client needs. In addition, professionals must act in an ethical and educated manner in order to best serve their organizations. This is where critical thinking comes in. Critical thinking involves searching for answers with an open mind and using information to best serve the present situation. When used correctly, these skills empower an individual during crisis situations and assist a social worker in best utilizing available resources.
6. Respect for Diversity
Social workers serve a diverse array of clients in many different sectors of society. Diversity offers many challenges, but it also offers strengths that can be utilized to overcome obstacles. A social worker who understands this can effectively serve clients, and this increases opportunities to improve communities.

7. Intervention Skills
Social workers regularly intervene in emergency situations to benefit the lives of their clients. Interventions are best offered in a way that empowers clients and draws on their available strengths. This allows clients to develop their own strengths and utilize them when future problems arise, so they can independently manage their lives.

8. Documentation Skills
All areas of social work require that professionals document findings about clients. As an example, many sources give a probation officer job description that includes the following: the ability to compile, analyze, evaluate and report to the court information obtained during an investigation. Without well-developed documentation skills, completing such tasks would be impossible. Social workers document assessment information, crisis interventions and any correspondence with their clients or other professionals. Documentation must be thorough, accurate and timely in order to benefit both the client and the organization offering services.

9. Organizational Skills
Social workers must keep resources organized, remain diligent in maintaining thorough and accurate records and utilize effective time management skills too. Excelling in organization requires learning how to simplify a work environment, prioritize tasks, use good decision making practices and keep a calendar of important events or projects.

10. Understanding of Human Relationships
Finally, social workers must understand that this field is about human relationships. Couples, families, friends and communities are all part of the support system an individual turns to in time of crises. If a social worker does not embrace relationship based practice, resources will be missed and problems often become impossible to resolve. Understanding this is key to becoming a competent social work professional.

Mastering important skills enhances a social worker’s abilities in this challenging field. Education, practice and personal discovery all assist an individual in excelling in these areas.

14.3 SOCIAL WORK INTERVENTION IN IMMUNIZATION
In India, immunisation services are offered free in public health facilities, but, despite rapid increases, the immunisation rate remains low in some areas. According to the National Family Health survey (NFHS-3), in India only 44% of children aged 1-2 years have received the basic package.
Immunisation is a powerful public health strategy for improving child survival, not only by directly combating key diseases that kill children but also by providing a platform for other health services. However, each year millions of children worldwide, mostly from low- and middle-income countries (LMICs), do not receive the full series of vaccines on their national routine immunisation schedule. Millions of children in low-and-middle-income countries still die from diseases that could have been prevented with vaccines. There are a number of reasons for this. Governments and others have tried different strategies to increase the number of children vaccinated.

Giving information about vaccination to parents and community members, handing out specially designed vaccination reminder cards, offering vaccines through regular immunisation outreach with and without household incentives (rewards), identifying unvaccinated children through home visits and referring them to health clinics, and integrating vaccination services with other services may lead to more children getting vaccinated.

The main goals include establishing an effective and sustainable vaccination-delivery system and achieving up-to-date immunization.

Specific activities include:

- Enhancing the availability of immunization at the community level by increasing funding for Immunization Action Plans and encouraging the development of state immunization information systems
- Stimulating greater awareness of the importance of immunization through a nationwide health promotion campaign aimed at providers and the public
- Reducing cost barriers through Public- Private partnership
- Improving disease surveillance and measurement of immunization coverage at the national, state, and local levels and by individual providers
- Coordinating immunization activities in the communities
- Encouraging the development of safer and more effective vaccines, including combination products that can reduce the number of separate vaccine doses required.
- Public education

Check your progress- 1

Note : a. Write your answer in the space given below
   b. Compare your answer with those given at the end of the unit

1. How would you create awareness on universal immunization programme?

2. Where are vaccinations available to common people?
Social workers engage, assess, and intervene with diverse, multilevel client populations. One of such gaps it highlights in social work practice, education, and research is the relevance and significance of nutrition. Nutrition, a social-health issue, has a history as long as the social work practice, as the settlement movement pioneers and subsequent professionals have never stopped anti-poverty/anti-hunger effects. Today, nutrition is still a major social-health issue, especially relevant to social work-related public health issues such as mental illness, the obesity epidemic, and food insecurity. Current literature suggests that nutrition is linked to mental illnesses such as depression, anxiety, ADHD, and neurodegenerative disorders. Nutrition, or diet, is correlated with mental health, and mental health also impacts eating habits. Research studies have shown that there is a dynamic relationship between nutrition and mental health, and they cannot be separate from each other. While anti-hunger advocacy still has its relevance and importance in domestic and international social work, contemporary social work has taken anti-hunger efforts to the next level and articulated it in a broader health concept. Food insecurity and obesity are huge issues that clients face today.

Check your progress- 2

Note : a. Write your answer in the space given below
b. Compare your answer with those given at the end of the unit

1. Why is malnutrition considered as social health issue?

The Council on Social Work Education (CSWE; CSWE, 2014) defines food insecurity as “a lack of consistent and ongoing access to sufficient, safe, and nutritious food needed to maintain a healthy and active lifestyle.” A new public health issue related to food insecurity is obesity. Centers for Disease Control and Prevention (2016) define overweight and obesity as “Weight that is higher than what is considered as a healthy weight for a given height.” Overweight and obesity is quantified through the Body Mass Index (BMI) formula, which uses an individual’s height and weight. Nutrition related issues impact all levels of social work. At the micro level, individual clients are suffering from physical, mental, and emotional issues as a result of obesity and food insecurity. According to the National Institute of Health (2016), approximately 68.8% of adults 20 and over are considered to be overweight or obese. Furthermore, approximately 35.7% of adults 20 and over are obese. At the mezzo level, families often do not have access to healthy food, or cannot afford to pay for healthy foods. It is social work’s inherent ethical responsibility to take nutrition and its social-health correlations into consideration to a greater extent. Furthermore, it is uncertain how social workers integrate nutrition into practice. While conducting a biopsychosocial, or intake assessment on a client, there is usually a question or two regarding nutrition, diet, or eating habits.
ACTION AT THE FAMILY LEVEL:
The principal target of nutritional improvement in the community is the family, and the instrument for combating malnutrition at the family level is nutrition education. The housewife is the "manager" to the consumption of foods in the family. In some families, the husband determines what foods will reach the table. Both the husband and the wife need to be educated on the selection of right kinds of local foods and in the planning of nutritionally adequate diets within the limits of their purchasing power. Harmful food taboos and dietary prejudices can be identified and corrected. Since food expenditure often amounts to 50-70 per cent of family budgets, nutrition education programmes should be a good investment. The promotion of breast-feeding and improvement in infant and child feeding practices are the two areas where nutrition education can have a considerable effect. Action is also needed to counter misleading commercial advertising with regard to baby foods. Attention should also be focused on the nutritional needs of expectant and nursing mothers and children in the family. The shortage of protective foods can be met by maintaining kitchen gardening and keeping poultry. Adequate nutrition can be obtained in most countries with a combination of locally available and acceptable foods. Other related activities at the family level are the "package" of mother and child health, family planning and immunization services. The community health workers and the multipurpose workers are the kind of people in key positions to impart nutrition education to the families in their respective areas.

ACTION AT THE COMMUNITY LEVEL:
Action at the community level should commence with the analysis of the nutrition problem in terms of
(a) the extent, distribution and types of nutritional deficiencies;
(b) the population groups at risk, and
(c) the dietary and nondietary factors contributing to malnutrition.
To obtain this information, diet and nutrition surveys in carefully chosen representative population samples will have to be carried out using standardized methodologies which will permit comparisons in time and space. Having obtained information about the magnitude of the nutrition problem in the community, the next important step will be to plan realistic and feasible approaches to the control of the problem based on local resources. In many developing countries such as India, it is usual to start with direct intervention measures such as supplementary feeding programmes, midday school meals, vitamin A prophylaxis programme, but these will only provide palliative, partial or temporary solutions. The real permanent solution can only come from fundamental measures that will correct the basic causes of malnutrition. This implies, first of all, increasing the availability of foods both in quantity and quality, but - much more important making sure that the people suffering or at risk of malnutrition can obtain these foods. The Applied Nutrition Programme is an attempt at production of various types of protective foods by the community for the community. The Integrated Child Development Services (ICDS) Programme makes a concerted and coordinated effort to deliver a basic minimum package consisting of supplementary nutrition, immunization, health check-ups, health and nutrition education for the mothers and non-
formal education for the preschool age children. The target groups are children up to six years, pregnant and lactating women, and other women in the age group 15 to 44 years. Significant improvements in the overall living conditions of the people is also called for at the community level. This includes such measures as health education, improvement of water supply, control of infectious diseases. In brief, a broad socio-economic development of the entire community is called for.

14.5 SOCIAL WORK INTERVENTION IN FAMILY PLANNING

The profession of social work has a long history of supporting access to birth control. In order to authenticate the stand of social work on family planning, issues, the National Association of social workers (NASW) issued a policy statement on family planning which was approved in 1975 and upheld in 1991. The policy states that “a woman’s right of choice in family planning is consistent with the principles of self-determination, empowerment and dignity that form the foundation of social work. Social workers are expected to bring about positive changes through the means of counseling both men and women on the apathy or unwillingness to practice family planning. Social workers should raise awareness and increase understanding of issues affecting family planning amongst policy makers and general population through advocacy and social mobilization. Social worker’s effective advocacy will certainly help to reduce people’s cultural inclinations for religious beliefs as the reasons for lack of adoption of family planning. This can also attest that Religion is problem not only due to its effect on women’s societal position but also because of harmful beliefs and traditions relating to childbirth. Social workers assist men and women by helping them cope with issues in their everyday lives, deal with their relationships and solve personal and family problems. Social workers conduct services and are involved in family planning. They research and analyze policies, programs and regulations concerning family planning. Social workers are not expected to be family planning medical experts; rather they provide individuals with needs assessment and information about family planning services. The social worker’s attentions are focused on the family planning program objectives such as:- Reducing unintended pregnancies, Educating both men and women on the available family planning services, Providing both men and women with information and link them to the available family planning services. Social workers are expected to provide information to people on the available services, where to access services or a referral to the social service case worker upon request. Access and availability of information enhances rightful choices of family planning (contraceptive choice). To this end, social workers should engage in communication campaigns to help people have access to information so that they will make right choices. The manner by which knowledge about family planning is communicated will determine how widely that knowledge will be acted upon. It is therefore, important for social workers to identify appropriate means of information dissemination and health wise choices, people need to know about family planning, have access to a range of methods and have access to information.
The specific intervention includes:
- The proper spacing and limitation of births,
- Advice on sterility,
- Education for parenthood,
- Sex education,
- Screening for pathological conditions related to the reproductive system (e.g., cervical cancer),
- Genetic counselling,
- Premarital consultation and examination,
- carrying out pregnancy tests,
- Marriage counselling,
- The preparation of couples for the arrival of their first child,
- Providing services for unmarried mothers,
- Teaching home economics and nutrition, and
- Providing adoption services

14.6 SOCIAL WORK INTERVENTION IN MCH

The Mother and Child Health Cluster (MCH) includes:

- Making pregnancy safer
- Child and adolescent health/nutrition
- Expanded program of immunization
- Prevention of mother-to-child HIV transmission

The MCH Cluster’s work aims at supporting the country to reduce the maternal, neonatal and under-five mortality and morbidity, so as to enhance the quality of life, by promoting the reproductive health of families and individual women, men, adolescents and children as well as by improving access to skills development, knowledge and information and services.

The term "maternal and child health" refers to the promotive, preventive, curative and rehabilitative health care for mothers and children. It includes the sub-areas of maternal health, child health, family planning, school health, handicapped children, adolescence, and health aspects of care of children in special settings such as day care.

The specific objectives of MCH are:
- Reduction of maternal, perinatal, infant and childhood mortality and morbidity;
- Promotion of reproductive health; and
- Promotion of the physical and psychological development of the child and adolescent within the family.
- The ultimate objective of much services is lifelong health

Check your progress- 3

Note: a. Write your answer in the space given below
   b. Compare your answer with those given at the end of the unit
1. Why it is important to include men in family planning programme?

   ..........................................................................................................................
   ..........................................................................................................................
   ......  

### SPECIFIC SOCIAL WORK INTERVENTIONS

- **Train and equip community health workers and volunteers** in the recognition, treatment, and prevention of diseases affecting mothers and children
- **Educate mothers** about maternal and infant nutrition needs, prenatal and postnatal care, and safe birth practices so they can take control of their own well-being
- **Increase protection from infection and disease** by ensuring babies, children, and pregnant and nursing women receive diagnosis and treatment services
- **Empower local faith and community leaders** to become agents of change and address cultural values that impact the safety of pregnancy and childbirth
- **Provide therapeutic feeding** for malnourished children and supplements for nursing mothers to help improve the nutritional status of children younger than 5
- **Provide vital resources** such as vitamin supplements, medicine, and medical supplies so local health facilities have the tools they need to combat life-threatening conditions
- Provide primary health and nutrition education to change behaviors at the household level, empowering parents to keep themselves and their children healthy
- Build the capacity of community systems to address and monitor causes of illness, death, and malnutrition
- Advocate for quality health service delivery, including partnering with national governments to strengthen health systems and ensure delivery of health and nutrition services

### 14.7 SOCIAL WORK INTERVENTION ENVIRONMENT PROTECTION

- Creating Awareness: Social workers can play a important role in advocating the cause of Environment Conservation and Sustainable Development. They can do it by sensitising the public, policy makers and all stake holders of development sector (including social work activist) on various positive dimensions of environmental conservation specially its relative relevance, and to some extent, its inevitability for sustainable development.

Social Workers are expected to address social issues related to development and environment. They can effectively do it by creating critical awareness on the importance of conservation of
natural resources and biological diversity, control of environmental pollution, and finally stabilization of human population and environment. Welfare and development of people has got much to do with natural resources.

Social Workers can/may develop familiarity with conservation issues and programmes both at micro and macro level. For example, over the past three decades the Govt. Of India has launched a large number of environmental health programmes. Like
- Malaria Control Programme- Using bio-organic techniques in Malaria eradication.
- Water Technology Mission – Providing safe drinking water to water scarce villages, etc.

The Social Workers can mobilize community resources, participation for these programmes by not only creating awareness about the importance of these programmes but also by making them partners of such development initiatives.

- Many of the problems and ill effects of environmental degradation can be effectively addressed/ mitigated by adopting a policy of sustainable development. Sustainable development is defined as 'the development that meets the needs of the present without compromising the ability of future generation to meet their needs. To achieve sustainable development involves a judicious use of natural resources such that the carrying capacity and the productive capacity are not overexploited.

Interventions based on social work principles can be developed and implemented to deal with environmental issues like destruction of natural resources, global warming and climate change, toxic materials production, and waste disposes, and also air and water pollution. The intervention can be both for micro levels and macro levels problems. For example, the following type of interventions can be considered,

- Ecosystem Restoration Programmes, Conservation and recycling programmes (for destruction of natural resources)
- Reforestation programmes (for global warming and climate change)
- Health and Social interventions (Community relocation) for dealing with toxic materials, waste materials, air and water pollution.
- Social workers also can play an important role in environmental conservation such as Refuse, Reuse and Recycle. Nowadays they engage greatly in creating awareness on plastic usage.

### 14.7.1 POLLUTION AND SANITATION

1. Environmental Education and Training to different groups (teachers, students, general population, youth, women, children, environmental experts, policy makers, individuals
and organizations working for environmental issues etc) through different methods (camps, publications- books, posters, journals, education packages, essay competitions, lectures, videos, lectures, dance, drama and puppetry field trips, literature and expeditions, exhibitions, symposia, websites, seminars, workshops etc)

2. Creation of community based environmental groups like nature/eco clubs, conservation networks, community-based environment protection groups etc.

3. Conduct Surveys and Research on Environment: flora and fauna, wild life and endangered species, assessments of various human activities on environment (e.g. soil erosion, water logging, drainage and seepage around select dams), impact assessment; studies on the restoration of the ecological balance of freshwater lakes and ponds and marine habitats and preparation of maps; Soil and Water analysis;

4. Regeneration of Degraded Resources such as land, livestock, water and vegetation: tree plantation, agro forestry and wasteland development, watershed Management, Water harvesting, use of non-conventional sources of energy, clean the ponds, lakes and reservoirs, construct low cost toilets, organic farming, biomass production

5. Lobby with government to take measures to protect environment (wild life, forests, air, water and land etc), prevent development that destroys nature (like the Chipko movement and Narmada Bachao Andolan)

6. Provide consultations and make recommendations and suggestions to government on appropriate measures to protect environment conservation of biodiversity and eco-development; gives guidance on environmental laws, environmental impacts and management studies

7. Creation of Environment data bases

8. Solid Waste Management through door to door meetings, awareness campaigns and collection of solid waste by generating employment, segregation of waste; waste recycling management, preparation of Low cost Toilets.

9. Conservation of energy by promotion of smokeless chulhas, gobar gas plants and other renewable sources of energy.

10. Pollution Monitoring and Control

11. Alternative development solutions programmes of economic efficiency, equity and social justice, resource conservation and self-reliance;

12. Research and development: development of products and technology which will help meet the challenges of environmental degradation.

14.8 SOCIAL WORK INTERVENTION IN ACCIDENTS

Accidents include road traffic, home, work place etc.
Accidents are a major cause of death and disability. It is a serious economic burden to the country. For children and young people, accidents are the greatest threat to life. Accidents, tragically, are not often due to ignorance, but are due to carelessness, thoughtlessness and over confidence. William Haddon (Head of Road Safety Agency in USA) has pointed out that road accidents were associated with numerous problems each of which needed to be addressed separately. Human, vehicle and environmental factors play roles before, during and after a trauma event. Accidents, therefore, can be studied in terms of agent, host and environmental factors and epidemiologically classified into time, place and person distribution.

Social workers along with the concern authorities can work in the areas such as:
- Testing the competence of drivers at the time of Licensing
- Checking the physical fitness of vehicles and their compliance with regulations at the time of registration and periodical fitness check of commercial vehicles
- Statutory use of helmets, wearing of seat-belts, detection / prosecution of drunken driving and prevention of plying of overloaded vehicles.

EDUCATIONAL MEASURES
- Awareness campaigns through print and electronic media,
- Calendars, posters, hand bills/stickers and fun games for school children
- Observance of the Road Safety Week
- Appreciation and incentives to the accident free drivers and organizations including Members of Parliament.
- Road safety part of curriculum in class VII under Central Board of Secondary Education.
- Universalisation of road signs and signage.
- Promotion of time-tested safety devices such as seat-belts and helmets.
- Campaigns against drunken driving and for promotion of safe driving practices.
- Equipping and training police and other agencies to collect, compile and analyze accident data, investigate accidents, enforce speed limits and detect drunkenness.
- Sharing the best-practices in road-safety among countries of the region.

- **Primary prevention**: removal of circumstances causing injury - eg, traffic speed reduction, fitting stair gates for young children, reducing alcohol consumption.

- **Secondary prevention**: reduces severity of injury should an accident occur - eg, use child safety car seats, bicycle helmets, smoke alarms.
<table>
<thead>
<tr>
<th><strong>NOTES</strong></th>
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<tr>
<td><strong>Tertiary prevention:</strong> optimal treatment and rehabilitation following injuries - eg, effective first aid, appropriate hospital care.</td>
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<tr>
<td>• Helmet should be made compulsory by law in all states, OR impose a lower speed limit for those who do not use helmet.</td>
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<td>• Helmet should be made compulsory for back seat riders also.</td>
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<tr>
<td>• Ensure that all Helmet users are fixing the Chinstrap of Helmet. Otherwise it will not help during an accident.</td>
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<tr>
<td>• Ensure that ONLY good quality Helmets are available in the market.</td>
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<tr>
<td>• Strict enforcement of existing traffic rules.</td>
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<td>• Safety awareness should begin from childhood, as it is difficult to impart awareness to a grown up a human. If safety awareness is imparted at childhood, safety will be a habit.</td>
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<td>• Children below a certain age should not be permitted to do cycling in busy roads / roads where heavy vehicles are plying.</td>
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<td>• Refreshment parlors should be made available at (say) every 50 / 100 km. on all national highways and truck / heavy vehicle drivers should be forced to refresh by having a face wash or by having a cup of tea or coffee.</td>
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<td>• Advertisement boards and other items that may obstruct visibility at junctions, curvatures and other parts of the roads should be removed immediately.</td>
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<td>• TV and other media should be effectively used for Public safety awareness.</td>
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<td>• Major accidents and accident-prone areas should be scientifically analyzed.</td>
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<td>• Speed should be restricted at accident prone areas.</td>
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<tr>
<td>• Roads should be properly maintained. Permanent contracts / arrangements should be in place for maintaining all roads in good condition 24 hours a day, 365 days a year. If a gutter is repaired in time it can save a life</td>
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<td>• Health of vehicles should be strictly enforced.</td>
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<td>• Eyes of old aged driving license holders should be tested periodically.</td>
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<td>• License of drunkard drivers / riders should be cancelled immediately.</td>
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<td>• Judicial Commissions should be setup to monitor steps taken to control road accidents.</td>
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<td>• Roads should be straightened / widened wherever required.</td>
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<tr>
<td>• One-way traffic should be implemented as far as possible. Medians should be constructed in roads with two-way traffic.</td>
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<tr>
<td>• Footpaths and medians should be made mandatory for important roads.</td>
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<tr>
<td>• Zebra crossings should be provided for pedestrians for safe road crossings at appropriate places.</td>
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<tr>
<td>• Signals for road crossings at important busy places where a large number of people have to cross the road every day.</td>
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<tr>
<td>• Roads should be properly marked. Proper sign boards should be installed.</td>
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<tr>
<td>• Humps should be provided at all important places, accident prone areas.</td>
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</table>
• Construction, size and shape of the Humps should be scientific. All the Contractors of the Public Works / Other departments should be provided with the details of scientific Hump construction

• Humps should be clearly marked, to avoid accidents. Methods of permanent nature should be followed in Hump marking. For example, white marble pieces / white color / fluorescent pigment can be included in the mixture

• Provision of small pilot humps few meters before humps can also be considered to ensure that humps are not left unnoticed.

• Obstructions on road sides, caused by unauthorized construction / road side sales should be eliminated.

• Visibility should be increased near curvatures. Sometimes, even cutting of grass to increase visibility can help save many lives.

• Road Safety Day / Road Safety Week should be observed in all Schools, every year. Competitions on Road Safety Tips, Slogans, Essay, Painting etc should be conducted for various categories of students.

• Front and Back of Lorries and Trucks should be painted with bright Yellow color to increase visibility. This will help to prevent collisions while Lorries and Trucks are parked on roadside without parking lights switched on.

• Reflectors should be fixed on Front and Back of Trucks and Lorries.

• Accident statistics should be periodically reviewed to understand the effect of actions taken. Corrective steps should be taken based on these reviews.

Car seats and seat belts

The value of seat belts is indisputable. In most vehicles, it is now compulsory for everyone to wear a seat belt, or appropriate child restraint, if available, in the front and back. It is the driver's responsibility to ensure that passengers are correctly restrained.

Attention Deficit Hyperactivity Disorder (ADHD):
ADHD has been shown to be associated with an increased risk of serious transport accidents.

Elderly or disabled people and accident prevention
Frailty and health problems make the elderly, particularly those over the age of 75 years, at increased risk of accidents, usually occurring in the home. Falls are the most common cause. Inability to get up after falling puts the person at risk of hypothermia and pressure sores. Hip fractures after falls are a major cause of morbidity and mortality.

ACCIDENTS IN THE HOME

Road accidents
Common causes of these accidents included speeding, drink driving, not wearing seat belts or careless driving. Around a third involved someone
driving during their work. About 10% of those killed were inexperienced drivers.

Driving speed
Higher speed both increases the risk of collision and the risk of serious injury to the driver or others. Even a modest speed reduction helps reduce both the number and the severity of accidents - eg, pedestrians hit at speeds below 30 mph receive mainly survivable injuries but this changes to mainly fatal injuries at speeds of between about 30 mph and 40 mph.

Medical conditions that affect driving
Diabetes:
- Hypoglycaemia is an important cause of driving errors.
- People with diabetes at highest risk are those with a history of mismanagement of hypoglycemia, lower limb neuropathy or greater exposure, ie high-volume driving.

Epilepsy:
- People with poorly controlled epilepsy can be advised how to minimise their risks of injury during a seizure - eg, take a shower instead of a bath, do not iron when alone and other tips. Identified risk factors for injuries include the number of anti-epileptic drugs, history of generalised seizures and seizure frequency.

Check your progress- 4
Note: a. Write your answer in the space given below
    b. Compare your answer with those given at the end of the unit

1. Name any two diseases which will enhance the chances of accidents.

   ..............................................................................................................................

Excessive sleepiness
- 20% of accidents on motorways are caused by sleepiness and >300 people per year are killed by drivers falling asleep while driving. Sleepy drivers perform worse on tests than those over the alcohol limit.

- Increased awareness of sleep disorders and their treatment is needed, by both the public and by doctors.

Alcohol and drugs
It is difficult for drinkers to know how much alcohol they are consuming, as strength of drinks and size of measures vary considerably. Also, the speed of absorption into the body varies with a person's size, age, weight and gender and whether they have eaten. The same amount of alcohol will give different blood alcohol levels in different people. Therefore, the best advice is not to drink when driving.
Drivers may also be impaired due to the use of drugs, both illicit and prescribed. Any drugs that cause sedation are a problem, including many antihistamines and antidepressants.

Mobile phones and driving
Research have shown that using hand-held or hands-free mobile phones whilst driving increases the risk of drivers crashing, injuring or killing themselves and/or other people, by four times. It is an offence for drivers to use a hand-held mobile phone whilst driving.

Safety in the workplace

- Ensure keeping first aid kit in all work places
- Properly maintain emergency exits
- Emergency health care provisions such as nearest hospitals / doctors
- Proper maintenance of gadgets
- Proper supervision and periodic inspection
- Complying to environment and safety guidelines of the state and central governments

14.8.1 SUICIDE PREVENTION

Key clinical strategies to counter a potentially negative interaction with a client experiencing suicidal thoughts and/or feelings that may serve to facilitate treatment engagement and adherence include:

1. **Creating an accepting, safe, non-judgmental space for the client to disclose his/her suicidal thoughts.** For example, a statement such as, “Help me to understand what got you to the point that you believe suicide is your only option,” is a judgment-free way to engage clients in a conversation about their suicidality.

2. **Maintaining a transparent, neutral stance throughout the interview.** This may serve to facilitate more honest, open responses on the part of the client.

3. **Careful consideration of the number and timing of questions.** Although it is necessary to ask the core suicide risk assessment questions (i.e., questions about active ideation, plan, intent, and so forth), avoiding an interrogational style is essential. If the client is openly talking, do not interrupt to cover the default assessment questions. Rather, encourage the natural conversation that the client seems comfortable with, and the client may end up answering many of these questions, even if it is out of order or sequence. Should important questions remain unanswered and there is a need to backtrack to address them, do so when there is a natural break in the conversation.

4. **Conveying to the client that alternatives to suicide exist, even though they may be hard to identify at this time.** The clinician’s confidence that finding a solution will be possible is an important factor in engaging the at-risk client in treatment.
5. **Personalizing treatment.** Eliciting the client’s goals for treatment and personalizing reasons for why treatment is important and how it can be helpful will help to maximize the likelihood that the client will continue to attend treatment.

Treatment engagement is an important yet often overlooked issue in suicide prevention efforts. Individuals at risk for suicide are hesitant to engage in treatment and often expect to be met with discomfort and negative judgments, affecting the likelihood of their initiating and remaining in treatment. Making an active, focused effort to engage at-risk clients in treatment and creating an accepting space to disclose suicidal thoughts may have life-saving consequences.

Social worker can perform the roles of gatekeeper, case worker, clinician, counselor, psychotherapist, community worker, researcher, trainer etc. Incorporating suicide prevention in the syllabus of social work education is recommended.

**KNOWING THE SIGNS**

Perhaps the most important thing a social worker can do to help prevent suicide among teens is to know the warning signs. These can include the following:

- Talking about suicide or death
- Making statements about wishing they were dead
- Isolating themselves from friends and family
- Giving away possessions
- Showing a sudden improvement in mood after being depressed for a period of time.

By knowing the signs, you increase your ability to open a dialogue that can prevent the teen from acting on his or her thoughts. The most common way to do that is to begin by asking the teenager if he or she has been thinking of suicide and, if the answer is yes, finding out if the teen has created a plan for carrying it out. It's also important to find out if he or she has access to lethal means to carry out a plan, such as guns or pills.

In addition, you will want to take into consideration such things as the level of hopelessness and psychological pain and his or her history of self-destructive behavior. If you determine the person is not in immediate danger, you should create a plan of action that will include maintaining frequent contact, either by phone or in person, and working with the teen’s family to create a support network that can monitor suicidal behavior.

In some cases, your assessment might indicate the teen needs further help, such as hospitalization. If you are dealing with a minor, this is something that will likely need to be done with his or her parent's consent. So you will be working closely with the family and will also want to provide them with more knowledge about suicide and how to prevent it.
14.9 ALCOHOLISM AND DRUG ABUSE

What are Alcoholics Anonymous, Al-Anon and Alateen?

Alcoholics Anonymous (AA) is a global, community-based program that was created to help those struggling with problematic drinking get sober with the support of their peers through daily meetings and discussions surrounding addiction. AA gives men and women a place to come together and share their experiences, recover from alcoholism and maintain sobriety. Its concept revolves around that premise that alcoholism is an illness that can be managed, but not controlled. Alcoholics Anonymous is a kind of self-supportive/help group.

Al-Anon is a mutual support program for people whose lives have been affected by someone else’s drinking. By sharing common experiences and applying the Al-Anon principles, families and friends of alcoholics can bring positive changes to their individual situations, whether or not the alcoholic admits the existence of a drinking problem or seeks help.

Alateen, a part of the Al-Anon Family Groups, is a fellowship of young people (mostly teenagers) whose lives have been affected by someone else’s drinking whether they are in your life drinking or not. By attending Alateen, teenagers meet other teenagers with similar situations. Alateen is not a religious program and there are no fees or dues to belong to it.

A substance abuse social worker can assess, diagnose and treat substance abuse problems, whether they are associated to drugs, alcohol, tobacco or any other substance a person can become dependent on. They have the necessary tools to deal with these issues and give the person the right support at the personal, family and community level. They work in the prevention, treatment and recovery phases of substance abuse.

What does a Substance Abuse Social Worker do?

A social worker who specializes in substance abuse helps people by identifying their problem, assessing their needs and providing treatment in a variety of settings. A substance abuse social worker may also recognize an individual at risk for becoming addicted to drugs, and recommend appropriate action. The substance abuse social worker educates clients, acts as a patient advocate, provides crisis intervention, manages cases and facilitates individual and group therapy. Patients volunteer for treatment or they may be mandated referrals, such as those referred by a probation officer. A substance abuse social worker may also educate the public in community outreach centers, schools and recreation centers.

After conducting assessment interviews and evaluating patients, the social worker determines the level of treatment necessary. An individualized treatment plan is developed with input from the patient, and substance abuse treatment programs are evaluated. Some substance abuse social workers are part of a team that would review the proposed treatment program. Once the program is implemented, the social worker reviews the patient’s progress on a regular basis. The treatment plan is modified periodically in order to reflect any change in the status of the patient. The
Substance abuse social workers may help their clients stick to their treatment plan by providing support such as completing forms and arranging for transportation to and from appointments. Patients are counseled on dealing with a wide range of issues that may underlie the substance abuse problem, including unemployment, physical abuse in the home, economic poverty and physical or mental illness. The social worker acts as a liaison with other professionals including physicians, nurses and counselors for the benefit of patients.

Why do we Need Substance Abuse Social Workers?

Substance abuse is a national problem. Substance abuse affects the individual, their families, spouses and friends, their community, and society as a whole. Substance abuse social workers have the important task of restoring people lost in addiction to sanity and sobriety, so they can become healthy, responsible family providers, good workers, and productive members of society.

A large number of untreated addicts in a community can result in stress on multiple interrelated social systems, produce economic problems, and urban decay. Social workers who specialize in this area save lives. If substance abusers do not receive proper treatment in a timely manner, their lives will become unmanageable.

Dealing with addicts and alcoholics takes a special type of dedication and commitment. It is not for everybody. Treating addicts and alcoholics requires a unique approach, and the treatment methods and theoretical perspectives vary significantly from other types of psychotherapy. The clinician must be firm, assertive, and confrontational, yet respectful and compassionate. A lot of clinicians do not want to work with this population, but a shortage of clinicians in this area can mean long waiting lists for treatment.

During this wait time, which can be as long as 18 months, the addiction will progress. More physical, psychological, and financial harm will occur, family and associates will be stressed by the addict’s behavior, work productivity will suffer, and people will lose motivation for entering treatment. Some addicts will overdose and die.

Check your progress- 5
Note: a. Write your answer in the space given below
   b. Compare your answer with those given at the end of the unit
   1. What do you mean Al-Anon and Alateen?

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14.10. LET US SUM UP

The social work profession seeks to promote well-being and quality of life. Thus, the profession encompasses activities directed at improving human and social conditions, while alleviating human distress and social problems. They achieve their mandate through enhancing competence and functioning of people, helping them to access social supports and resources, and trying to create humane and responsive social services, for the benefits of providing resources and opportunities for all citizens. They have certain specific skills to provide these interventions. Their interventions are important in promoting community health and mental health. They work, coordinate and collaborate with other agencies and sectors in providing social work interventions.

14.11 UNIT END EXERCISES

1. Write any 10 road safety slogans
2. Name any two Government and Non-Governmental NGOs working in your area working for suicide prevention/ mental health
3. Plastics are serious problems to our environment. Suggest alternative ways to plastic use.
4. Suggest ways to prevent teens from alcoholism and drug dependency.

14.12 ANSWER TO CHECK YOUR PROGRESS

1. Awareness on universal immunization programme can be created through social media, public campaigns such as street plays, door to door announcements.

   Generally vaccinations are available in all Primary Health Centres and Sub centres.

2. Today, nutrition is still a major social-health issue, especially relevant to social work-related public health issues such as mental illness, the obesity epidemic, and food insecurity

3. The best family technique is educating the women. However in our culture, the decision making is mostly vested with men. Creating awareness on family and reproductive health with both women as well as with men is important to have a healthy family.

4. Diabetes and Epilepsy

5. Al anon is for the family members of the alcoholics and Alteen is specifically for the teen aged children of alcoholics
1.13 SUGGESTED READINGS


ALAGAPPA UNIVERSITY
COMMUNITY HEALTH (PG LEVEL)
MODEL QUESTION PAPER

TIME: 3 HRS. TOTAL MARKS : 75

PART A (10X2=20) Answer all questions

1. Define Hygiene
2. Define Balanced diet
3. What is Type 1 and Type 2 diabetes?
4. What are the symptoms of dengue?
5. Define Community participation
6. What is meant my EAR or CPR?
7. Define Health Planning.
8. Define Health Education
9. Mention any four Occupational diseases
10. Mention any four significance of Breast feeding.

PART B(5X5=25) Answer all questions choosing either (a) or (b)

11. Define Public health and explain it in Indian context
    or
    Explain the meaning and concept of Community Mental Health
12. a) Briefly discuss about health hazards of environmental pollution
    or
    b) What are the health problems related to poor housing?
13. a) What are the functions of Primary Health Centre?
    or
    b) What are the Principles of Primary Health Care?
14. a) List any common health issues of Women
    or
    b) List any common health issues of Children
15. a) What are the salient features of MTP Act 2002?
    or
    b) What are the salient features of Mental Health Act 1987?

PART C(3X10=30) Answer 3 out of 5 questions

16. What are the dimensions, determinants and indicators of health?
17. Write an essay on Family planning from Indian cultural perspectives.
18. Describe common nutritional deficiency disorders.
19. How does alcoholism affect the individuals, families and communities?
20. Discuss about the causes, symptoms, treatment and prevention of any 5 communicable
diseases.