Family and Community Health Nursing Department **Faculty of Nursing**

Community Health Nursing

For fourth Year Nursing students

Prepared by

Community Health Nursing Staff

2023-2024

Unit I: - Community Health

Introduction to Community Health Nursing

Contents:

- The historical development of community health nursing.
- Health and community care terms.
- Objective of community heath
- Goals of community health nursing.
- Function of Community Health Nursing
- Components of community health nursing
- Characteristics of community health nursing.
- Scope of community health nursing.
- Differences between the role of the hospital nurse and the community health nurse.
- Role of community health nurse.

Introduction

The new concept of health has made an impact on the role of Community Health Nursing because people want to seek quality health care . The country continues to face health crisis ,how to provide access to all persons for quality health care at reasonable rates.

Educational preparations for health care providers have traditionally been conducted in illness setting . learning about health must be from curative and restorative view rather than preventive or health promotion

Historical development of Community Health Nursing

Community Health Nursing (CHNg) has developed in response to identify health needs of consumers, philosophy and concepts of CHNg have become earlier understood and applied, its development has been influenced by changes in nursing and society. Historically, the specialty of CHNg developed through three stages:

1-The district nursing stage:

This began in 1860 with voluntary home nursing care for the poor, sometimes called "health nurses". These specialties treated the sick and taught whole some living to patients.

2-The public health nursing stage:

This began in 1900 and lasted until about 1970. It was characterized by consciousness of the general public and their health. The family became the primary unit of care.

3-The community health nursing stage:

This began around 1970 and has continued to the present. Nursing schools began to require course in public health for all baccalaureate graduates. This stage made it clear that community nursing involved more than merely working in the community.

Health and community care terms:-

Health:

It is the state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

Public health:

It is science and art of protecting and improving the health of communities through education, promotion of healthy lifestyles and research for disease and injury prevention.

Public Health Nursing

It is the practice of promoting and protecting the health of population using knowledge from nursing, social and public health sciences.

Community Health

It is the identification of needs along with the protection and improvement of collective health within geographically defined area.

Community Health Nursing

It is a field of nursing combining nursing science with public health science to formulate a practice that is community-based and population-focused.

Community

It is defined as a group of people living together in a defined geographical area ,in the same locality , district and country ,sharing the same resources , a social group ; or class having common interest.

Demography

The study of populations, especially with reference to size and density, fertility, mortality, growth, age distribution, migration and vital statistics, and the interaction of all of these with social and economic conditions.

Epidemic

A group of cases of a specific disease or illness clearly in excess of what one would normally expect in a particular geographic area

Endemic

It is the continuing presence of a disease or infectious agent in a given geographic area.

Pandemic

An epidemic that is worldwide in distribution.

Outreach

Services provided outside the venue of providing organization, usually in people's homes.

Objective of community heath

1. Prevention of Diseases

The first and foremost objective of community health is to preventive of community health is to prevent the disease from its occurrence as blocking the modes of transmission from entering the host

2. Promotion of Health

Health can be promoted by good nutrition , hygienic conditions, health education and health ways of living

3. Curative Health

In case of a person suffering from a disease which makes him unfit to perform daily activities

4- **Rehabilitation Health**

The person is rehabilitated by helping him to settle himself as an economic asset or himself dependent individual in the society, so that he does not feel unfit to work after his illness and not accepted in the family and society.

Goals of community Health Nursing

1. Contribute to improve the community health nursing practice and service to community
2. To increase the capabilities of individual , family and group or community to cope with health and illness problems
3. To support and supplement the efforts of health workers or agencies in controlling communicable diseases and in the restoration and preservation of health
4. To control physical and social environment conditions that threatens health of people

Function of Community Health Nursing

1. Community health nurse provides comprehensive health care to individual ,family and community as a whole
2. Strengthening family life and promoting personal or family developmental and self-realization
3. Nurse works in special setting with other health personnel's such as schools , industries ,factories to plan ,implement and execute the health programs

4. Community health nurse participates in control of various communicable diseases by participating in national health programs

5. Community health nurse plans and evaluates the nursing services provided to the community

6. Community health nurse contributes to the decision making and policy setting in the health agency and community

7. Community health nurse actively participate to the extension of knowledge in nursing and health care by engaging in surveys ,studies and research

Components of Community Health Nursing

Community health practice can best be understood by examining two basic components:

A- Promotion of health

B- ***Prevention of health problems***

A- Promotion of health:

Includes all efforts that seek to move people closer to the optimal wellbeing or higher levels of wellness

Goals of health promotion:

1- Increase the span of healthy life for all citizens.

2- Reduce health disparities among population groups.

3- Achieve access to preventive services for everyone.

B- Prevention of health problems:

It is constitutes a major part of community health practice and includes five basic levels as primordial , primary, secondary quaternary and tertiary level of prevention (***These levels will discussed later***).

Scope of community health nursing:

1- Home care

2- Nursing homes

3- MCH and family planning

4- School health nursing

5- Health care services

6- Industrial nursing services

7- Domiciliary nursing service

8- Geriatric nursing services

9- Mental health nursing services

10- Rehabilitation centers

Differences between the hospital and the community health nurse:

Items	Hospital Nurse	Community Nurse

Setting	- Work in hospital	- Work in community settings, homes, school, industries, and hospital….etc
Nursing role	- Specialized i.e. works with specific age or disease. - Interdependent within the health sector. - Provide comprehensive cares to individual patients only. - Applies professional nursing practice.	- Generalized i.e. works with all groups and different diseases. - Interdependent within the health sector and other sectors. - Provide comprehensive cares to individuals, families and community. -Applies professional practice with basic community health nursing practice.
Nursing concern	- Condition requiring hospitalization i.e. sick individuals and disabled.	- Prevailing health problems and community needs. - Total population especially under served

		and high risk groups.
Nursing practice	- Main principle in her practice is curative, prevention of complication and health teaching i.e. focus mainly on secondary and tertiary prevention. - Patient well to be discharged.	- Main principle in her practice is prevention, early case finding, health teaching, follow up and family self-direction i.e. focuses mainly on primary prevention. - Improved patient, family, community health and self-care.
	- The nurse is the hostess	- The nurse is a guest.

Role of the community health nurse

The community health nurse must be capable to performing multiple role functions of the setting of employment. These role functions include**:**

1- Care provider (function role):

In community health practice, providing nursing care is different than in hospitals, this is because the target of service

expands beyond the individuals to include families, groups and communities.

Nursing care is defined to meet the special needs of the client, which are identified from the assessment made by the nurse. Health is the main focus in community health practice; the community health nurse uses many different skills in the care provider role such as skills in observation, listening, communication and counseling.

2- Educator:

Health teaching is considered one of the major functions of the community nurse. Teaching is a necessary role function for health promotion, health maintenance, prevention of disease and welfare to individuals and societies; this could be achieved by sharing information clinics or informally at home.

3- Counselor:

Counseling is the process of helping individual chooses appropriate solution to their problems. Community health nurse act as counselor to individual and groups, this role will increase the health awareness of the individuals, families and community at large.

4- Manger (Administrative role):

In community health, the nurse role as a manger includes managing family care handling a caseload, administering a clinic or planning a project.

5- Leader:

The community health nurse stimulates interest in health promotion, initiates therapy, guides in decision making, direct a preventive program, influences a health policy and effects change. Thus the community nurse becomes an agent for change.

6- Collaborator:

To collaborate means to work with toward a common goal. It is a process of joint decision making in an atmosphere of mutual respect and cooperation. The community health nurse being a member of the health team assumes the role of collaborator between the different personnel of the team.

7- Coordinator:

The community health nurse plays an important role in coordinating between the different services in the community.

8- Advocator:

The community health nurse acts as advocate for the individual, group, or community client. The role of the community nurse in client advocacy is to help the client to gain

greater independence and direct the health care system to the needs of the client by influencing change. She helps to direct attention to inadequate or improper care and service provided to the client.

9- Researcher:

The researcher role is an integral part of community health nursing practice, it helps to identify needs, evaluate effectiveness of care and develop theoretical basis for community health nursing practice.

10- Evaluation role:

Evaluation is a continuous process and part of the daily activities of the community nurse. The community health nurse evaluates the effectiveness of care provided to individuals, families and groups.

Community as a client

Out line:-

1) Introduction

2) Community components

3) Definition of community as client

4) Dimensions of the community as a client

(1) Location,

(2) Population,

(3) Social system.

5) Community dynamics

6) Types of community assessment

7) Nursing process component applied to community as client

A) Community assessment methods

1. Surveys
2. Descriptive epidemiologic studies
3. Community forums or town hall meetings
4. Focus groups

B) Data analysis and diagnosis

D) Evaluation implemented aggregate health plans

8) Characteristics of healthy community

Community as a Client

Introduction

Community health nurses work with clients at several levels: as individuals, families, groups, subpopulations, populations and communities. Although community health nurses work at all six levels of practice, working with communities is a primary mission for two important reasons, the first, the community directly influences the health of individuals, families, groups, subpopulations and populations who are a part of it. The second reason, provision of most health services occurs at the community level.

Community components:

1- Environment:

Referees to the place where people live in, which has physical characteristics (as climate, geographic location), biological, chemical (as food supply, water supply, presence of micro-organisms) and social characteristics (as economic condition, education, reaction).

2- Boundaries:

Boundaries, like the skin in the individual maintain the integrity of the system and regulate the exchange of

community and its external environment either natural, or man-made.

3- People:

Refers to the community residents who are the most important resources of the community either cluster or separate based on variety of individual, demographic, health, psychological, economic, and cultural characteristics.

4- Needs and goals:

Vary with the type of the community focused on maximizing the well-being of members, promoting survival and meeting the needs of the community members.

5-Services system:

Services system includes health, education, social welfare, religion and recreational facilities. It should be organized to meet the population needs

Definition of community as client

The community as client refers to the concept of a community-wide group of people as the focus of nursing service.

Dimensions of the community as a client

A community defined as having three features:

(1) A location variables includes:

a) Community boundaries

b) Location of health services

c) Geographic features

d) Climate

e) Flora and fauna

f) Human-made environment

(2) A population variable includes:

a) Size

b) Density

c) Composition

d) Rate of growth or decline

e) Cultural characteristics

f) Social class and educational level

g) Mobility

(3) A social system variables includes:

a) Health system

b) Family system

c) Economic system

d) Educational system

e) Welfare system

f) Political system

g) Legal system

h) Communication system

1. Location

Every physical community carries out its daily existence in a specific geographic location. The health of a community is affected by location, because placements of health services, geographic features, climate, plants, animals and the human made environment are intrinsic to geographic location. The location of a community places it in an environment that offers resources and also poses threats.

The location perspective of the Community Profile Inventory, including the six location variables:

1. Community Boundaries

Measurements of wellness and illness within a community depend on defining the outer geographic limits of the unit under consideration. It is important for the nurse to know the nature of each location and explicitly define its boundary.

2. Location of Health Services

When assessing a community, the community health nurse needs to identify the major health centers and know where they are located. This location presented transportation problems and profoundly affected the willingness of clients to voluntarily

seek treatment and the length of time they remained at the center.

3. Geographic Features

Communities have been constructed in every conceivable physical environment, and environment certainly can affect the health of a community.

4. Climate

The climate also has a direct influence on the health of a community. A healthy community encourages physical activity among its members, but the climate affects this activity.

5. Flora and Fauna

Plant and animal populations in a community are often determined by location. The community health nurse needs to know about the major sources of danger from plants and animals affecting the community under study.

6. Human-Made Environment

It is an environment created and transformed by human ingenuity. People build houses and factories, dump wastes into streams, fill the air with gases, and build dams to control streams. All of these human alterations of the environment have important implications for community health.

2. Population

Population consists not of a specialized aggregate but of all the diverse people who live within the boundaries of the community. The health of any community is greatly influenced by the attributes of its population. Community health nurses can better understand any community by knowing about its population variables. ***The population perspective of the Community Profile Inventory, including the seven population variables:***

A. Size

Knowing a community's size provides community health nurses with important information for planning.

B. Density

In some communities, thousands of people are crowded into high-rise apartments, crowding affects individual and community health. A low-density community, however, may have problems.

C. Composition

Communities differ in the types of people who live within their boundaries. Age, sex, educational level, occupation, and many other demographic variables affect health concerns.

D. **Rate of Growth or Decline**

Community populations change over time. Some grow rapidly. Any significant fluctuation in population size can affect the health of the community.

E. Cultural Characteristics

A community may be composed of a single cultural group, or it may be made up of many cultures or subcultures. These differences can create conflicting or competing demands for resources and services or create inter group hostility.

F. Social Class and Educational Level

Social class refers to the ranking of groups within society by income, education, occupation, prestige, or a combination of these factors.

G. Mobility

People in any society are a mobile population. High turnover may necessitate special attention to health education about local conditions.

3. Social system

A social system is an abstract concept and can be more readily understood by first considering the people who make up the community's population. Each person enacts multiple

roles such as parent, spouse, employee, citizen, church member and political volunteer.

A social system variables includes

a- Health system

b- Family system

c- Economic system

d- Educational system

e- Welfare system

f- Political system

g- Legal system

h- Communication system

Nursing process component applied to community as client

A) Community assessment

Assessment for nurses means collecting and evaluating information about a community's health status to discover existing or potential needs as a basis for planning future action. Assessment involves two major activities: ***The first*** is collection of pertinent data; ***the second*** is analysis and interpretation of data.

Community assessment methods

Four important methods include:

1. Surveys

A survey is an assessment method in which a series of questions is used to collect data for analysis of a specific group or area.

To plan and conduct community health surveys, the goal should be to determine the variables (selected environmental, socioeconomic and behavioral conditions or needs) that affect a community's ability to control disease and promote wellness. The nurse may choose to conduct a survey to determine such things as health care use patterns and needs, immunization levels, demographic characteristics, or health beliefs and practices.

2. Descriptive epidemiologic studies

A second assessment method is a descriptive epidemiologic study, which examines the amount and distribution of a disease or health condition in a population by person (Who is affected?), by place (Where does the condition occur?) and by time (When do the cases occur?).

3. Community forums or town hall meetings

The community forum or town hall meeting is a qualitative assessment method designed to obtain community opinions. The participants are selected to participate by invitation from the group organizing the forum. Members come from within

the community and represent all segments of the community that are involved with the issue.

4. Focus groups

This fourth assessment method, focus groups, is similar to the community forum or town hall meeting in that it is designed to obtain grassroots opinion.

However, it has some differences:

1. There is only a small group of participants, usually 5 to 15 people.
2. The members chosen for the group are homogeneous with respect to specific demographic variables.
3. The interviewer guides the discussion according to a predetermined set of questions or topics.
4. Usually the group meets for 1 to 3 hours and there may be a series of meetings.

Data analysis and diagnosis

This stage of assessment requires analysis of the information gathered, so that inferences or conclusions may be made about its meaning. Such inferences must be validated to determine their accuracy, after which a nursing diagnosis can be formed.

Community diagnoses refer to nursing diagnoses about a community's ineffective coping ability and potential for enhanced coping.

Community diagnosis formation

Following analysis and interpretation of collected data community health diagnosis is reached. The nurse set priority of needs identifies high risk groups and design a plan of action to respond to the community particular needs.

The statement of community diagnosis must consist of the following three components:

1- The problem faced by the recipient.

2- The recipient of the care.

3- The factors contributing to the problem.

While stating a diagnosis the three components must be stated as follows

1- The risk of ……..

2- Among ……

3- Related to ……

Example: Risk of infant malnutrition; among families in(x) community related to lack of breast feeding and weaning.

C. Implementing plans

Implementation is often referred to as the action phase of the nursing process. In community health nursing, implementation includes not just nursing action or nursing intervention but collaboration with clients and perhaps other professionals.

D. Evaluation

Evaluation, the final component of the nursing process, is the last in a sequence of actions leading to the resolution of client health needs.

Evaluation refers to measuring and judging the effectiveness of goal attainment. The nursing process is not complete until evaluation takes place. Too often, emphasis is placed primarily on assessing client needs and on planning and implementing service.

Types of evaluations

1. Structure-process evaluation

Structure-process evaluation has as its emphasis the formation and operation of a plan or program. Established performance standards are used to determine what is working and what is not working throughout the process.

2. Outcomes evaluation

The term outcomes evaluation has been used independently to measure the end results (quality) of service the effect and the impact of services. The effect, or degree to which an outcome objective has been met, informs the agency or program leader of the program's impact on clients' health. The impact of a program determines how close it comes to attaining its goals.

Characteristics of healthy community

1. One in which members have a high degree of awareness that "we are a community".
2. Recognition and conservation of natural resources.
3. Openly recognizes the existence of subgroups and welcomes their participation in community affairs.
4. Prepared to meet crises.
5. A problem- solving community; it identifies, analysis and organizes to meet its own needs.
6. Have open channels of communication that allow information to flow among all sub groups of citizens in all directions.
7. Resources available to all members of the community.
8. Participation by citizens in decision making.
9. Promotes a high level of wellness among all its members.
10. Settling of disputes through legitimate mechanisms.

Rural Health Nursing

Objectives:

By the end of this course, the student will be able to:

- Define rural area.
- Identify percentage of rural population in Egypt.
- List factors influence rural health.
- Discuss Problems of rural community.
- Explain rural health program.
- List rural health services.
- Discuss role of the community health nurse working in rural community.

Content:

- Introduction.
- Percentage of rural population in Egypt.
- Definition of terms.
- Factors influence rural health.
- Problems of rural community.
- Rural health program.
- Rural health services.
- Role of community health nursing in rural health.

Rural health

Introduction

Any country is divided into urban and rural areas, according to certain features. The rural area is the community where agriculture is the chief occupation of the population. Rural areas of developing countries are less privileged than the urban and suffer from a number of inter-related problems.

Percentage of rural population at Egypt:

In Egypt, the percentage of population distribution at urban and rural as the follow**:** 53.8% of population living at rural areas and 46.2% living in urban areas ***(EDHS, 2013).***

Definition of terms:

Rural:

It is defined as communities with fewer than 10,000 residents and a county population density of less than 1000 persons per square mile.

Rural community:

It is an area where farming is considered as the chief occupation of the people.

Factors influence rural health:

1- Availability of services:

Availability refers to the existence of services and sufficient personnel to provide those services. In rural areas there are fewer physician and nurses in general.

2- Accessibility of services:

Accessibility refers to whether a person has the means to obtain and afford needed services. Accessibility to health care by rural families may by impaired by the following:

- long travel distance
- lack of public transportation
- lack of telephone services
- a shortage of health care providers
- inadequate reimbursement policies(e.g medicine , drug)
- unpredictable weather conditions
- inability to obtain entitlements

3- Acceptability of services

Acceptability refers to whether a particular services is offered in a manure congruent with the values of a target population.

Problems of rural community

Problems can be classified into health problems and health related problems.

I- Health problems:

- Higher morbidity and mortality.
- Unsatisfactory effectiveness of available health services.

II- Health related problems:

- Socioeconomic problems
- Education and culture.

I- Health problems

1- Higher morbidity:

The rural people suffer from endemic diseases, such as infectious, parasitic and nutritional deficiency disease

Infectious disease:

- Diseases of food born infections: as infective diarrheal disease and virus hepatitis (A).
- Disease of respiratory infection e.g. pulmonary tuberculosis.
- Disease of contact infection: infective skin disease as scabies.

***Parasitic diseases*:**

The different helminthic and protozoal diseases, by ingestion, vector born and contact infection; as Ascaris Ancylostoma, Schistosomiasis and Entamoeba are common among school children.

Nutritional deficiency disease:

- Iron deficiency anemia.
- Protein energy malnutrition as: marasmus and kwashiorkor.
- Rickets: a problem of infants and young children.

2- Higher mortality:

Specially age specific mortality of children below five years, infant mortality and maternal mortality

3- <u>Unsatisfactory effectives of rural health services</u>

II- Health related problems:

1-Socioeconomic problems:

- In sanitary environment and poor living conditions with more spread of communicable diseases and impaired health especially of children.
- Malnutrition.
- Urbanization problem: Urbanization is the process of migration of people from rural to urban areas, specially cities and big towns.

2- Education and culture problem:

- High illiteracy rate.
- Faulty health related habits and behavior of the public.
- Faulty traditional beliefs.

<u>Rural health services</u>

Preventive, curative and outreach services of primary heath care.

1- preventive services

For the community and vulnerable groups.

a) for community:

- Monitoring sanitation of the environment.
- heath education of the public by personal approach and local mass media.

- family planning services.
- Heath office services.
- endemic and parasitic disease control.
- dental care services.

b) for vulnerable group

- Maternal and child heath services.
- School health services.

2- curative services:

Include outpatient clinics, first aid/emergency services, and inpatient services.

3- Outreach program:

To reach the people within their community for:

- Home visits for health education, social services, mothers and children not attending regular visits
- Immunization campaigns to immunize dropout children so as to get satisfactory coverage
- Mobil units can visit isolated localities and communities to provide health services

Roles of community health nursing in rural community:

1- Direct care provider:

A)Provide direct nursing care in the home.

B) Health promotion through:

- Health education about proper nutrition, adequate supply of water and basic sanitation, accident prevention and control,

insect control, important of immunization and vaccination, and follow up of pregnant women.

2- Education role:

- Assessing need of individuals and families situation and plan health education.

4- Research role:

The community health nurse should be kept the report and record of the patient use in research and solving his problem.

5- Supervisory role:

The nursing duties include supervising other personnel in providing care and planning.

6- Administrative role:

The nurse is working as manger in the units as center.

7- Communicating role:

Communicate with the community and facilitate communication process between families and community.

8- Evaluating role:

- Evaluate the effectiveness of care given.
- Follow up care in the community.

Home Visit

Objectives:

- Define home visit.
- Identify the purposes of home visits
- List the advantage and disadvantage of home visits.
- Analyze the types of home visits.
- Identify the special risk groups at family.
- Discuss the phases of home visits.
- List the points to be remembered during the home visit.
- Demonstrate the roles of the community health nurse in home visits.

Content:

- Introduction.
- Definition of home visits.
- Purposes of home visits.
- Advantage and disadvantage of home visits.
- Types of home visits.
- Special at risk family groups.
- Phases of home visits.
- Points to be remembered during the home visit.
- Role of the community health nurse.

Home Visit

Introduction

The home “home health care” describes a system in health care and social services are provided to homebound or disabled people in their homes rather than in medical facilities.

Home health care is that component of a continuum of comprehensive health care whereby health services are provided to individuals and families in their places of residence for purpose of promoting, maintaining or restoring health, or maximizing the level of independence, while minimizing the effects of disability and illness, including terminal illness.

Definitions:

- A home visit is a purposeful interaction in a home directed at promoting and maintaining the health of individuals and the family.

Purpose of home visit:

The focus of community health nursing practice in the home can be categorized under five basic goals:

1. Promoting support systems that are adequate and effective and encouraging use of health-related resources.
2. Promoting adequate, effective care of a family member who has a specific problem related to illness or a disability.
3. Encouraging normal growth and development of family members and the family, and educating the family about health promotion and prevention.

4. Strengthening family functioning and relatedness.
5. Promoting a healthful environment.

Table (6): Advantages and Disadvantages of Home visiting

Advantages	Disadvantages
- Home setting provides more opportunity for individualized care. - Most people prefer to be cared for at home. - Environmental factors impinging on health, such as housing condition and finances. May be observed and considered more readily. - Information collection and understanding lifestyle values are easier in families' own environment. - Participation of family members is facilitated. - Individuals and family members may be more receptive to learning because they are less	- Travel time is costly. - Less efficient for nurse than working with groups or seeing many clients in an ambulatory site. - Distractions such as television and noisy children may be more difficult to control. - Clients may be resistant or fearful of the intimacy of home visits. - Nurse safety can be an issue.

anxious in their own environment and because the immediacy of "needing to know" a particular fact or skill becomes more apparent. - Care to ill family members in the home can reduce overall costs by preventing hospitalizations and shortening the length of time spent in hospitals or other institutions. - A family focus is facilitated.	

Types of home visiting

There are many ways to categorize home nursing visits. One nurse's objectives, which are based upon responses to the needs of her families

1. Systemic routine visits:

These are made to families in the district to get acquainted, estimate competencies of family members, determine if there are

health problems and teach healthful family living, e.g. antenatal, postnatal give medication…etc

2. Selective visits:

Those visits are made in response to specific problems such as infectious diseases, chronic illness, and epidemiological survey. TB, case finding…etc

3. Follow up and preventive visits for nursing activities:

- Visit to families with newborn babies giving necessary nursing care and health teaching.
- Checking on newly discharged premature babies.
- Helping a mother with a child weaning problems.
- Follow- up of a recently hospitalized and discharged child with severe malnourishment, kwashiorkor.
- Discuss hazards facing the family.

Special "at risk" people

1. Family with dead child from infectious disease e.g. respiratory infection.
2. Pregnant mothers (ante natal care), postnatal and lactating mothers.
    - Mothers with premature infant or twins.
    - Very young or old pregnant mothers.
    - Mothers with complication during previous pregnancy.
    - Single parent family / elderly lives alone.
    - Family with chronic illness.
    - Family with handicapped condition.

- Family with less than 5 years child.
- Malnutrition children.
- Family with infection illness.
- Follow as supervision.
- Family with mental illness.

Phases of home visits:

1. Preplanning.
2. Initiation.
3. Implementation.
4. Termination.
5. Post home visit and preplanning.

1- Preplanning phase

Pre visit activities: collection of data:

- Have name, address, and telephone number of family and map.
- Telephone number of agency supervisor can be reached.
- Emergency telephone numbers for police, fire, and rescue personnel.
- Special safety precautions are required.
- Plan of activities for the home visit time.
- Equipment needed for hand washing, physical assessment, and direct care interventions.
- Information and teaching aids for health teaching as appropriate.
- Information about community resources as appropriate.

2- Initiation phase

- Identify suggested problems.
- Identify client's need (physical, emotional, medical development, dietary educational and motivational.
- Review previous intervention for the problem needs identified.
- Set priorities according to the impact of the problem on health, client regarding the problem, ease of solution.
- Plan for nursing intervention according to the problem.
- Consider the available resources and the client attitudes toward resources.
- Consider equipment and supplies needed to implement the planned interventions.
- Consult other health team professional for certain problem if needed.

3. The actual visit (*Implementation****) :***

- The nurse should introduce herself to each member of the family, shake hands.
- Efforts should be made to assist all members of the family to feel comfortable and relaxed.
- Collect additional data about the family.
- Clear question must be asked to family to give clear answer.
- The nurse must always be a model of confidence.
- Identify any new problems that arise.
- Work at mutual goal setting for problem solution with client and family.

- Implement nursing interventions as planned or modify the plan as the situation dictates.
- Evaluate the effectiveness of the nursing interventions in terms of the client's response.

4. Closing the visit (*Termination****):***

- She repeats the plans for the client and family will carry out in her absence.
- She stresses the positive aspects, emphasizing family strengths.
- Together the nurse and the family plan the next visit, establishing a data and approximately time convenient for the family and the nurse.

5. Documentation of the visit (*Post home visit and preplanning****):***

If the visit is not recorded, it is not done.

- Community health record is considered a legal document and is subject to court order.
- Record is frequently used as a supervisory tool.
- Include future plans recommendation for subsequent home visits.
- Record is frequently use as a supervisory tool it is helpful to review and trace the nurse's growth and development and to determine the needs for additional helping working with the families.

- When visual aids have been used during the visit, the name of the pamphlet, guide or any aid should be given.

Points to be remembered during the home visit:

- The nurse should make an appointment in advance, she nay arrange for the visit by a telephone call.
- She should plan her visit at times that are least disruptive of family life. A home visit at an inappropriate time is likely to be unproductive and may even be destructive of the rapport established between nurse and client.
- Generally, avoid rest periods, periods of intensive work times of religious ceremonies and rituals, bathing times and meal times.

Role of community health nurse:

***I. Assessment*:**

1. Identifying the needs of the family before making the visit. By analyzing data available in the family records know all family members and the environment of the house.
2. Complete the rest of the information from the actual visit, which will help in knowing the family in its real environment.

***II. Planning*:**

- Planning can be short term or long term and interventions can be implemented immediately or over a long period of time.
- Short-term plans are those, which can be met in a few weeks' time where as long term plans are accomplished over many weeks or perhaps months or years.

In planning, the following are done:

1. Setting the goal / objectives for the visit
2. Identifying the needs and health problems of the family
3. Specifying the actions to be carried out by the nurse during the home visit. E.g. health teaching about nutrition, cleanliness, family hygiene feeding young child, examining pregnant women ……..
4. Select proper place and time for carrying the visit.
5. Prepare necessary equipment, instruments and materials which the nurse will need during the home visit should be placed in the nursing bag.

***III. Implementation*:**

During the visit, the nurse should:

1. Identify the traditions and customs of the family and healthful practices.
2. Use effective therapeutic communication skills
3. Use audio visual materials in teaching, also available home utensils and materials.
4. Emphasize to the family that this visit was made for them.
5. Tie the family with center. Explain services offered.
6. The nurse should ensure that questions raised from family members clearly.
7. Do not record any word said by the family in front of them.

***IV. Evaluation*:**

Evaluation whether the objectives were fulfilled or not. If not should know the reasons and correct it.

Unit II:
Community organizing / building
&
health promotion

Levels of health and levels of prevention

Objectives:

- Define the prevention
- Discuss the level of the health care.
- Identify the five levels of prevention.
- Recognize the aim of each level and its application on teaching
- Apply the levels of prevention in health problems

Contents:

- Introduction
- Definition of prevention
- Levels of prevention:
  - I- Primordial prevention
  - II- Primary prevention
  - III- Secondary prevention
  - IV- Quaternary prevention
  - V-Tertiary Prevention

Introduction:

Health of each individual is a dynamic process, ranging from optimal wellness through illness and disability to death. Individual life style and health habits are strong determinants of health and disease. The concept of prevention is defined in the context of levels, traditionally called primary, secondary and tertiary prevention. A fourth level and fifth level, called primordial prevention and quaternary prevention**,** was later added**)**.

Definition of prevention:

Prevention defined as, actions aimed at eradicating, eliminating or minimizing the impact of disease and disability, or if none of these are feasible, retarding the progress of the disease and disability**.**

Levels of prevention include:

I-Primordial prevention

Actions and measures that inhibit the emergence and establishment of environmental, economic, social and behavioral conditions, cultural patterns of living, etc., known to increase the risk of disease. primordial prevention, efforts are directed towards discouraging children from adopting harmful lifestyles.

II-Primary level of prevention

The protection of health by personal and community-wide effects. Primary prevention involves measures provided to individuals to prevent the onset of a targeted condition.

(Health promotion, disease prevention/ specific protection) includes all activities that actively promote optimal health and prevent disease through specific prevention.

A) Health promotion:

It is aims at improving and maintaining positive health status. The activities and measures to achieve this level are.

1- Socio-economic development.

2- Health education about:

a. Proper nutritional habits of sensitive groups.
b. Personal hygiene.
c. Rest, sleep, relaxation and recreation.
d. Stress control and management.
e. Healthy and positive attitude.
f. Healthy practices and behavior.
g. Recreation.

3- Genetics counseling to avoid hereditary diseases.

4- Increase people awareness and positive approach toward:

a. Health care as a right.
b. Accept primary responsibility for maintaining their health.

c. Making sound decision about their health.

5- Generalized the system of periodical check-up.

6- Equip the people with the information, skills and resources to translate decision into action: eg. Changing people's behavior such as: over eating, smoking and Immobility.

7- Increase level of resistance against the common health problems.

B- Specific protection:

It is aims to preventing the occurrence of disease by:

1- Immunization program.

2– Attention to personal hygiene.

3- Environmental sanitation such as(disinfection of water, disposal of sewage and refuse, control of insect and rodents, control of food infection).

4- Protection against occupational hazards.

5- Protection from accidents.

6- Use specific nutrient and supplementation for sensitive groups.

7- Use specific drugs for disease prevention:

- Sulpha-diazine in meningitis.
- Long-acting penicillin to prevent rheumatic fever.

8 - Protection from carcinogens.

9- Avoidance of allergens.

III- Secondary level of prevention.

It includes

A- Early identification or diagnosis or case finding & prompt treatment of existing health problems (restoration of health)

B- Disability limitation .

These activities take place after the onset of any health problems.

Early detection/ case finding is the key for the secondary prevention level. ***The objective of early diagnosis and prompt treatment are:***

1. Cure and prevent disease processes.
2. Prevent the spread of communicable diseases .
3. To prevent complications and squeal.
4. To shorten period of disability.

The activities or measures to achieve this level are:

A -Early detection/case finding and prompt treatment can be achieved through:

1. Screening survey.
2. Proper investigation.
3. Diagnostic X ray.
4. Follow-up for positively screened Individuals.
5. Treatment of the existing disease.

B - *Disability limitation:*

- Adequate treatment to arrest the disease process and to prevent further complications &squeal.
- Such as diabetic foot, retinal damage ,nerve damage…….etc.
- Early diagnosis + prompt treatment =Disability limitation and good prognosis.
- Provision of facilities to limit disability and to prevent death.

IV-Quaternary prevention

Are the action taken to identify patient at risk of overmedicalisation, to protect him from new medical invasion, and to suggest to him interventions, which are ethically acceptable. Quaternary prevention is the set of health activities to mitigate or avoid the consequences of unnecessary or excessive intervention of the health system.

V- Tertiary level of prevention

- The measures that directly applied after an illness or disability condition has occurred whereby rehabilitation is the focus of tertiary prevention.
- It includes returning the client to highest level of function possible following the correction of health problems. However, rehabilitation implies long term management.

The activities or measures to achieve this level are:

- Provision of hospitals and community facilities for retraining and education for maximum use of remaining capacities.
- Education of the public and industry to utilize the rehabilitated as full employment as possible.

Steps of rehabilitation include:

1. Determine the type of severity of disability.
2. Set the goals.
3. Determine the realistic rehabilitation.
4. Determine the health team which is the most appropriate.
5. Monitor the progress.
6. Assess the activity daily living (ADL).
7. Avoid delaying on provide treatment.
8. Investigate social and family circumstances to determine if further support is required.

Primary Health Care

Objectives:

By the end of this course, the student will be able to:

- Define the PHC
- List the objectives of PHC
- Discuss the principles of PHC
- Enumerate the elements of PHC
- Discuss the role of the nurse as a member of a PHC team

Content:

- Introduction
- Definition of PHC
- Objectives of PHC
- Principle of PHC
- Elements of PHC
- Role of the nurse as the PHC team

Introduction:

Primary health care is fundamental to community health and is essential part of the Ministry of Health and Population (MOHP) strategy to achieve health for all (HFA). PHC emphasizes preventive health care at its three levels primary, secondary, and tertiary.

There is a link between community health nursing and primary health care. Both incorporate community-based practice, involvement of the community in health care decisions, a focus on disease prevention and health promotion, and use of an interdisciplinary approach in planning and implementing appropriate solutions to health problems. Thus community health nursing and PHC are complementary.

Definition:

The declaration of Alma- Ata defined PHC 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 country can afford to maintain at every stage if their development in the spirit of self reliance and self determination".

Objectives of PHC:-

- Promotion of community health, through nutrition, physical activity and fitness, prevent consumption of tobacco, alcohol and other drugs, violent and abuse behavior, and mental health.
- Prevention of health hazards in the community: preventive services priorities like maternal and infant health, immunization against infectious diseases, HIV, chronic diseases, STDs diseases, heart diseases, mental and behavior disorders.
- Early detection and promote treatment of illness and health hazards
- Disability limitation and rehabilitation through help in minimizing the effects of the disease for both of the society and individuals.

Principles or essential component of Primary health care:

1- Equity in distribution.

2- Appropriate technology.

3- Multidisciplinary approach or intersect oral coordination.

4- Community participation.

5- Focus on prevention

1-Equitable distribution:

Health services should be shared or distributed equally to all areas of city (urban) or village (rural), rich/poor, caste/ colour. At present all health services are available at big cities. But risk group are living in villages and low level unhygienic areas of cities.

Primary health care aims and views at the shifting of maximum health facilities to target areas (where people are not getting, at the same time suffering) at their home level.

2- Community Participation

Involving individual, family and community their own health. Government may not reach the whole area. If the community is involved they will value their efforts. They can plan, implement and maintain health services along with local resources of money, material and manpower. People who are working should be selected from the same locality. So that they will work more effectively for their community without much problem of language, culture, belief and customs.

3- Intersectorial Co-ordination

Alone health sector or department cannot work out for the benefit of the community health. Agriculture, food, industry, education, housing. Public works, communication. To get all these sectors to work for common goal like health care system strong political involvement is needed.

4 - Appropriate Technology

The meaning of the term "Technology" that is:

a) Scientifically sound
b) Adaptable to local needs and acceptable to those who uses.
c) Maintained by the people
d) Resources that community and country can afford.

The things should be needed; not purchasing very cost! Apparatus which is not used. E.g.; a big X-ray machine is not all used in a village or no person is available to operate it.

5- Focus on prevention

The focus of care should be on prevention rather that on cure.

Eight elements of primary health care

The eight essential health elements in the provision of PHC are the following:

1. Education concerning prevailing health problems and the methods of preventing and controlling the disease.
2. Promotion of food supply and proper nutrition.
3. Adequate, safe waters supply and basic sanitation.
4. Maternal and child health care, including family planning.
5. Immunization against major in infectious diseases.
6. Preventing and control of local endemic diseases.
7. Appropriate treatment of common disease and injuries.
8. Provision of essential basic household drugs for the community.

Role of the nurse as the PHC team :-

A- Independent role.

Are those roles, which the PHC can perform legally without a physician's or other professional immediate supervision as:

- Home care, complete history taken.
- Emergency care, uncomplicated prenatal and postnatal care, family planning, teaching or counseling.
- Problem oriented record keeping.
- Health assessment.
- Delegation of responsibility and function to other nursing team.

B- Interdependent role:

Are performed together with other professional's team as:

- Planning patients care with physicians.
- Support and counseling for families.

C- Dependent role:

Are performed by PHC under the supervision and guidance of other health team:

- Selection of laboratory tests or other diagnostic procedures.
- Therapeutic decision involving drugs.
- Referral, admission, extended care.

Sustainable development goals

Out lines:

- Introduction
- Definition of millennium development
- Sustainable Development Goals 2020-2030
- 17 Sustainable Development Goals 2020to 2030

Introduction

The United Nations Millennium Development Goals (MDGs) were 8 goals had specific targets and indicators. All **189 UN** Member States have agreed in 2000 to try to achieve by the year 2015 to reduce poverty, hunger, disease, illiteracy discrimination against women and improve the environment and other conditions in poor countries around the world.

Sustainable Development Goals 2016-2030

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace, prosperity and partnership. Comprising 17 Sustainable Development Goals (SDGs), the 2030 Agenda integrates all three dimensions of

sustainable development (economic, social and environmental) . The Sustainable Development Goals were built on the achievements of the MDGs but are broader, deeper and far more ambitious in scope.

Definition of the Millennium Development Goals (MGDs): a set of plans that were made by the United Nations in 2000 to try to reduce hunger and improve the environment and other conditions in poor countries around the world.

17 Sustainable Development Goals 2015 to 2030:

Goal 1: End poverty in all its forms everywhere

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.

Goal 3: Ensure healthy lives and promote well-being for all at all ages.

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

Goal 5: Achieve gender equality and empower all women and girls

Goal 6: Ensure availability and sustainable management of water and sanitation for all.

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all.

Goal 8: Promote sustained, inclusive and sustainable economic growth and productive employment and decent work for all.

Goal 9: Build infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Goal 10: Reduce inequality within and among countries

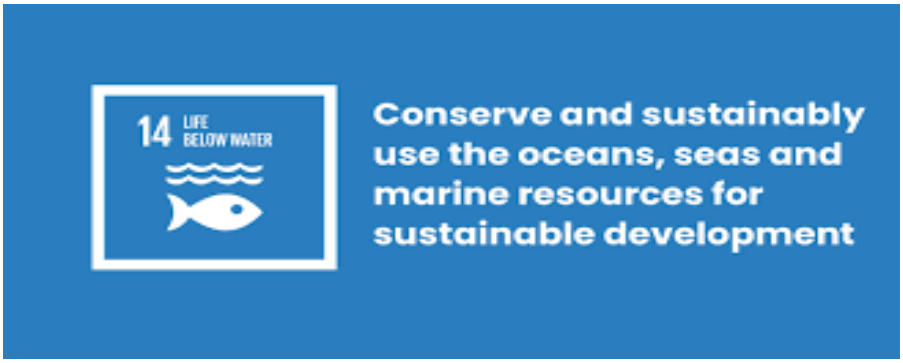
Goal 11: Make cities and human settlements inclusive, safe and

sustainable.

Goal 12: Ensure sustainable consumption and production patterns

Goal 13: Take urgent action to combat climate change and its impacts.

Goal 14: Conserve and sustainably use the oceans, seas and marine resources.



Goal 15: Protect and promote *sustainable use* of terrestrial ecosystems, sustainably manage forests, and halt land degradation.

Goal 16: Promote inclusive societies for sustainable development, provide access to justice for all.

Goal 17: Strengthen the means of implementation and the global partnership for sustainable development.

Maternal and Child Health (MCH)

Objectives:

By the end of this lecture, the student will be able to:

- Describe the objectives of MCH program.
- Identify the functions of MCH centers.
- Describe the program of child-health.
- Identify the function of MCH centers for childcare.
- Identify the routine of the work in MCH center.
- Identify the role of the public health nurse at MCH center.

Content :-

- Introduction.
- Objectives of MCH program.
- Functions of MCH Centers.
- Program of child-health.
- Function of MCH centers for childcare.
- Routine of the work in MCH center.
- Role of the public health nurse at MCH center.

Introduction:

Mothers and children constitute more than half of the population (62%). They have regarded as the most vulnerable members of society because they have special risk e.g. child bearing among women susceptibility to communicable diseases, growth and development and survival among children. So, they are in need of special attention. Emphasis is placed on promotion of heath and prevention of death, disease and defects.

Objectives of MCH program:

1. Ensure that every expectant and nursing mother maintain good health, learns the art of child care, has a normal -delivery and bears healthy children.
2. Health promotion of children from 0-6 years of age.

Functions of MCH centers:

1- Premarital care:

2- Maternity care

3- Infant and preschool child care

4- Family planning

5- Health education

6- Social care

1-Premarital care

Purposes of premarital care

1. Early detection of any health problem and treatment.
2. To provide premarital guidance; preparation for marriage, family life education, art of child rearing and family planning.
3. Saving parents and future offspring's from health hazards (e.g. by premarital immunization against german measles and mumps if not taken)

Components of premarital care

A. Premarital examination
B. Premarital education
C. Premarital counseling

A. Premarital examination it includes

1. History taking (personal and family medical history)
2. Physical examination (heart and chest to detect any disease, pelvic measurement to detect contracted or deformed pelvis)
3. Laboratory investigations:
   - Blood tests for wasserman reaction to exclude syphilis, viral hepatitis B (VHB), viral hepatitis viral hepatitis C, AIDS, Rh factor, BL grouping and hemoglobin.
   - Urine analysis for sugar and albumin to exclude DM or kidney disease.
4. Chest X-ray (to exclude pulmonary TB.)

5. Premarital immunization.

B. Premarital education:

- Premarital education should be started early during prepuberty, puberty, adolescence as well as adulthood to guide and prepare couples for marriage.
- The following areas of health education should be emphasized on parents health, nutrition, safe environment, role of the father, role of the mother, child rearing, sex education and family planning.

C. Premarital counseling

- Premarital counseling is a communication process in which the counselor tries to provide a couple with complete and accurate information on responsibility of marriage and encourage the couple to explore and communicate their individual needs, goals, values and deficiencies.
- It is a chance for the couple to verbalize their expectations of marriage including any fears and anxieties they may have.

2-Maternity

Include:

A) Antenatal -care

B) Natal care

C) Post natal care

A) Antenatal -care

It is the care and supervision given to a pregnant woman so that she may pass through with minimum of mental and physical discomfort and a maximum of mental and physical fitness.

Aims of ante-natal care

1. The main goal is the safety and welfare of the mother and her fetus.
2. Preparation of mother for labor, lactation and subsequent care of her child.
3. Early detection and appropriate treatment of high risk conditions.
4. Reduction of maternal and infant mortality, still births and premature.
5. Increase the number of breast-fed babies.

Schedule of Antenatal visits

12-15 visits in normal Cases **No. of Visits.**

- 1st trimester 1 visit/ month (1)
- 2nd trimester 1 visit/month (3)
- 7th and 8th month 2 visit each month (4)
- 9th month 1 visit each week (4)

MCH services for pregnant women:

A-Initial visit

1-History taking

- Personal: name age occupation, address.
- Menstrual: LMP, EDD, menarche and dysmenorrhea.

- Obstetric: gravidity, parity, complications for mother or baby.
- Medical: past illness, venereal, heart, DM and TB
- Family: any genetic disease, hypertension, DM, heart and TB.
- Social: income, family members and education.

II-Examination

1- General examination

- Head: Ears, eyes, nose, mouth and throat.
- Neck: palpation of the thyroid gland.
- Observation of skin and hair.
- Heart and lungs; are auscultated for irregularities in function.
- Extremities; are examined for varicose veins and edema.
- Vital signs; temp. Pulse, and respiration, to detect any abnormalities.
- Blood pressure; should be 120/80 or less and not above 140/90.
- Body weight and height: weight should be recorded in the first visit.
- Then recording the weight in graph each return visit.

2- Local Examination

1. Inspection of breast and nipples.
2. Abdominal examination:
   a. Inspection of hair distribution, linea nigra, stria gravidarum and scare of previous operations.
   b. Palpation of the abdomen for:
      - Height of the funds.

- Fetal lie, attitude, position and presentation using the four grips.

c. Auscultation of fetal heart sound (120/160/min)
d. Pelvic measurements to evaluate fetopelvic accommodation.
e. Inspection of external genitalia.
f. Vaginal examination to rule out abnormalities of birth canal.
g. Cervix examination (position, size, mobility)

III- Investigations

- Urine analysis: For glucose and albumen.
- ***Blood tests include :***

- Blood group is determined because of the risk of hemorrhage.

- Rhesus factor, if the mother is Rh-negative. Several follow up determination for the presence of irregular antibodies should be done throughout pregnancy (at 1st visit, 28 weeks, 34 weeks and at term). If the samples remain negative labor is allowed to proceed without interference. The RH of the infant should be determined and if positive, the mother should be treated with Rh immune globulin.

- Hemoglobin, if HB is below 12.6 g. (85%), iron, folic acid, vitamins B and C are prescribed. If HB below 10 g. (70%) blood investigations is carried out.

- Wasserman test for screening of syphilis.

- Screening for AIDs, viral hepatitis B (VHB) and viral hepatitis C (VHC).

IV- Dental examination

V- Social services

B- Return visit

- In every visit, the following should be done to pregnant women, weight, measuring the blood pressure, general observation, urine analysis for sugar and albumen, at the 30th week hemoglobin estimation, abdominal examination, size of the uterus. Should be asked about general well-being, signs and symptoms of edema, bleeding, constipation, headache, or any unusual symptoms.
- After routine examination every pregnant women should be educated as regards her: diet, rest, sleep, bowel movement, exercise, fresh air and sunshine, bath, care of breast and nipples, clothing, dental care, sexual intercourse, work hobbies and travel physiology of pregnancy and mechanism of delivery, mental, psychological aspect, family life education, family planning, changed of mood, body drugs, micro-organisms environmental and biological factors.
- Husband should he included in the education sessions in order to understand expected role and changes occurring to his life.
- Immunization: in Egypt, active immunization against tetanus is done as a routine for all pregnant women attending MCH centers. Primary immunization of pregnant women consists of two doses of absorbed toxoid administered about one month apart except if the women was actively immunized, she can take only one dose. For life long protection, the mother should

receive 5 doses of tetanus toxoid, the 1st dose should be at first contact, or as early as early as possible during pregnancy, 2nd dose after 4 weeks (give 80% protect ion). 6-l 2 mouths after the 2nd dose or during the subsequent pregnancy, give the 3rd dose (give 95% protection).Another 2 doses given during the subsequent pregnancy or every 1-3 for the 4th dose & 1-5 years for the 5th dose (give 99% life long protection).

Health teaching during first trimester

1. **The family accepts this pregnancy**: the first pregnancy produces a certain degree of emotional anxiety in mind of any thinking woman, emotions e.g. mother love and pride in creation, induce feeling of tranquility and gladness. These reactions depend on her intelligence, education, health, age and marital situation. All babies are not planned or wanted at the time of conception, but the majority of married women adjust to the situation and when born the baby is welcomed.
2. **Physiological changes due to pregnancy**: rise level of estrogen and progesterone, increase number of red and white cells and platelets, increase heart rate. BP falls 5 to 10 m.m., increase secretion of glucose, urea, amino acids, folic acid in urine dilatation of uterus and enlarged, weight gain, changes in breast and abdomen, constipation, deep breathing. The changes affected all system. The women carry out her duties and work but doesn't cause any stress and fatigue. Care of the breast: the nipple and areola should be kept clean with water to avoid

formation of crusts, during the last two months of pregnancy, the breasts should be massaged to milk, the colostrums and prevent it from- blocking the ducts. Inverted nipples can be massaged to become mobile.

3. **Fresh air and sunshine**: the, pregnant woman should be advised to spend two hours a day in the fresh air if possible, away from busy streets. Baby needs a daily airing before birth as well as after.
4. **Travel**: long rail or care journey should not be undertaken. The jarring and excitement may induce abortion in susceptible women.
5. **Rest and sleep:** at least 8 hrs, sleep should be obtained every night, relax for 2 hrs during day.
6. **Cleanliness:** regular and frequent washing especially in the gento-anal region and under axilla-and breast due to increase in discharge and sweating.
7. **Care of teeth**: the fetal demands for calcium, that is withdraw during pregnancy from mothers teeth and bones. For tooth extraction, a local analgesic is administered to avoid cyanosis.
8. **Coitus**: during pregnancy is normal and depend on the mother in clination. A previous abortion might be an indication for avoiding coitus during first 3 months.
9. **Smoking**: if women heavy smokers try to cut down because nicotine in excess dose cause vasoconstriction and affect placental function.

10. **Bathing**: avoid hot bath because may cause fainting, a daily shower is ideal, avoid tub-bath.
11. **Bowels**: move every day without use laxatives, regulate her habit of defecation, increase fluid intake and maintain her diet to avoid constipation.
12. **Avoid taken any drugs**: without doctor order, avoid exposure to infectious disease especially German measles.
13. **Exercise and relaxation**: should be simple and not to be strenuous. Walking is excellent to stimulate the circulation and feeling good appetite.
14. Warning without frightening tell pregnant women about unusually symptoms to be treated in early stages and avoid complications
15. Avoid x-ray, vaginal douching, catheter and enemas are contraindicated.
16. **Diet**: diet should contain meat, milk, vegetables and fruits.
17. **Minor discomfort**.

Health education during the second trimester:

1. Help family to establish their role as parents.
2. Husband can adapt to the changes occurring to his wife.
3. Better family life and family planning.
4. Avoid heavy weights, may predispose to abortion, avoid constant standing lead to varicose veins, avoid climb to reach high shelves because over balancing and her tendency to faint.

5. Travel avoids airlines after 32nd week as there is possibility of premature labor.
6. Rest and sleep: during second half of pregnancy, the mother is carrying constant load and increase to 11 kgm. she advise to rest and sleep at least 2 hrs/day.
7. Clothes: should be suitable, comfort, made from cotton. Bras should be broad, shoulder straps and constricting bands on the legs should be avoided to prevent varicose veins and edema. Shoes should be short heal and broad base to maintain good posture.
8. Diet: increase fluids.

Health education during third trimester

1. Exercise end recreation: homework, making beds, sweeping polishing brings many but not all muscles into play, so exercise have been advised to keep the muscles to be used during labour in good tone and the pelvic joints flexible.
2. Travel: avoid airline.
3. Breast care: should be massaged to milk the colostrums and prevent it from blacking the ducts
4. Perineal care: due to frequency of urination and increase discharge.
5. Marital relation: should be avoided in last 3 weeks of Pregnancy to avoid infection.
6. Avoid: smoking, alcohol, and drugs.

7. Preparation for herself and her home for delivery or other place for delivery.
8. Family planning; should be educated.
9. Baby care: baby rearing and feeding.
10. Diet: increase iron and calcium.
11. True onset of 1abour.
12. Warning signs: vaginal hemorrhage, stopped fetal movement, any abnormal secretion, abnormal vomiting, edema, headache, abdominal pain
13. Minor discomfort.

B) Natal care

Objectives of the natal care

- To assist the mother to have normal delivery
- Provide emergency care if necessary.
- Safety for bot h mother and fetus.

Place of delivery:

1. In MCH centers

There is an internal section with a limited number of beds for delivery of:

a. Registered mothers who preferred to deliver at the center.
b. Mothers living under poor inconvenient housing.
c. Mothers with mild difficulties.

2. Home delivery

-Deliveries expected to be normal can be carried out at home by qualified trained nurse midwife (assistant midwives) provided with

an equipped kit. Difficult cases can be referred to the center or hospital.

C) Post natal

It is the period of time from the end of the third stage of labour until the time at which the pelvic organs have returned to normal about 6-8 weeks.

Goals of post partum care

1. Helping the physiological changes of this period to occur as spontaneously as possible
2. Helping parents in adjusting to and accepting new roles
3. Helping strengthen mother child or parent child bonding

General examination

1- Measuring vital signs according to mother's condition. It should be normal during puerperium

2- Abdominal examination

- For any tenderness, palpable organs and swelling
- The uterus is felt as a firm, pear shaped.
- The decrease in size is approximately 1 cm daily, until the 11^{th} or 12^{th} day when the funds is longer palpable.
- The bladder should be emptied prior to uterine palpation.
- Complete involution occurs after 6 weeks.

3- Vulva and perineum examination

- Under aseptic condition, observe vaginal discharge. (lochia)

Health education about

1. Avoiding puerperal infection
2. Care for episiotomy
3. Rest and sleep
4. Diet
5. Early ambulation
6. Breast care
7. Psychological changes
8. The bowels
9. Exercises
10. Family planning
11. Post partum examination 2nd and 6th week it includes abdominal examination obstetric examination, inspection and palpation of breast. urine analysis, hemoglobin estimation, B. P. and weight.

Post partum checks

- 1st day; vital signs BP., general examination, level of the fundus (1/U) lochia (rubra), perineum, episiotorny
- 3rd flow of milk, slight increase of temp.. lochia (rubra) level of the fundus (U/1) perineum.
- 5th level of the fundus (U/3) lochia (serosa).
- 7th level of the fundus (U/5) lochia (serosa) cord (bady).
- 10th temperature (purp, sepsis), level of the funduds (U/8) lochia (alba).

- 15^{th} involution of uterus lochia (alba)
- 22^{th} lochia (laba), ant complication or complains
- 40th post partum examination, family planning, B C G vaccination for the infant.

3- Infant and preschool childcare

(Program of child-health)

Objectives of child – health services

1. Health promotion of children
2. Prevention and control of diseases and hazards
3. Prevention of disability and rehabilitation
4. Reducing child mortality

Function of MCH centers for childcare

1-Preventive services, which include:

a. Prenatal and natal care
b. Newborn care
c. Health promotion of infants and preschool children
d. Prevention and control of communicable diseases
e. Health education
f. Maintenance of health through periodic medical examination
g. Domiciliary care

2- Curative services

3-Social services

1-Preventive services

a. Prenatal and natal care

Good ante natal care for normal foetal growth and ensure safe delivery of the foetus.

b. Newborn care

Immediate neonatal care as aseptic cutting of the umbilical cord, clear airway, establish respiration. Apager scoring, protection from hemorrhage, protection from infection, eye care management of complication if present and keep warmth.

c. Health Promotion

- Adequate nourishment of infant and children is one of the most important features in health promotion breast feeding should always be encouraged.
- Supplementation of milk and some food for infants and twins
- Nutritional education for the mother, how to prepare adequate diet, proper breast feeding arid weaning practices

d. prevention and control of communicable diseases

- Immunization of infants and children (see booklet of immunization in practice)
- Good sanitation of the environment of the clinic and home
- Health education about personal hygiene, food sanitation and environmental sanitation, prevention of infection

e. Health education

The education for the mother about, feeding, weaning, hygiene, accident prevention, growth and development, care of the baby, infant care, importance of vaccination, play material and recreation.

f. Maintenance of health

Periodic examination of the child for check up of the general condition, growth and development through regular visits to the MCH as the following schedule:

- Monthly for the first year
- Twice / year for the second year
- Every year till the age of 6 years.

Every child should have his own health record, which contain information from birth till the end of preschool period.

In the first visit:

- History is taken about birth data (date of birth, place of birth, period of gestation, type of labour)
- Measurement of weight, height, chest and head circumference.
- A Complete physical examination and test of hearing and vision.

In periodic follow up visits:

- Assessment of growth and development, check height, weight, teeth etc
- Immunization, compulsory vaccination, on time, type and date
- Any signs of diseases or complains is recorded and treated.

- Health education for the mother about child growth, diet, hygiene, infant rearing, physical, emotional needs, disease of infancy and how to cope with them

2. Curative services

- MCH center provide curative services for sick children through:
  - Case finding
  - Early diagnosis and treatment
  - Follow up of cases
  - Referral of cases

Main problems facing children from birth to 5 years

- Congenital malformation
- Prematurity
- Birth injuries
- Asphyxia
- infection (tetanus)
- Upper respiratory tract infection
- Malnutrition diseases
- Communicable diseases
- Gastrointestinal and diarrhea diseases
- Accidents

3. Social services

- The social worker and the nurse together share the responsibly for preparing the family to the parenthood role, and develop a health parent-child relationship through and health education
- Worker at the MCH center can carry out a social investigation about the families in need of social support and provide adequate support.

Role of the public health nurse at MCH center

1. Administrative Role

- Participate in the organization of the MCH program.
- Evaluate nursing services given to the consumers.
- Participate in planning, job description, delegation of work and working hours.
- Participate in health teaching programs and in-services training programs for nursing staff.
- Systematic gathering of information for evaluation of progress of the program.
- Cooperate with other health workers in the health team.

2. Supervisory Role

- Understand the policy of the agency.
- Ensure that the health personnel under her supervision knows the function they are expected to perform.
- Supervise the function of her staff
- Participate in the in-service training program according to the needs of her staff.

- Conduct group discussion with the staff.
- Guide her staff to over come their difficulties in work setting
- Help in monitoring and implementing the plan of action.
- Assess the needs of the staff; equipments and supplies

3. Functional Role

1. Case finding from patient history, home visit and referral
2. Assist in medical examination and history taking
3. Follow-up of cases
4. Referral to other health facilities
5. Estimation of needs of the pregnant women, post-natal women and infants according to the assessment
6. Provide health care according to the needs.
7. Keep systematic records.

4. Educational role

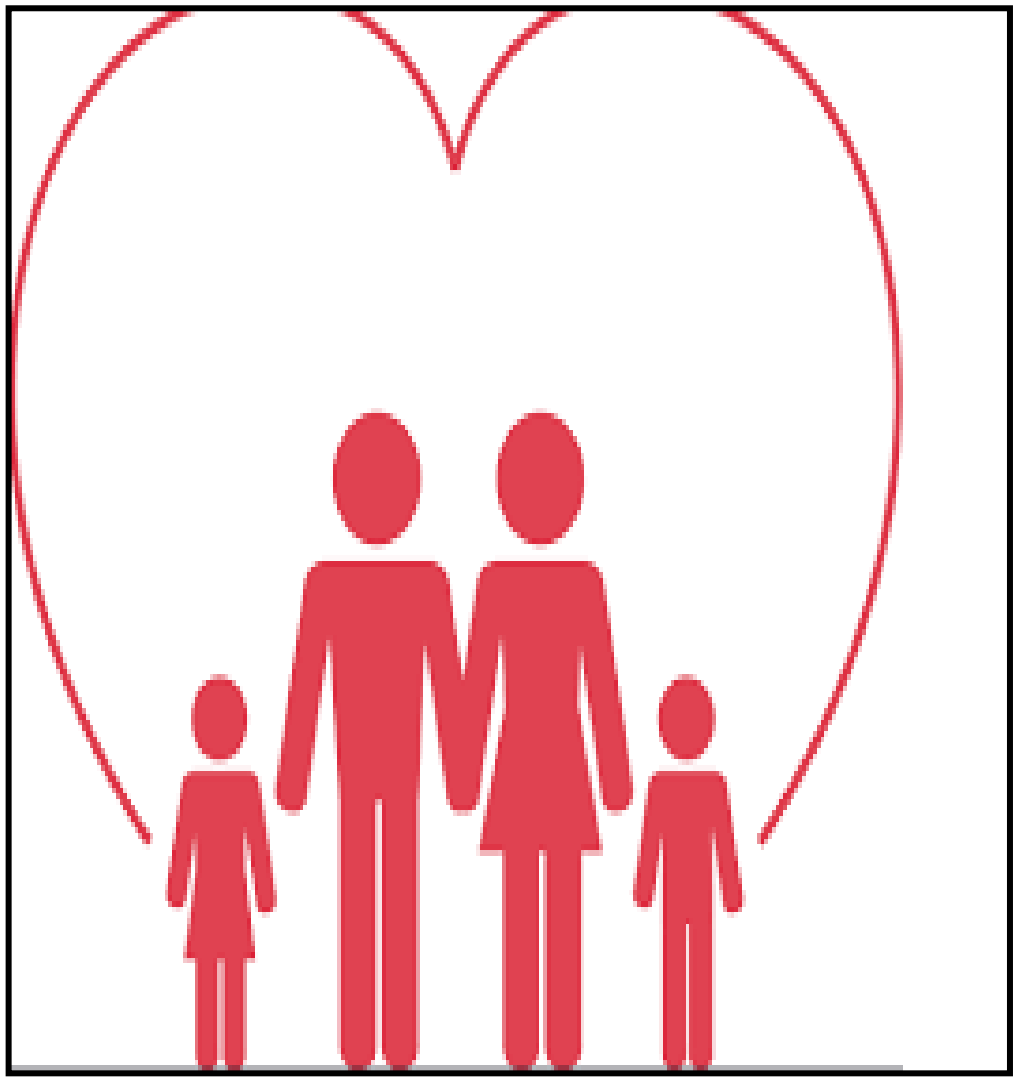
1. Assessing needs of the situation and plan health teaching services according to the needs.
2. Effective health education requires not only enough knowledge, but also communication skills, understanding sensitivity and objectivity on the part of the nurse.
3. Motivation and guidance of the cases to continue, receive care and services.
4. She should know when, where and to whom counseling should be given.

5. Select, prepare and use of the method of teaching and audio-visual materials which are used according to the type and characteristics of the group.
6. Participate in teaching for nursing staff and auxiliary personnel.

5. Role in research and evaluation

Lanning and caring out research and studies for analyzing and improve the nursing program and participate in general community health research. Help in analyzing and evaluation of nursing practices

Family Health



Objectives

By the end of this lecture, the student will be able to:

1. Define the family and family health.
2. List the universal characteristics of families.
3. Enumerate the functions of the family.
4. Explain family structure.
5. Analyze the family cycle.
6. Differentiate between types of family.
7. Apply the nursing process to promote families health**.**

Contents:

- Introduction
- Definition of terms
- Universal characteristics of families
- Functions of the family
- Family structure
- The family life cycle
- Characteristics of healthy families
- Nursing process applied to promote families health
- Family nursing roles

Introduction

Community health nurse need to understand and work with many types of families, each of which had different health problems and needs. For example, a young mother seeks help in caring for her sick infant. The effectiveness of the community health nurse depends on knowing how to work with family as a unit of care. The interrelationships between family members considerably influence how each person thinks, feels and acts.

- **The nurse has two major reasons for focusing on the family**:-

- **First**: the whole family needs family health is largely determined by the dynamics of interaction among members how well is the family functioning? What are its interrelationships? What is its stage of development? The nurse must be able to assess these dynamics. Knowing family developmental stages and tasks then enable the nurse develops measures for preventing problems promoting family health.

- **The second:** reason for focusing on the family is that the nurse works through the family to reach individuals; this enables the nurse to view the individuals in perspective and in their total context.

Definition of terms:-

Family:

Family defined as two or more individuals who share a residence or live near one another, possess some common emotional bond; engage in interrelated social position, roles, and tasks; and share a sense of affection and belonging.

Family health:

It is a dynamic changing relative one state of well-being which includes the biological, psychological, sociological, cultural, and spiritual factors of the family system.

Universal characteristics of families

Every family shares some universal characteristics with every other family. These universal characteristics provide an important key to understanding each family's uniqueness which includes:

1. Every family is a small social system. Families are interdependent; each member's actions affect others members
2. Every family has its own cultural values and rules which presented and defined for family members.
3. Every family has structure.
4. Every family has certain functions.
5. Every family moves through stages in its life cycle.

Family functions:

Families always have produce children, physically maintained their members, protect their health, encourage their education or training, given emotional support and acceptance, and provided supportive and nurturing care during illness. Family function includes the following:

1-Physical and health care

The family provides a safe, comfortable environment necessary for growth, development, rest and provision of physical necessities to keep the family healthy, such as food, clothing, and shelter, protection against danger, health care and health practices that influence the family health status such as:

- Observing good dental health practices.
- Keep their immunization up to date.
- Periodic screening procedures such as breast and testicular examination and vision and hearing examination.

2-Economic

The family provides financial aid to family members. All members worked together to meet their basic needs.

3-Reproductive

Is raising children

4-Affective and coping

It includes providing emotional comfort to family members, support and respect for one another. Continued affection creates an atmosphere of nurturance and care for all family members that is necessary for health development and survival.

5-Socialization

The family is responsible for teaching, transforming beliefs, attitudes, values related to what is right and wrong and coping mechanisms and guides problem solving society.

Family structures:

Family structures fall into two general categories:

1.Traditional family

2. Nontraditional

I) Traditional family

1-Nuclear: is composed of two parents and their children and all members of the family live in the same house until the children leave home as young adults.

2- A Nuclear-dyad family: consists of husband and wife living together who have no children or who have grown children living outside the home.

3-Single-parent family: divorced, never married, separated, or widowed man or woman and at least one child. Most single-parent families are headed by women. Single parents have special problems and needs, including financial concerns, having the roles of both parents, often looking to remarriage or new relationship.

4-Akin-network: in which several nuclear families live in the same household or near one another and share services and child care responsibilities including grandparents, aunts and uncles.

5-Blended or reconstituted family: combination of two families with children from one or both families and sometimes children of a newly married couple. Single parents marry and raise the children from each of their previous relationships together.

6- The commuter family: both partners in this family work: But their jobs are in different cities. The pattern is usually for one partner to live, work and raise children in the home city, while the second partner lives in other city and commutes home.

9-Multigenerational families: in which several generations or age-groups live together in the same household. A household in which a widowed woman lives with her divorced daughter and

two young grandchildren is an example of a multigenerational family.

II) Nontraditional family:

1- Cohabitating couples: may range from young adults living together to an elderly couple sharing their lives outside of marriage to avoid tax penalties or inheritance issues. Cohabitating couples may be heterosexual or homosexual; they may or may not share a sexual relationship.

2-Commune family: a group of unrelated couples who are monogamous (married or committed to one person) but who live together and collectively rear their children. This type of family may presently exist among people with similar life-views or spiritual beliefs.

3- Gangs family: they are a dysfunctional and destructive form of family. are formed by young people who are searching for emotional ties and turn to one another as a substitute for an absent or dysfunctional family.

The Traditional and Nontraditional American Family

Structure	Participants	Living Arrangements
TRADITIONAL		
Nuclear dyad	Husband Wife	Common household
Nuclear family	Husband Wife Child(ren)	Common household
Commuter family	Husband Wife Children (sometimes)	Household divided between two cities
Single-parent family	One adult (separated, divorced, widowed) Children	Common household
Divorced family (shared custody of children)	One adult parent, children part-time	Two separate households
Blended family	Husband Wife (His and/or hers, and possibly their children)	Common household
Single adult	One adult (at times not considered a "Family")	Living alone
Multigenerational family	Any combination of the traditional family structures	Common household
Kin network	Two or more reciprocal households (related by birth or marriage)	Close geographic proximity
Augmented family	Extended family group or nonrelatives who provide significant child care	Common household or close geographic proximity
NONTRADITIONAL		
Unmarried single-parent family	One parent (never married) Children	Common household
Cohabitating partners	Two adults (heterosexual, homosexual, or "just friends") Children (possibly)	Common household
Commune family	Two or more monogamous couples Sharing children	Common household
Group marriage commune family	Several adults "married" to each other Sharing childrearing	Common household
Group network	Reciprocal nuclear households or single members	Close geographic proximity
Homeless families	Any combination of family members previously mentioned	The streets and shelters
Foster families	Husband and wife or single adult Natural children (possibly) Foster children	Common household
Gangs	Males and females usually of same cultural or ethnic background	Close geographic proximity (same neighborhood)
"Loose shirt" families	Parents work from home via the personal computer (word processing, e-mail, faxing, cellular telephone—"telecommuting")	Common household

The family life cycle:

The family life cycle has been defined as a series of stages through which most families' progress, with varying characteristics (as marital status, size of the family, the income level……etc.) across varies stages.

According to Family Developmental Theory, the stages of family development include:

- Married couple
- Childbearing families with infants
- Families with preschool children
- Families with school-age children
- Families with adolescents
- Families with young adults
- Middle-aged parentsAging famil

TABLE 3-2

Traditional Family Life Cycle Stages and Developmental Tasks

STAGES OF FAMILY LIFE CYCLE	FAMILY DEVELOPMENTAL TASKS
Married couple	Establishing relationship as a married couple
	Blending of individual needs, developing conflict-and-resolution approaches, communication patterns, and intimacy patterns
Childbearing families with infants	Adjusting to pregnancy and then infant
	Adjusting to new roles, mother and father
	Maintaining couple bond and intimacy
Families with preschool children	Understanding normal growth and development
	If more than one child in family, adjusting to different temperaments and styles of children
	Coping with energy depletion
	Maintaining couple bond and intimacy
Families with school-age children	Working out authority and socialization roles with school
	Supporting child in outside interests and needs
	Determining disciplinary actions and family rules and roles
Families with adolescents	Allowing adolescents to establish their own identities but still be part of family
	Thinking about the future, education, jobs, working
	Increasing roles of adolescents in family, cooking, repairs, and power base
Families with young adults: launching	After member moves out, reallocating roles, space, power, and communication
	Maintaining supportive home base
	Maintaining parental couple intimacy and relationship
Middle-aged parents	Refocusing on marriage relationship
	Ensuring security after retirement
	Maintaining kinship ties
Aging families	Adjusting to retirement, grandparent roles, death of spouse, and living alone

Characteristics of healthy families:

1. A facilitative process of interaction exists among family members.

2. Individual member development is enhanced.

3. Role relationships are structured effectively.

4. Active attempts are made to cope with problems.

5. There is a healthy home environment and lifestyle.

6. Regular links with the broader community are established.

Nursing process applied to promote families health:-

1. Family health assessment

The community health nurse selects specific categories for data collection. Certain basic information is needed, however, to determine a family's health status and to design appropriate nursing interventions.

Main areas of assessment include:

1. Family demographics: as socioeconomic status, and the ages, education, occupation, ethnicity, and religious affiliations of members.

2. Physical environment data: describe the geography, climate, housing, space, social and political structures, food availability and dietary patterns, and any other elements in the internal or external physical environment that influence a family's health status.

3. Psychological and spiritual environment: refers to affection relationships, mutual respect, support, promotion of members' self-esteem and spiritual development, and life satisfaction and goals.

4. Family structure and roles: include family organization, socialization processes, division of labor, and allocation and use of authority and power.

5. Family functions: refer to a family's ability to carry out appropriate developmental tasks and provide for members' needs.

6. Family values and beliefs: influence all aspects of family life. Values and beliefs might deal with raising children, making and spending money, education, religion, work, health and community involvement.

7. Family communication patterns: include the frequency and quality of communication within a family and between the family and its environment.

8. Family decision-making patterns: refer to how decisions are made in a family, by whom they are made and how they are implemented.

9. Family problem-solving patterns: describe how a family handles problems, who deals with them, the flexibility of a family's approach to problem-solving, and the nature of solutions.

10. Family coping patterns: encompass how a family handles conflict and life changes, the nature and quality of family

support systems and family perceptions and responses to stressors.

11. Family health behavior: refers to familial health history, current physical health status of family members, family use of health resources, and family health beliefs.

12. Family social and cultural patterns: comprise family discipline and limit-setting practices; promotion of initiative, creativity and leadership; family goal setting; family culture; cultural adaptations to present circumstances; and development of meaningful relationships within and outside the family.

2. Family nursing diagnosis

Once the data have been clustered, a family nursing diagnosis is determined for each set of data.

Examples:

- Potential for role conflict related to prolonged separation.
- Altered family process related to unplanned pregnancy.

3. Planning

It depends on the type of diagnosis established and the goal to be achieved. It must be appropriate and desired by family members. One of the most crucial aspects of family nursing is encouraging and seeking family involvement in planning care and in the decision-making processes.

4. **Implementation**

A plan can be easily implemented if family members have agreed on it and support one another. The nurse is responsible for helping the family implement the plan of care. The nurse can assume the role of teacher, role model, counselor, advocate, coordinator, consultant and evaluator in helping the family to implement the plan of the care they were intimately involved in creating.

5. **Evaluation**

The final step in the nursing process is evaluation. The evaluation process leads to a reassessment of the work with the family and a determination of what is needed.

Family nursing roles:-

The roles of family health care nurses are evolving along with the specialty ***which includes:***

1. **Health teacher:** The family nurse teaches about family wellness, illness, relations and parenting to name a few topics.
2. **Coordinator and collaborator:** The family nurse coordinates the care that families receive, collaborating with the family to plan care.
3. **Family advocate:** The family nurse advocates for families with whom he or she works; the nurse empowers family

members to speak with their own voice, or the nurse speaks out for the family. An example is the nurse who is advocating for family safety by supporting legislation that requires wearing seat belts in motor vehicles.

4. **Consultant:** The family nurse serves as a consultant to families whenever asked or whenever necessary. In some instances, he or she consults with agencies to facilitate family-centered care.
5. **Counselor:** The family nurse plays a therapeutic role in helping individuals and families solve problems or change behavior.
6. **Case-finder and epidemiologist:** The family nurse gets involved in case-finding and becomes a tracker of disease. Screening of families and subsequent referral of the family members may be a part of this role.
7. **Role model:** The family nurse should continually serving as a role model to other people.

Questions:

1.What are the functions of the family?

2.Write your family structure and cycle?

Unit III:-

Preventive programms

Environmental sanitation

Introduction

Environmental sanitation is fundamental part of the health program for society. Maintaining a healthy environment is central to increasing quality of life and years of healthy life. About 2.4 billion people globally live under highly unsanitary conditions and have such poor hygiene behaviors that their exposure to risks of incidence and spread of infectious diseases. Globally, 23% of all deaths and 26% of deaths among children under age 5 are due to preventable environmental factors. Consequently, the study of environmental health has tremendous meaning for community health nurses.

Definition of terms:

- **Environment:** broadly includes everything external to ourselves, including the physical, natural, social and behavioral environments.
- **Environmental health:** is the study and management of environmental conditions that affect the health and well-being of humans.
- **Environmental sanitation: -**

Are the interventions to reduce people's exposure to disease by providing a clean environment in which to live, with measures to break the cycle of disease.

Involves both behaviors and facilities which work together to form a hygienic environment.

Another definition:

Environmental Sanitation is (a) the promotion of hygiene and, (b) the prevention of disease and other consequences of ill-health, relating to environmental factors

Components of environment:

Physical environment: air, water, soil, housing, climate, geography, heat, light, noise, debris, radiation, etc.

Biological environment : man, viruses, microbial agents, insects, rodents, animals and plants, etc.

Psychological environment: cultural values, customs, beliefs, habits, attitudes, morals, religion, education, lifestyles, community life, health services, social and political organization.

Importance of Environmental sanitation

1. **Preventive**: - sanitary clean environment is free of:
   - Vectors of disease.
   - Rodents, which may be reservoirs of infection
   - Pathogenic agents of communicable diseases (infectious and parasitic).
2. General welfare and health promotion of the population.

3. Comfort, and increased productivity and quality of work.
4. A clean environment is essential for human dignity.

Elements of environmental sanitation:

Town planning

Housing

Ventilation

Lighting

Water purification

Refuse disposal. (Solid wastes)

Sewage disposal (Waste water)

Vector control

Food sanitation

Industrial sanitation

1- Town planning

It is the policy of putting a scheme for the establishment of cities, towns and districts, taking into consideration future development and extension.

Principles of town planning

1. Division of town districts: industrial, commercial and residential.

1. Sufficient wide streets, parks and playgrounds.

2. Sufficient spacing and open areas between buildings for good ventilation.

4. General public services.

2-Housing

Is defined as the physical structure that man uses for shelter and the environment of that house including all necessary services, facilities, equipment and devices needed or desired for the physical, mental and social well-being of the family and individual.

Slum area: - Slums are unplanned quarters which develop at the edge of main town. The following are characteristics of slums:

- Slums are associated with poor sanitation due to lack of proper garbage and sewage disposal
- Many of houses in slums are semi - permanent.
- Houses in slums are very cheap since they are of poor quality and also due to low income of people living in slums
- Slums are associated with high crime rate
- Houses in slums are very close to each other and are unplanned
- Slums do not have enough supply of water and power due to their location on the edge of cities

- Many people living in slums are unemployed
- There is problem of overcrowding in slums

▪ ***Hazards of bad housing:***

1. A higher incidence of general morbidity and morbidity especially of infectious disease (TB, infective diarrhea, rickets).
2. Increased risk of home accidents.
3. Lowered physical and mental efficiency.
4. Social problems.

Community laws and regulation of good housing:

1- Sanitary site and specifications of building.
2- Suitable number of rooms according to family size.
3- Adequate ventilation and lighting.
4- Heating and cooling system if necessary.
5- Sanitary water supply and waste disposal.
6- Cleanliness and insect control.
7- Safety measures for prevention of home accidents.

3- Ventilation

Ventilation of any confined space is the process of providing and/or removing air by natural or mechanical means..

Community laws and regulation for ventilation

There are local regulations about ventilation, which apply to buildings in towns, planning areas, public buildings, industry.

A. All buildings should have cross ventilation: -

- 10% for window from the floor area of residential buildings.
- 20% for schools and public places.

B. Extraction system in the industry:

Air pollution results from the presence of foreign materials in the air and is either natural or man - made.

Examples for ventilation problems:

A. Indoors: people are exposed to vapors in the kitchen, fumes from cleaning detergents, aerosol in spray cans tobacco, fibrous particle blankets, clothes, air conditioning circulate dust continuously.

B. Outdoors: - people are exposed to particles from insects, animals, dust from streets and fields...etc.

The effects of air pollution on health:-

- **Carbon monoxide:-** When inhaled displaces oxygen in the blood, lowering the availability of oxygen to the cells and impairing cardiac, respiratory and neurological functioning. inhaled in mild amount, it

may cause headache, nausea , dizziness and vision problems.

- **Lead: -**Its main source in the exhaust fumes of cars. Is a toxic metal that, when inhaled or ingested, can cause anemia and damage to the nervous system.
- **Sulfur dioxide and Nitrogen dioxide:** it irritates the eyes, throat, upper respiratory tract and contribute to the development of bronchitis, emphysema and asthma.

Air pollution control: -

1- Filter and high chimneys away from the surface of the earth.

2- Using fuel that contains no sulfur or lead.

3- Observing the movements of the pollutants and measuring the degree of their concentration in the air to protect citizens from their dangers.

4- Lighting

There are two kinds of light:

A. Natural or sunlight:

This is the best kind of light because it includes ultraviolet rays which acts as disinfectant, also acts on the skin to make vitamin.

B. Artificial lighting:

Electricity, oil lamps and candles.

Effect of poor lighting

- Glare makes sight less sensitive.
- Strong concentrated sources of light produce fatigue and eye strain.
- Poor light increases strain produce fatigue and leads to accidents.
- In factories strong shadows over a job can be dangerous.

Community laws and regulation for good public light:

1. The lighting level must be such that even small objects are visible.
2. The lighting must be uniform and net patchy, particularly isolated dark spots have to be avoiding as objects might disappear in than.
3. The lighting must cause no glare.

5- Water purification

Water constitutes about 70% of the human body, and is a vital necessity of life.

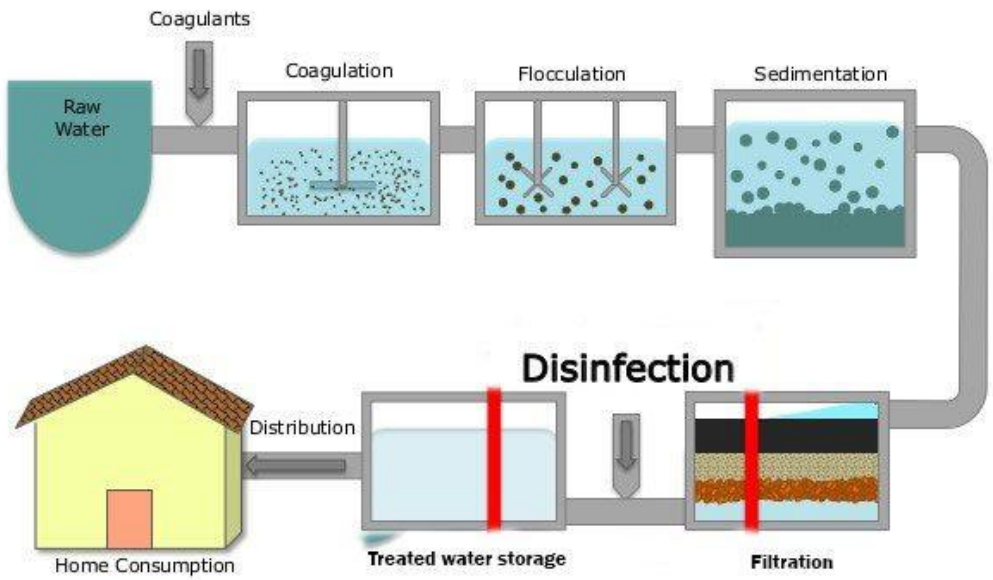
Requirements of water supply:

- Adequate quantity, to meet the needs of the community.
- Adequate quality, to be suitable for human consumption.

Safe: Free of pollution matter, which changes the quality of water may or may not harmful to health as human excreta, refuse and washing clothing.

Water treatment (purification)

Water purification: is the process of removing undesirable chemicals, biological contaminants, suspended solids, and gases from water. The goal is to produce water fit for specific purposes.



Steps of water purification:

1. **Coagulation:**
   - **Flash mix:** it is the process of forming flocculent in raw water by addition of a chemical coagulant as alum or iron

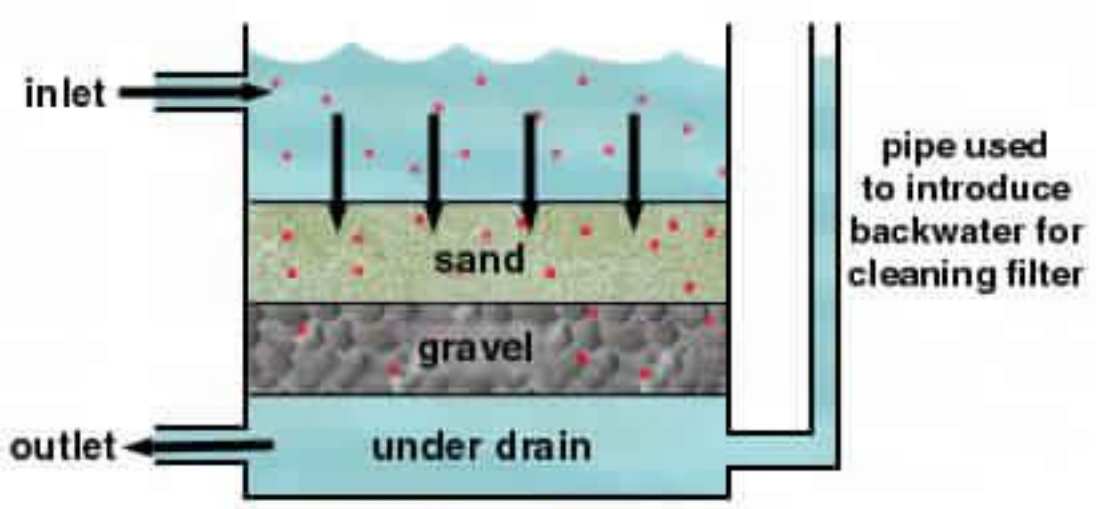
chloride. The coagulant is mixed with the turbid water & allowed to form floes. Suspended material, microorganisms, and some extent dissolved substances, particularly those of larger molecular size, are bringing them together into floes sufficiently large to be removed by sedimentation, filtration or both.

- **Flocculation:** the coagulation process is flocculation produced in special tanks, where mechanical paddlers to ensure a continuous water - chemical mixture.

2. Sedimentation: is done when water consists of large sized organic materials such as leaves, and gravels which have run off from the soil. Suspended particles settle down depending on their size and weight and conditions of the stored water. Sedimentation is done in large reservoirs or in restricted area of settling tank. The rate of sedimentation is enhanced by adding alum, iron, salts, colloid silicates which act as coagulants. The suspended materials and microorganisms are entrapped by coagulants and settle down rapidly. Water is retained from 2 to 6 hours depending on the water to be treated.

3. Filtration: Floe particles that escape from the sedimentation tank are removed in filters. At the button of a

filtration tank is a layer of gravel, topped by sand.



4. Disinfection (chlorination): Some of the bacteria pass through filter even after filtration which must be killed before consumption of water. Therefore, disinfection of public water supply needs to be done. Disinfection is the final step of water purification and is the single most important process for assuring the bacteriological safety.

5. Examination of water: after disinfect, water samples are sent to laboratories for physical, chemicals and bacteriological examination.

Community laws and regulation of potable water

There are standards of potable water, which are physical

- Odder less, colorless, clear and agreeable taste.

Chemical:

- Neutral or slightly alkaline.
- Contains a reasonable degree of hardness (20°) for taste.
- No nitrites.
- Metals: iron and manganese, lead, arsenic, copper, zinc content within standard.

Bacteriological: Total bacterial count (allowable figure is 100 organism per mel).

Indicator bacteria: - normal inhabitants of the intestine (E. coli, strept ... etc).

Water borne diseases: due to biological contamination or chemical pollution.

1-Water borne diseases due to biological contamination are: Enteritis, dysenteries, gastroenteritis, salmonella infection, poliomyelitis, cholera and viral hepatitis A, enterocolitica or pseudo tuberculosis , giardiasis and shigellosis.

2-Water borne diseases due to the presence of chemical pollutants:

- **Met-hamoglobinemia or blue baby:** is caused by nitrates in water when consumed by infants under two months of age.
- **Lead poisoning:** lead poisoning may take place as a result of the presence of lead traces dissolved in water from lead pipes.

- **Dental Fluorosis:** Water may contain more than 1.5 ppm fluorides. If consumed during infancy in the period of permanent teeth formation resulting in mottled and discolored teeth.
- **Dental caries:** When the water has less than 0.5 ppm fluorine, teeth may decay as result of lack of fluorine.
- **Goiter:** The absence of dissolved iodine from water.

6- Refuse disposal (Solid wastes)

Refuse is the solid waste matter of the community.

Types of refuse:

1- Building refuse: Made of garbage (food wastes) and rubbish (tins, paper, glass, similar wastes.)

2-Municipal refuse: consists of containers (glass, aluminum plastic) paper products. etc.

3-Hospital refuses:

4-Industrial refuse: include all the waste products of manufacturing.

Sanitary hazards:

Unless properly collected, disposal hazards may arise as:

-Offensive odor by decomposing organic matter.

- Breeding of flies, and insects.

-Breeding of rats in refuse.

- Irritation and allergy of eyes and upper respiratory tract by dust.

-Potential risk of fire in refuse heaps.

-Spread of infection by: flies air borne dust, feeding of animals.

Community laws and regulation for refuse:

-Collection of refuse adequately.

-Adequate refuse disposal to prevent health hazards.

7- Sewage (waste water)

Sewage is the collected liquid wastes of the community.

Components of sewage: -

1. Domestic wastes:- excrete of man and waste of kitchen and baths.

2. Municipal wastes: washing streets or rain.

3. Industrial wastes.

Sewage hazards:-

Spread of infection from flies, contamination of soil, pollution of rivers and shallow wells, contamination of vegetables by human fertilizers, pollution of seawater.

Sewage treatment

Sewages passes through a number of steps in special tanks where it is submitted to a series of physical and biological

processes of finally separates into liquid part (with organic matter).

8- Vector control.

Health hazards from insects:

1- Vectors of communicable disease

2-Directly invade the body (Scabies).

3- Irritation, discomfort and hypersensitivity by bites.

Control of insects:

1- Sanitation and cleanliness of the environment.

2- Control of breeding places.

3- Application of insecticides

9- Food sanitation:

Objective:

To provide the community with sound food which is safe and retaining its natural characters.

Environmental hazards related to food:

- **Microbiological contamination:** Contaminated food may cause salmonellosis and shigellosis, Food poisoning from staphylococcus and clastridium butulinus toxins.

- **Chemical addition contamination:** Intentional additives to improve or maintain flover color. Incidental additives enters and remain in food as result of their use as

pesticides.

- **Careless food handing**

Inadequate pretreatment, a contaminated environment and poor storage have negative influences on food safety and quality.

1-Diseases transmitted through milk

TB, diphtheria, streptococcal pharyngitis (scarlet fever), Staphylococcal food poisoning, fever, salmonellosis, hepatitis A, gastro-entritis, poliomyelitis, cholera.

2-Diseases transmitted through meat:

Salmonellosis, TB, brucellosis, taenia saginata and taenia solium.

- **Contact infection:** exposure of workers to infection of brucellosis, anthrax.

3-Diseases transmitted through shellfish:

Typhoid, parathyroid bacilli, virus hepatitis.

Examination of fish: fresh fish is bright in appearance, eyes are bright, the gills are bright red in color, the flesh is firm, the body is stiff and the scales not easily removed.

Principles of food sanitation: -

1. **Sanitary public: -**

The restaurants, cafeterias, canteens, grocer and food stores should fulfill sanitary requirements to be licensed by the local municipal or health authorities and periodically inspection.

2. Food containers: -

Containers or articles should be used for storage, and serving food.

a- Made of safe materials not including toxic metals especially lead and arsenic

b- Kept always clean.

3. Food stuffs: -

Regular inspection of food on the market and should fulfill the requirement of sanitary regulations.

4. Food handlers: -

Those prepare, selling and serving food to the public in market, schools, camps, factories, hotels .....etc.

a- Should be examined.

Clinical examination to ensure he (she) is free of infectious diseases including skin disease, TB and immunized to be licensed

Laboratory examination

- **Blood**: typhoid, paratyphoid
- **Stools**: culture for salmonellae, bacillary dysentery, smear for parasites, amoebic dysentery (endameba histolytica)

- **Swabbing**: throat swab, nose swab to be examined for diphtheria. Streptococcus or staphylococci.
- **X-ray** on chest

b- Sanitary precautions during work

- Cleanliness of the body clothing.
- Responsibility of managers to exclude from work until cured any case of common cold, other infectious diseases, wounds, ulcers or pustules of the skin.

10- Industrial sanitation

It is a series of practices which are designed to protect the health and safety of workers in industrial environments, in addition to protecting the natural environment from industrial waste and pollution.

Role of public health nurse:

1. Give health teaching to the family about environment sanitation (clean house, ventilation, light, health hazards .....etc).
2. Give health teaching to the school children about personal hygiene.
3. Give health teaching to the workers about the industrial sanitation (ventilation, light, noise, food, cleanliness, safety measure mask, gloves).

Questions:

1- Compare between slum and standard housing?

2- Analyze the effect of environmental hazards on population?

Occupational Health

Objectives:

By the end of this lecture the student will be able to:

- Define occupational environment, occupational health, occupational disease, work-related disease, occupational health program and occupational health nursing.
- Enumerate aims of occupational health.
- List types of interaction in working environment.
- Explain the types of industries hazards.
- Identify common problems among workers in key industries.
- List the Component of occupational health services
- Identify different role of occupational health nurse.

Content:

- Introduction
- Definition of terms
- Aims of occupational health
- Types of interaction in the working environment.
- Occupational Hazards.
- Occupational health problems.
- Component of occupational health services
- The occupational health team.
- Measures for general health protection of workers.
- Functions of the Occupational Health Nurse

Occupational Health

Introduction:

Industrial workers constitute only a segment of the general population and the factors the influence the health of the population also apply equally to industrial workers. i.e. housing, water sewage and waste disposal, nutrition, and education.

In addition to these factors the health of the industrial workers. In a large measure, will be influenced by conditions prevailing in their work place.

One of the important aim of occupational health is to provide a safe "occupational health environment"

Definitions:-

Definition of occupational health:

"Occupational health can be defined as care of all working people with control of hazards in their working environment that may affect health comfort and efficiency."

Occupational health program:

It is an intensive health program planned to take of the worker and his family to promote the general health and welfare of the worker by providing a good and safe working environment.

Occupational health Nursing

Occupational health Nursing is defined as: The application of nursing principles and procedures for the promotion, restoration, and maintenance of optimum health of employees at their place of employment.

Aims of occupational health:

- The promotion and maintenance of highest degree of physical mental and social well being of workers in all occupations.
- The prevention of diseases.
- The protection of workers in their employment from risks resulting factors against health.

Types of interaction in the working environment:

1. Man and physical, chemical and biological agents.
2. Man and Machine.
3. Man and man.

1- Man and physical, chemical and biologic agents:

a) Physical agent:

The physical factors in the working environment, which may be adverse to health are:

- **Noise.**
- **Heat and Cold.**
- **Radiation:(Ionizing radiation- non Ionizing radiation- Air radiation).**
- **Humidity.**
- **Light and Electricity**

These factors act in different ways on the health and efficiency of the workers.

b) Chemical agents:

These comprise a large number of chemicals, toxic dusts and gases which are potential hazards to the health of the workers. Some

chemical agents cause disabling respiratory illnesses, some cause injury to skin and some may have a deleterious effect on the blood and other organs of the body.

c) Biological agents:

The workers may be exposed to viral, bacterial , fungus and parasitic agents, which may result from close contact with animals or their products contaminated water, soil or food.

2- Man and machine:

The unguarded machines, protruding and moving parts, poor installation of the plants, and lack of safety measures are the cause of accidents which is a major problem in industries.

Working for long hours in un physiological postures is the cause of fatigue, backache, diseases of joints and muscles and impairment of the worker's health and efficiency.

3- Man and Man:

There are numerous socio-psychological factor. Which operate at the place of work and which may impair the health and efficiency of workers and impede production these are:

- The human relationships amongst workers.
- The system of authority over the occupational health.

Occupational Hazards:

1- Physical hazards. 2- Chemical hazards.

3-Biological hazards. 4-Mechanical hazards.

5- Psychological hazards.

1- Physical hazards:

a) Temperature:

- Direct effect → - Burns
  - Heat exhaustion
  - Heat stroke
  - Heat cramps
- Indirect effect → - Decreased efficiency
  - Increase fatigue
  - Increase accidents rates

b) Light:

- Eye disease
- Eye fatigue

c) Noise:

Health hazards the effect of noise are two types:

1. Auditory effects as hearing loss.
2. Non Auditory as nervousness, fatigue and confusion.

d) Ionizing Radiation:

- X-rays
- Radio active isotopes e-g cobalt.
- Certain tissues such as bone marrow are more sensitive.
- The radiation hazards comprise genetic changes, malformation, cancer, leukemia, ulceration, sterility.

2- Chemical Hazards:

- **They are (*Gases- Dust- Metals and their compounds*)**

a) Local action:

Some chemicals cause dermatitis, eczema, ulcers by primary irritant action and some cause dermatitis by an allergic action.

b) Inhalation:

- **Dust:** e.g. stone industries – wood industries
    - Both affect the upper respiratory tract
- **Gases:**
    - Simple gases (e.g. oxygen, hydrogen)
    - Asphyxiated gases (e.g. carbon monoxide)
    - Anesthetic gases (e.g. chloroform)
- **Metals and their compounds:**
    - E.g. lead, manganese, mercury, phosphorus, zinc. The ill effect depends upon the duration of exposure and the dose or concentration of exposure.

c) Ingestion:

Occupational disease also result from ingestion of chemical substances e.g. lead, mercury, arsenic, phosphorus usually these substances are swallowed in minute amounts through contaminated hands, food or cigarettes.

3- Biological Hazards:

Workers may expose to infective and parasitic agents at the place of work. The occupational diseases are tetanus, anthrax, brucellosis, encephalitis, fungal infections, persons are working among animals and those engaged in the manufacture of animal products (e.g. hair, wool) and agricultural workers are specially

exposed to biological hazards due to: **(Bacteria, Virus, Parasites, Fungus).**

4- Mechanical Hazards:

The mechanical hazards in industry center round machinery protruding and moving parts and the like (Accidents, Lack of ergonomics musculoskeletal disorders).

5- Socio-Psychological Hazards:

Emotional tension, fear, frustration, lack of job satisfaction, poor industrial relationships (Shift work, work hierarchy, Interpersonal relation), insecurity are some of the psychological causes which may undermine both physical and mental health of the workers physical symptom e.g. headache, dizziness, indigestion, fatigue, increase blood pressure.

Occupational health problems:

1. Environmental sanitation problems:
   - Housing
   - Water pollution
   - Air pollution
   - Sewage disposal
2- Communicable diseases
3- Food sanitation
4- Mental health
5- Accident
6- Social problems

1- Morbidity and Mortality

Component of occupational health services

1. Medical :

carried by occupational physician (s),nurse(s),technician (s)

- pre-employment medical examination.
- periodic medical examination .
- first aid and management of emergencies .
- Treatment of common diseases and causalities
- Health education
- Care of workers nutrition
- Records and statistics
- Control of communicable diseases

2. Environmental :

carried by occupational hygienist (s) (engineer or chemist)

- Periodic monitoring of different types of exposure (e.g Air sampling , Noise measurement) and assure that exposure at the work places do not exceed the allowable levels or concentration .
- Advice how to ameliorate the working condition as illumination , ventilation – housekeeping etc….

3. Social worker specialized in work sociology science

- Advice how to adapt and ameliorate the interpersonal relationship to be cooperative rather than competitive.

- Advice how to adapt the work to the capabilities of the worker and avoid loss of efforts, time and avoid occurrence of musculoskeletal disorders.

The occupational Health team:

Consist of:

-Industrial physician. - Industrial nurse.

-First aid workers. - Dentist.

-Industrial hygienist - Safety engineer.

-Chemical industrial persons.

Measures for general health protection of workers:

- Food and nutrition improvement
- Communicable diseases control
- Environmental sanitation
- Mental health
- Health education
- Rehabilitation

Functions of the Occupational Health Nurse:

Occupational health nursing functions can be classified into the following categories:

1. **Administration.**
2. **Direct nursing care.**
3. **Environmental surveillance.**
4. **Health education.**

5. **Counseling.**
6. **Research.**

***1- Administration*:**

it includes the following:

1. Maintenance of worker occupational health records.
2. Evaluation of the occupational health service.
3. Training of auxiliary health personal.
4. Co-ordination of emergency procedures.
5. Participation in the occupational health program.

2- Direct nursing care:

The direct nursing care includes:

- Assessment of the worker condition.
- Give treatment.
- Share in immunization program.
- Health education.
- Emergency care of the injured worker.
- Rehabilitation services.
- Screening procedures

3- Environmental surveillance:

1- The nurse must continuously survey the work environment for health hazards and work toward establishing cause and effect, relationships between health and illness or injury.

4- Health Education includes:

1. The occupational health gives health education about safety measures.

5- Counseling:

- Counseling of distressed employees is an important occupational health nursing function.

6- Research:

The occupational health nurses can use research to identify health programs, which best promote and maintain workers optimal level of health.

School Health Nursing

Objectives:

By the end of this lecture, the student will be able to:

- Discuss the characteristics of school age period
- Recognize the school health program
- List components of school health program
- Identify needs of school age group
- Discuses the causes of morbidity and mortality among school children
- Apply role of the nurse in school health program.

Contents:

- Introduction
- Characteristics of school age period
- The school health program
- Components of school health program
- Needs of school age group
- Main causes of morbidity and mortality among school children
- Role of the nurse in school health program

School Health Nursing

Introduction:

The school plays an important part in society and in the development of the nation. As children learn best when they are healthy, so the promotion of good health among school children will contribute to their ability to learn and participate well in all aspects of the educational program.

Characteristics of school age period

1- It is the period of growth and development, physically, mentally, socially and emotionally
2- Period of stress and strain
3- Period of educational responsibility
4- During this period school plays an important role in the real structure of a community.

The school health program:

Is a combination of many interrelated activities, which may include health education, school health services and school environment protection services.

A school health program consists of a broad spectrum of school related activities and services

It includes:

The traditional components of the school health program were three components (Basic components):-

(l) School health services.

(2) Healthy school environment.

(3) Health education.

The federal government, through the coordination of the CDC, 2005 has development a plan that school health program ***should follow this plan has eight parts:-***

(l) School health services.

(2) Healthy school environment.

(3) Health education.

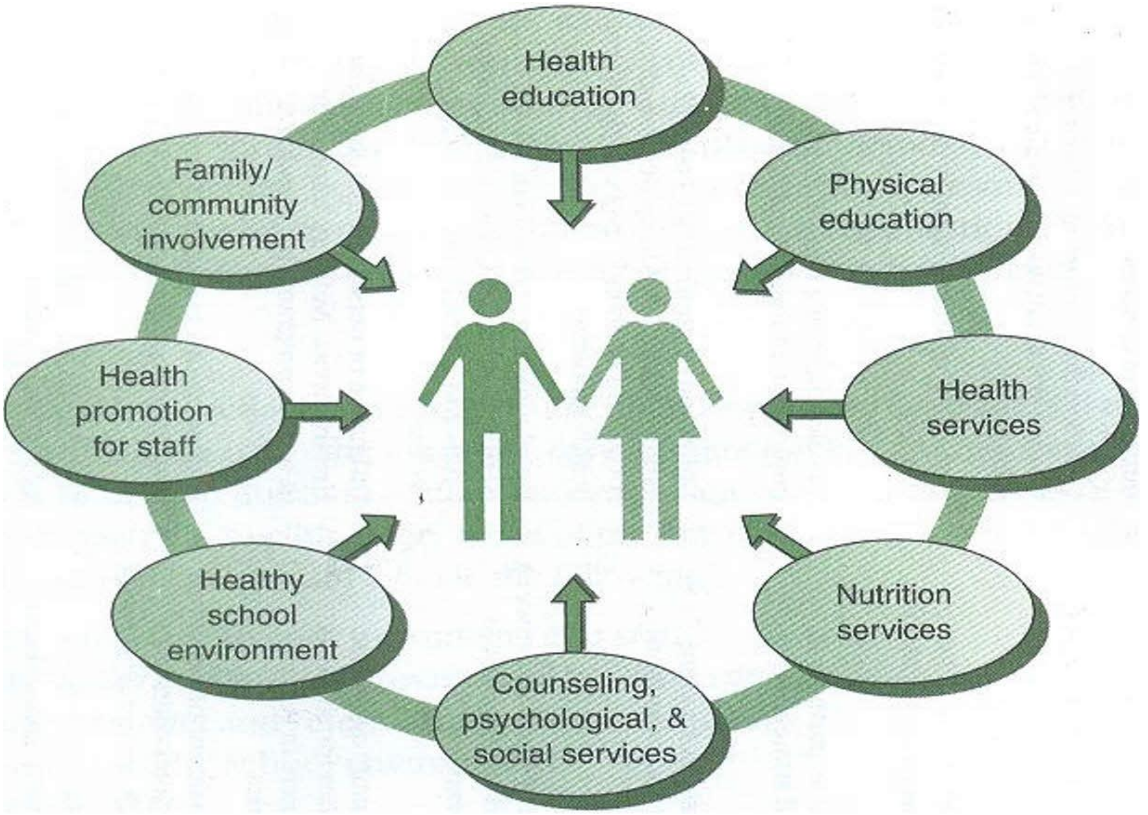
(4) Physical education

(5) Nutrition services,

(6) Counselling, psychological and social services ,

(7) Family /community involvement,

(8) and Health promotion for staff.



The eight components of school health programs

1- Healthful school environment

a) Physical environment:

The standards of cleanliness, heating, lightning, and ventilation influence the children's health, comfort and ability to learn, suitable eating and adequate spaces are also important children should be supervised and taught to keep their environment clean, pleasant and welcoming

The physical environment includes:

1. **Building:** easily accessible, away from noise with sufficient play area
2. **Classroom:** 6 x 8 or 5 x 7 meters and number of students 30-40 students
   - **Ventilating:** window area is at least one- sixth of the floor area
   - **Light:** natural (window) and artificial for cloudy days or evening school
   - **Desks and seats:** properly designed for the student's body
3. **Water supply:** Piped water in urban and underground in rural areas, presence of drinking fountains and provides soap to lavatories to prevent infection
4. **Refuse disposal:** Should be collected and disposed daily, put small baskets in playground and classrooms
5. **Sewage disposal:** suitable type of latrine according to the area in use
6. **Insect control:** application of insecticides
7. **Food sanitation:** special consideration to the canteen and avoiding the food handlers around the school

The school meals should be:

- Nutritious and adequate
- Cooked under hygienic conditions
- Available to every child

b) Non-physical environment:

1. Good relationship between students, teachers and parents
2. Good relationship between the children themselves
3. Homework are properly arranged to prevent fatigue
4. The involvement of parents in their children's education
5. The influence of teachers on the children
6. Opportunities for developing talents and skills

2- School health services:

1- Preventive activities:

A- Health appraisal

Defined:- Its mean organized activities to assess or the complete health status of the pupil from the physical, mental, and emotional conditions.

This is done through:

- History taken: past and present health problem
- Observation: signs of sickness or deviation from normal
- Screening tests: vision, hearing, speech, weight and height
- Laboratory investigation: urine, stool, blood and chest x-ray
- Medical examination: done at the start of each new grade, by physicians, dentists and nurse
- Special surveys: to detect any health problem e.g. D.M…etc

B- Follow up and counseling: done by the doctor, teacher and nurse

C- Prevention and control of communicable diseases: examples

- Respiratory diseases: common cold, sore throat, measles, chicken pox, mumps…etc
- Food and milk borne infection
- Skin diseases: scabies, ringworm
- Eye infection: trachoma, conjunctivitis

Measures of prevention

1. Healthful environment
2. Immunization
   - Booster dose of DT in 1st and 4th year of primary school
   - Vaccination in case of epidemics
   - Vaccination of meningitis was given in the 1st year of every stage
3. Daily observation of all pupils for early case findings
4. Period of isolation of the child at home for each of the following diseases:
   - Hepatitis 21 days
   - Whooping cough 18 days
   - Scarlet fever 10 days
   - Measles 14 days
   - G. Measles 7 days
   - Chicken pox 14 days
   - Mumps 14 days
5. Readmission to school after sickness, for some diseases as diphtheria and typhoid three (-ve) consecutive lab. Bacteriological tests are needed before readmission to school

6. Care of contacts by observation or given chemo prophylaxis as in meningitis
7. Care of absence
8. Screening for infectious diseases and source of infection
9. Examination and treatment of food handlers particularly those working inside the school and dealing or serving food or meals to students e.g. personnel working in the school canteen.
10. Health education for communicable diseases.

D) Early detection and correction of non-communicable diseases:

Such as eye defects, acute illness as middle ear infection, dental problems, malnutrition, emotional problems and parasitic diseases as oxyuris and ascaris

E) Emergency care and first aid their must be

- Immediate care and referral
- Notifying parents
- Plans for accident, fire and traffic accidents prevention
- Prepare a suitable room for emergency care with suitable supplies and equipments
- Trained personnel and pupils in first id procedures

F) Care of handicapped children:

Need medical, social, and educational care. Most specialists prefer education of handicapped children in the same school with normal children whenever possible.

G) Health services for school personnel:

Good health of the teacher is a pre-requisite for a good educational program as well as for prevention of spread of diseases**.**

2. Curative activities and health insurance, it includes:

- Treatment of any discovered disease
- Referral for specialist care
- Social and health education activities

In Egypt, this is done through health insurance services, where there is a health unit to each 300 pupils; doctor and nurse do the activities. In case of a discovered case with a specific disease it is referred to hospital with specialist, and from the near of the student hospital if needed. The medication is given free for chronically ill children, and with low fees for the other cases.

Student's health records and recording:

To provide continuing information on the health status of each child, there are 2 types of records:

1-The public health record including

- History of illness
- Immunization
- Result of screening tests
- Community agencies caring for child

2-The teacher's observing form contains pertinent information noticed by the teacher regarding the child

3- School health education:

Health education is the process of providing learning experience for the purpose of influencing knowledge, attitude and changing behavior into a healthful one. As education helps children to understand the meaning of health and creates health consciousness, which will reflect on their behavior.

4-Physical education.

Physical activity promotes positive health behaviors, rugular physical activity decreases premature mortality and risk of chronic disease. Children with regular physical activity build and maintain healthy bones,muscles and joints, control weight and blood pressure and reduce feeling of depressi

5-Nutrition services.

School age children are undergoing peroids of growth and development and consequently have high nutritional needs. Avariety of foods must be ingested to meet their daily requirments diets should include a proper balance of carbohydrate ,protine and fat with sufficient intake of vitamins and minerals. Information aboute nutrition and diet should be taught to all children in addition the school should provide healthy food choices for students in their meal programs

6-Counselling, psychological and social services

.This promotes the health of children who receive special education services as well as children who have mental health needs

.Working with families at risk because of socioeconomic needs is also part of this area

7-Health promotion for staff.

Health promotion activities improve productivity ,increased staff moral,decrease absenteeism and reduce health insurance cost.

8-Family/community involvement.

The school health program should contact families and community leaders to find out what health services are needed the most and how they can work together to emphasize health education for all ,this includes being involved as health educators when adolescents take part time jobs

Needs of school age group:

1. ***Nutritional needs:***

- School age children are in a period of slow steady growth and their nutritional needs are relatively stable. They need 2400 calories /day. 15% protein, 35% fat, 50% carbohydrate, vitamins, minerals, water and salts.

2. ***Protection from infection:***

A. Booster immunization
B. Healthful school environment
C. Daily observation of all pupils for early detection of any disease or problem
D. Readmission to school after sickness
E. Care of contacts

F. Care of absence

G. Screening for infectious diseases, scabies, ringworm

3. Maintenance of health

1- Prevention of communicable disease and accidents.

2- Avoid noise, noisy places around school.

3- Building must be wide with sufficient play area.

4- Good ventilation of classroom and has windows.

5- Safe water supply and natural and artificial light.

6- Clean baths and insect control**.**

4. Exercises:

- School program should include physical training to improve the circulation of blood and help in muscle flexibility.
- Teach children the ideal body mechanism e.g. proper positioning while sitting, reading, writing…. etc.

5. Rest and sleep:

The school child needs adequate periods of rest and sleep. This differs according to the age of the school child

6. Curative services:

- Treatment of any discovered cases
- Referral through health insurance system
- Emergency cares and first aid

7. Psycho-social needs:

- School age child need security, safety and peer groups

- They need organized games for team play, and learn how to be a leader

8. Health education:

- Good educational program for prevention of spread of disease
- The children must understand the meaning of health and create health consciousness, which will reflect on their health behavior

Main causes of morbidity and mortality among school children:

A. Morbidity:

1. Parasitic diseases: e.g. Ascaris
2. Respiratory diseases: Influenza, tonsillitis, bronchopneumonia
3. Skin diseases: Scabies, ringworm, Tania
4. Infectious diseases: Mumps, typhoid and paratyphoid, whooping cough
5. Dental problems: Malocclusion, dental caries.
6. Rheumatic fever
7. Eye diseases: Defective vision, conjunctivitis
8. Accidents: Motor vehicle, bleeding, wound, fractures broken
9. Diarrhea diseases
10. Food poisoning
11. Handicaps: Visual, hearing, heart disease
12. Emotional problems: Fears, worries, frustration, insecurity and conflict, nail biting, over aggressiveness

13. Deficiency diseases protein impaired growth, iron lead to anemia, vit. A lead to eye manifestation, calcium and vit. D lead to dental caries**.**

B. ***Mortality:***

1. Infectious diseases
2. Accident
3. Rheumatic fever

<u>Role of the nurse in school health program</u>

A. Healthful school environment:

1. Physical environment:

1. The nurse must liaise with staff in ensuring that there is a high stander of environment hygiene (water, sanitation, latrine, dormitories)
2. Daily rounds in the classes to be sure that there is good ventilation and good lighting.
3. Daily round in the bathrooms to ensure adequate water supply and proper sewage disposal.
4. Write a report on the building in a special book and present it to the administrator and the physician.
5. Be alert to environmental deficiencies and hazards and make suggestions to the maintenance department.

2. Non-physical environment:

1. The nurse must involve teachers and parents in children's problems.

2. She must give support to teachers and parents and promote good interpersonal relationships.
3. Promote good teacher pupil relationships.

B. School health services:

1. Preventive activities:

a. Health appraisal:

1. Taking history (personal, family, medical history etc…)
2. Health observation signs of sickness and deviation from normal
3. Prepare pupils to screening tests and laboratory investigations
4. Screen vision, hearing, and measure weight and height
5. Help in laboratory investigations
6. Assist in comprehensive medical examination for school children
7. Interpret the findings of screening tests and laboratory investigations to the teachers and parents
8. Conduct special surveys to detect any health problem

b. Follow up and counseling for the children deviated from normal

c. Prevention and control of communicable diseases:

- Provide immunization
- Daily observation of pupils for early case findings, referral and isolation
- Prevention and control of outbreaks of infection
- Care of contacts

- Care of absence
- Be sure that food handlers in the school pass through physical examination and have a healthful certificate
- Ensure healthful school environment

d. Early case finding and referral of non-communicable disease and parasitic disease

e. Emergency care and first aid:

- The nurse so responsible to carry our first aid treatment for the injured due to accident, and if necessary transfer them to hospitals or clinics.
- Be sure that there is enough first aid equipments and supplies in the school to carry out first aid.
- The nurse should arrange for in-service training program for teachers interested in first aid.

f. Care of handicapped children:

- Identify child with handicap (e.g. poor hearing or vision, epilepsy, mobility difficulties) and arrange referral, treatment and support.
- Help handicapped students to accommodate with their defects.

f. Health services for school personnel according to the needs.

2. Curative activities:

- Referral for treatment of any discovered diseases

- Children in need of remedial treatment or special care should be identified (as should any child with special learning problems).
- Provide medication for chronically ill children
- Filling the health record and keeping it.
- Interpret the finding and record available for teachers and physicians.

C. School health education:

- The nurse can participate in the parent counsel and stimulate the interest and cooperation of parents in the school health program.
- Formulate health association.
- Conduct health conferences with teachers about student's health problem.
- Assist in planning curriculum for health instruction.
- Emphasize utilization of community resources and guides parents in selecting suitable agencies for assistance of their children.
- Give health education to sick children about how to prevent the re-infection.
- The nurse can participate in class discussion in occasions such as: immunization, medical examination and accidents.
- The nurse should help in planning and conducting school health projects.

Accidents Prevention

Objectives:

By the end of this lecture the student will be able to:

- Define accidents
- List types of accidents.
- Discuss etiological factor of accidents.
- Apply prevention of accidents.

Contents:-

- Introduction
- Definition of accidents
- Types of accidents.
- Etiological factor of accidents.
- Prevention of accidents.

Introduction:

Accidents are more common at the extremes of life, i.e, childhood and old age. The principal cause of death in children in developed countries is accidents. The crawling inquisitiveness of infants, the experimentation of toddlers and the some older children all expose them to risk. Also old people constitute another high-risk group in the population. Impairment of vision and hearing, diminution of reflexes and weakening of muscles render them susceptible to accidents. In the developing countries accidents considered the sixth or seventh commonest cause of mortality.

Definition:-

An accident has been defined as that "Occurrence in a sequence of events which usually produces unintended injury, death or properly damage".

Types of Accidents:-

1- ***Road accident.***

2-Home accident is due to:

a) Falls.

b) Burns.

c) Poisoning and gassing.

d) Firearms.

e) Electrocution.

• The majority of home accidents are due to negligence of parents, and poor maintenance of house.

3- *Industries*

***4- Suicide* :-**

The Registrar - General England considers suicide as a type of accidental death, e.g, gassing, poisoning and strangulation.

Etiological factors of accidents :-

Accidents are a complex phenomena of diverse and multiple causation. The etiological factors may be classified into two broad groups.

1-Environmental factors:

- Inadequate lighting,
- Slippery floors,
- unguarded machines,
- Home accidents,
- Industries and on road accident.

2-Human factors :-

a)Physical factors :

- Poor physical health.
- Vision and hearing defects.
- Physical disabilities.

b)Psychological factors :

- Low intelligence.
- Alcoholism.
- Drug addiction.

c)Emotional factors :

- Anger.
- Fear.
- Worry and stress.

Prevention of accidents :-

1-Survey :-

Causes of accident must be determined by a survey which will indicate the appropriate measures needed in a given situation.

2-Education :-

Safety education should be applied.

3-Elimination of the etiological factors of accident

4-*Emergency care*

5-Accident research

Handicapped and rehabilitation

Objectives:

By the end of this lecture the student will be able to:

- Identify Incidence of disability
- Define handicapped, impairment, disability and rehabilitation.
- Describe classification of handicapped children
- List the causes of disability
- Discuss Community care of the handicapped.
- Identify goal of rehabilitation
- Enumerate types of rehabilitation
- Explain setting for rehabilitation
- Discuss the nurse's role and responsibilities in rehabilitation

Contents:-

- Introduction
- Incidence of disability
- Definition of terms
- Classification of handicapped children
- Causes of disability
- Community care of the handicapped.
- Goal of rehabilitation
- Types of rehabilitation
- Setting for rehabilitation

The nurse's role and responsibilities in rehabilitation

Handicapped and rehabilitation


Disabled
Blind
Deaf
Deaf-Mute
Arm Amputated
Leg Amputated
Helping Blind Dog
Cane
Crutches
Walkers
Wheelchair
Braille Code
Prosthetic Arm
Prosthetic Leg
Sunglasses
Hospital
shutterstock.com • 311706062

Handicapped and rehabilitation

A- Knowledge and understandable skills

a1. Identify Incidence of disability

a2. Define impairment, disability, handicapped and rehabilitation.

a3. Describe classification of disabilities

a4. List the causes of disability

a5. Enumerate types of rehabilitation

a6. Explain setting for rehabilitation

B- Intellectual skills

b1. Discuss community services of disabled person.

b2. Interpret goal of rehabilitation

b3. Discuss community rehabilitation based program

C- Practical skills

c1. Apply the community health nurse's role with disabilities

Contents:-

- Introduction
- Incidence of disability
- Definition of terms
- Classification of disability
- Causes of disability
- Community services of disabled person
- Definition of rehabilitation
- Goal of rehabilitation
- Steps of rehabilitation
- Types of rehabilitation
- Settings for rehabilitation
- Community Based Rehabilitation for disabled people
- The role of community health nurse with disabilities

Introduction

Disability is a major issue in community development by virtue of its health, psychological, social and economic consequences. Disability constitutes a major problem in Egypt. It affects the quality of life of persons with disabilities themselves, the welfare of their families and the development of the whole community. Disability occurs across the life span and is the consequence of physical and/or mental impairments that are congenital or may begin early in life, Health promotion and disease prevention activities tailored to people with disabilities are crucial.

Globally, over a billion people are estimated to live with some form of disability. This corresponds to about 15% of the world's population between the ages of 10-24 live with a physical, sensory, intellectual or mental health disability significant enough to make a difference in their daily lives. The vast majority of these young people, some 150 million (80%) live in the developing world. According to the World Health Organization (2016), people with disabilities represent approximately 10% of the Egyptian population, or about 8.5 million persons.

- **Definition of terms:**

Impairment:

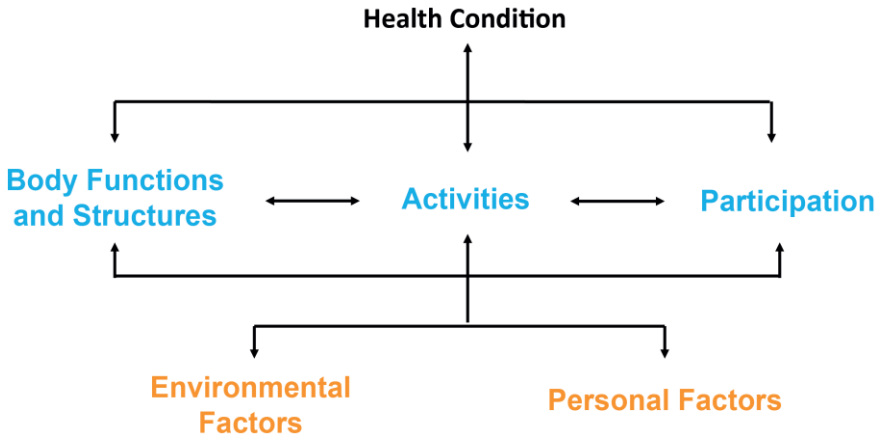
It is a disturbance in structure or function resulting from anatomical, physiological, or psychological abnormalities. For example, a person may have impairment of flexion and extension of the right arm.

2-Disability:

Disability is any restriction or lack in ability (resulting from an impairment) to perform an activity in the manner or within range considered normal for a human being'.

3-Handicap:

It is the final disadvantage in life which occurs consequent to impairments, which limits or prevents the fulfillment of a role that is normal.



Classifications of disabilities:-

1-Physically disability:-

Physical disability divided in total or partial loss of a person's bodily functions (eg walking, gross motor skills, bladder control etc) and total or partial loss of a part of the body (eg a person with an amputation).

Some examples of physical disabilities:-

- Cerebral palsy
- Heart diseases
- Amputation
- Cleft palate

2- Sensory disability

Sensory disability is impairment of one of the senses. The term is used primarily to refer to vision and hearing impairment, but other senses can be impaired. It is includes visual and hearing impairment

3- Intellectual disability

Intellectual disability *(formerly called mental retardation*), it is characterized by significant limitations in both intellectual functioning also called intelligence (as reasoning, learning, problem solving) and in adaptive behavior (which covers many everyday social and practical skills for normal daily living).

This disability originates before the age of 18. children with intellectual disabilities have a low IQ (*Intelligence Quotient*) score; most score between 70 and 55 or lower. These children can and do learn new skills, but learn more slowly. There are varying degrees of intellectual disability, from mild to profound.

4- Psychological Disabilities:-

A psychological disability or psychiatric disability refers to a spectrum of mental disorders or conditions that influence emotions,

cognitions, and/or behaviors Psychological disabilities may include depression, anxiety, schizophrenia, bipolar disorder, obsessive–compulsive disorder, dementia, and behavioral disorders due to the use of alcohol.

5- Neurological Disabilities:-

Neurological impairments are a group of disorders that primarily relate to the central nervous system comprised of the brain and spinal cord. Among the more common diagnostic categories and conditions are epilepsy, learning disabilities, neuromuscular disorders, autism, ADD, brain tumors, and cerebral palsy. Neurological impairment can begin during the development process (including conception, birth and periods of growth and last throughout an individual's lifetime. It is disability may affect an individual's speech, motor skills, vision, memory, muscle actions and learning abilities.

6- Developmental disability

Developmental disabilities are a group of conditions due to an impairment in physical, learning, language, or behavior areas. These conditions begin during growth and developmental period, may impact day-to-day functioning, and usually last throughout a person's lifetime. Examples for development disability:

- Autism
- Attention deficit hyperactivity disorder (ADHD)

- Hearing loss,
- Vision impairment

7- Learning disabilities

Affect children's ability to acquire, process, and/or use either, spoken, read, written or nonverbal information (organization/planning, functional literacy skills, memory, reasoning, problem solving, perceptual skills) or in other words in short - difficulty with language in its various uses.

- Dysgraphia: Difficulty with the act of writing both in the technical as well as the expressive sense. There may also be difficulty with spelling.
- Dyscalculia: Difficulty with calculations.
- Attention Deficit Hyperactivity Disorder (ADHD) : Hyperactivity, distractibility and impulsivity

8- Non-visible disabilities

Several chronic disorders, such as diabetes, asthma, Inflammatory Bowel Disease or epilepsy, would be counted as non-visible disabilities.

Causes of disabilities:-

Disabilities can originate at any stage of life: prenatal, perinatal, infancy, early childhood, adolescence, adulthood, old age and unknown causes.

I. Prenatal causes of disabilities

- Prenatal biomedical causes include chromosomal abnormalities.
- Prenatal environmental causes include injury and radiation such as X-rays can affect the fetus.
- Some infections Rubella or German measles, Syphilis and Acquired Immune Deficiency Syndrome (AIDS).
- Many prescription and non-prescription drugs as hormones, anticonvulsants, antibiotics, heroin, cocaine and tranquilizers.
- Alcohol consumption.
- Maternal health and nutrition: deficiencies in iron, vitamins and calorie intake.
- The age of the mother: Teen-age mothers.
- Illness of the mother: long-term illness.

2. Perinatal causes of disability:

- Prematurity
- Oxygen deprivation may occur during a prolonged or difficult birth.
- Sexually transmitted diseases: infections include syphilis, AIDS, gonorrhea and herpes.

3. Childhood causes of disability:

- Injuries: spinal cord and brain injuries,
- Childhood diseases, infectious diseases as encephalitis, meningitis.

- Socio-environmental conditions such as neglect, famine and war.
- Poor nutrition and starvation (severe vitamin A deficiency can cause blindness in children).
- Poverty (unsanitary living conditions, lack of access to safe drinking water and inadequate means of garbage disposal. All these factors are the cause of communicable diseases leading to various impairments).

4. Causes of disability in adolescence and early adulthood:

- Injury is a common cause of disabilities: include falls, swimming accidents, motor vehicle accidents, and physical violence.

5. Causes of disability in late adulthood and old Age

- Chronic health conditions such as rheumatism and arthritis.
- Strokes may cause brain damage which can affect language skills, mental ability, or physical activity.
- The prevalence of sensory impairment also increases with age.

6. Unknown causes.

<u>Community services for disabled people:</u>

1-Treatment:-

The purpose of treatment is to improve the physical condition of the patient.

√ **The various measures consist of:**

a) Physical therapy:-

- The deformities are corrected.
- The weakened muscles are given exercises.
- Infrared rays, diathermy & electric therapy.

b) Occupational therapy:-

Occupational therapy is the only profession that helps people to improve their ability to do everyday tasks if you're having difficulties.

- Child taught according to his ability.
- Training about things like music, painting.
- Occupational therapists work with people of all ages and can look at all aspects of daily life in home, school or workplace.

c) Speech therapy

Speech therapy is the assessment and treatment of communication problems and speech disorders. It is performed by speech-language pathologists (SLPs), which are often referred to as speech therapists.

2. Assistive technology

Assistive Technology is a generic term for devices and modifications that help overcome or remove a disability; Such as

- The use of prosthesis
- The wheelchair

3. Education

The Individuals with Disabilities Education Act (IDEA) was passed, children with disabilities were segregated into separate schools designed to meet their needs. In these special schools, children were treated like disabled children but not included in activities in which other children were able to participate.

4. Financial support

The government offers financial support to disabled people; this helps to cover the cost of additional equipment and medical care and helps to replace money that would be earned through employment.

5. Employment

The government offers additional support to disabled people that are looking for employment; disabled people are trained for an independent living; this is called "vocational guidance", can help people to find work, arrange training and further education programs , so that he is not a burden on others.

6. Insurance

Disability benefit, or disability pension, is a major kind of disability insurance, and is provided by government agencies to people who are temporarily or permanently unable to work due to a disability.

7. Transportation

Transportation is one of the major barriers. The full travel chain from home to office needs to be accessible, including public transportation.

Universal design is increasingly being adopted in bus and rail systems in developed countries, including:

- Lifts and ramps for all vehicles and
- Visual and tactile warning systems at the edge of platforms, amongst other features.

Rehabilitation

Definition of rehabilitation:

WHO has defined rehabilitation as "the combined and coordinated use of medical, social, educational and vocational measures for training and retraining the individual to the highest possible level of functional ability.

Goal of rehabilitation:

The main goal of rehabilitation is help the patient to achieve maximum possible physical, psychological fitness and regain the ability to be independent.

Steps of rehabilitation:

1. Determine the type of severity of disability.
2. Set the goals.
3. Determine the realistic rehabilitation.
4. Determine the health team which is the most appropriate.
5. Monitor the progress.
6. Assess the activity daily living (ADL).
7. Avoid delaying on provide treatment.
8. Investigate social and family circumstances to determine if further support is required.

Types of rehabilitation

1. Medical rehabilitation:-

It should start early in the process of medical treatment. It helps in restoring normal body functions e.g. learning to walk with an artificial limb, learning to test one's urine, take necessary medication and diet for diabetes. Making weak muscles regain their strength after a fracture.

2. Vocational rehabilitation:-

It is restoration of the capacity to earn live hood.

3. Social rehabilitation:-

Means relearning of important social skills in relating to other people restoration of family and social relationship.

4. Psychological rehabilitation

It is restoration of personal dignity and confidence.

Settings for rehabilitation

l. Hospitals

They are the initial settings for rehabilitation because rehabilitative efforts should begin the instant an injured person enters the hospital. Regardless of the rehabilitative facilities available in the hospital, the nurse should meet the emotional and social needs of the person as well she can help him to understand that the hospitalization is only temporary and that life and responsibility will continue after his discharge.

2. Specialized rehabilitation centers

These are set up for long term client rehabilitation. After discharge from the hospital the client requiring specialized rehabilitation care is referred to any of these centers. These are available as outpatient or an inpatient clinic.

The rehabilitation team may include beside nurses and psychiatrists, a dietitian, physical therapist, occupational therapist, speech pathologist, social worker and psychologist.

3. Home and community

The client's family can be of great help to him if they are included in the planning of his rehabilitation. They can be supportive and help him in the rehabilitation process.

Health care team:

The health care team varies from place to place rehabilitation requires the cooperation of all the members of health care team.

The health care team consists of:-

1) **A physician**: specialized in physical medicine. He assesses the client's abilities and prescribes exercise and activity, as well as the use of massage and heat.

2) **Physical therapists**: provide daily help to clients with neuromuscular or orthopedic disabilities. They assess the client's muscle ability and plan therapy, which may include exercise,

manipulation, massage and the use of heat, cold, pressure, light and electricity.

3) **Vocational guidance counselors** Assist clients in assessing their strengths and limitations in terms of career possibilities. They also provide training and placement services.

4) **The social worker** is a source of information on financial assistance, which may be necessary for some rehabilitative care, housing, transportation, recreational facilities and agencies that may help the client and family with psychosocial counseling.

5) **The psychiatrist** may work with clients showing behavioral disturbances resulting from organic brain damage, psychosis, or addiction.

6) **The nurse** may be a C.H. nurse, a visiting nurse, an extended care nurse, or a nursing home nurse. The nurse is often the coordinator of the health care team; it is her responsibility to evaluate the client's, physical, psychological and social needs and to plan care accordingly. This includes setting up a daily program in conjunction with the other members of the team. The nurse should also keep the client and his family fully informed about his condition, treatment and plans for home care.

7) **The client and his family** a positive and cooperative attitude on their part is essential to the success of the team. They must be

allowed to make decisions, learn about the therapy and help in the planning.

Community-based rehabilitation for disabled people:

Is a strategy within community development, which aims at rehabilitation, equalization of opportunities and integration of persons with disabilities within their communities and the society as a whole.

- The primary **objective** of CBR is the improvement of the quality of life of people with disability.

Components of community-based rehabilitation (CBR):

1- Creation of a positive attitude towards people with disabilities
2- Provision of rehabilitation services
3- Provision of education and training opportunities
4- Creation of micro and macro income – generation opportunities
5- Provision of long term care facilities
6- Prevention of causes of disabilities
7- Monitoring & Evaluation.

Role of the community health nurse in disabilities:

Teacher

- Assist the family and client to learn new skills that must be applied in all components of daily living.
- Provides in-service education for healthcare team members and members of the community regarding the prevention of disabilities.

Caregiver

- Implements a plan of care by providing nursing care and education directly or through ancillary personnel, as needed, to maintain and restore function and prevent complications.

Counselor

- Include counseling for educational needs related to physical care assistance, disease progression, and availability of community resources and future needs of the family members

Collaborator

- Develops goals, in collaboration with clients, their families, and the rehabilitation team that is oriented to wellness behavior and is reality based and that encourage socialization with others.
- Collaborates with team members to achieve cost-effective care by utilizing appropriate clinical measures to meet emergent physical, psychosocial, and spiritual situations

Client advocator

- Advocates for policies and services that promote the quality of life for individuals with disabilities and participates in activities that will positively influence the community's awareness of disabilities
- Contributes to a safe and therapeutic environment.

Research role

- The community health nurse participates in nursing research studies related to disabilities.
- Applies nursing research to clinical practice .

Viral Hepatitis

Objectives:

By the end of this lecture, the student will be able to:

- Discuss incidence of viral hepatitis
- Define viral hepatitis
- Classify types of viral hepatitis
- Compare between different types of viral hepatitis

Contents:

- Introduction
- Incidence
- Definition of viral hepatitis.
- Types of viral hepatitis.
    1. Hepatitis A
    2. Hepatitis B
    3. Hepatitis C
    4. Hepatitis E
- Application of the three levels of prevention.

Introduction :

Viral hepatitis is a major health problem through out the world, it is a cause of morbidity and mortality in the human population, because of hepatocellular carcinoma is the one of the most common cancers world wide, especially regions with hepatitis "C" like "Egypt".

Definition of viral hepatitis:

Is an inflammatory disease of the liver due to viral infection.

Common types of viral hepatitis

Viruses A, B, C, D, E

1-Virus A hepatitis

It is virus hepatitis (AVH), short - incubation hepatitis

- It is acute widespread disease
- It is endemic in developing countries

Identification:

Onset is usually abrupt with fever, malaise, anorexia and abdominal discomfort, followed within a few days by jaundice. The disease varies in clinical severity from a mild illness lasting 1-2 weeks to a severely disabling disease lasting several months (rare).

Many infectious are a symptomatic, many are mild and without jaundice, especially in children and recognizable only by liver function tests.

Occurrence*:*

Worldwide, disease transmission is frequent in day-care centers enrolling diapered children, in household, sexual contacts of acute cases, travelers to countries where disease is endemic, where environmental sanitation is poor, infection is common and occurs at an early age. The disease is most common at school age children and young adult.

Causative organism: -

Hepatitis a virus (HAV*)*

Source of virus ／antigen:

Feces and saliva, and blood (rare)

Mode of transmission:

- Person to person by the fecal-oral route.
- Contaminated water.
- Food contaminated by infected food handlers.
- Instances have been reported of transmission by blood transfusion of donor during incubation period.

Incubation period:

3 to 5 weeks (average 25- 40 days) depending on dose.

Communicability period:

Studies of transmission in humans epidemiologic evidence indicate maximum infectivity during the later half of the incubation period, continuing for a few days after onset.

Stages of classical disease:

Pre-icteric, icteric and post icteric:

1-Pre-icteric stage :

Fever, headache, malaise, myalgi, and athralgia, tender liver, dark urine, and gastro –enteritis (viral).

2- Icteric stage:

- Jaundice (citrus) noticed firstly in the sclera.
- Enlarged tender liver and spleen .

3-Post- icteric stage :-(convalescence phase)

- Jaundice disappears, but enlargement of the liver persists for some time.
- Improvement and clinical recovery.

Methods of control:-

A- Preventive measures:

1- Educate the public about good sanitation and personal hygiene, with special emphasis on careful hand washing and sanitary disposal of feces.

2- Provide proper water treatment and distribution systems, and sewage disposal.

3- Management of day-care centers should stress measures to minimizing the possibility of fecal-oral transmission including hand washing after diaper change and before eating. If one or more HAV cases are associated with a center, I G should be administered to the staff and attendants

4- Travelers to highly endemic areas should be given prophylactic doses of I G.

5- Shellfish should be cooked or heated at a temperature of 85 -90 C for 4 minutes before eating.

6- Vaccines for active immunization, both killed and attenuated are being developed but not yet available for general use.

B- Control of patient, contacts, and the immediate environment:-

1- Report to local health authority.
2- Isolation of cases.
3- Concurrent disinfection (sanitary disposal of feces and urine).
4- Investigation of contact and source of infection.
5- Immunization of contacts.
6- Specific treatment:
    - Hepaticum syrup (3 time ⁄ day) after meals.
    - Ursogall syrup (3 time ⁄ day) after meals.
    - Silymarin plus sachets (2 time ⁄ day). Morning & evining.
    - Di- ease syrup (3 time ⁄ day) before meals

C- Epidemic measures:-

1- Determine mode of transmission by epidemiologic investigation.ċ

2- Make efforts to improve sanitary and hygienic practice to eliminate fecal contamination of foods and water.

D- Disaster implication:-

A potential problem in a large collection of people with crowding, inadequate sanitation and water supplies. If cases occur, increase efforts should be exerted to improve sanitation and safe water supply.

E- *International measures:-* None

2- Virus B Hepatitis

Identification

It is B virus hepatitis (BVH), or long – incubation hepatitis, known as serum hepatitis. Hepatitis B virus (HBV) infection is a global health problem and it has been estimated by the World Health Organization (WHO) that 2,000 million people (one third of the world's population) have been infected worldwide. In united state it is estimated that 1.5 million people are infected with hepatitis at year of "2004 " and that 300,000 new cases occur annually, about 300 of this patients die with acute fulminant hepatitis and 5-10% become chronic carriers. Studies in Middles East show the prevalence of HBVs 8 % in Egypt (2011).

Causative organism: *HB virus (hepadnavirus)*

Occurrence:

Worldwide, it affects all ages, but mostly young adults.

Reservoir of infection: -

Man, cases and carriers (incubatory, convalescent, and healthy)

Foci of infection: -

Blood, tissue, fluids (semen, vaginal secretion, breast – milk and saliva).

Mode of transmission

1. Exposure to infected blood:
   a) Potential route: By using syringes , needles and inoculation devices contaminated with blood even in traces.
   b) Professional exposure infected blood on giving I.V inoculation, taking blood samples of any surgical and dental management
   c) Certain traditional procedures and faulty habits as:
      - Circumcision, tattooing.
      - Using shaving razors and tooth brushes.
      - Intravenous drug abuse.
   d) Attendants of dental clinics, (not sterilized instruments).
2. Organ transplantation renal dialysis.
3. Other routes of infection.
   - Oral route: Face – oral transmission (very rare).
   - Sexual contact.
   - Congenital infection: in utero infection from positive pregnant to the fetus.

Incubation period:

6 weeks to 6 months (usually 3 months)

Clinical manifestation of HBV:-

1- Clinically the disease resembles hepatitis A

2- Fever and respiratory symptoms are rare.

3- Some patients may have arthralgia and rash

4- Anorexia

5- Dyspepsia

6- Generalized aching

7- Malaise

8- Weakness

9- Jaundice may or may not be evident

11- Tender-enlarged liver

12- Splenomegaly in few patients

13- Lymphadenopathy (posterior-cervical lymph nodes

Risk factors for HBV:

1- Frequent exposure to blood, blood product, and other body fluid

2- Healthcare workers, hem dialysis staff, oncology and Chemotherapy nurses, surgeon, dentists and or staff.

3- Hemodialysis

4- Male homo sexual and bisexual activity

5- IV injection drug use

6- Close contact with carrier of HBV

7- Travel to or residence in area with uncertain sanitary condition

8- Multiple sexual partner

9- Recent history of sexually transmitted disease.

10- Receipt of blood or blood products (e.g. clothing factor concentrate)

Medical management and nursing management

1-Medical Management:-

The goal of treatment to decrease or minimize infectivity and to decrease symptoms.

Interferon:

- This regimen of 5 million units to 10 million units three times
- Weekly for 4 to 6 months.
- Interferon administered by injection

Side effects including fever, chills, anorexia, nausea and fatigue

Late side effect may indicate discontinuation include bone marrow suppression, thyroid dysfunction, alopecia and bacterial Infection.

2- Nursing management:

Teaching patient about self care:-

1-Adequate nutrition should be maintained, proteins is restricted.

2-Bed rest may be recommended.

3-Continuing care follows up visits by a home care nurse .home visit permits assessment of patient's physical and psychological status.

Methods of control:-

A-Preventive measures:

1) Prevention of blood – transmitted infection:

- Using disposable syringes and needles.
- Surgical and dental instruments must be sterile.
- Exposed personnel in clinics and laboratories must use gloves.
- Precautions with blood donors**.**

2)Prevention of oral and sexual infection:

By health educations of the public to follow cleans habits and avoid exposure to known cases.

3)Specific prevention:

1. *Seroprophylaxis*

By specific hepatitis immunoglobulin to:

a) High risk individual receives blood transfusion under suspected circumstances.

b) Neonates borne to positive mother.

c) Personnel who have been exposed to infection.

d) Sexual exposure within 14 days.

2. *Immunization:*

Primary vaccinations: 3 doses 0.5 ml each, IM.

1st dose 20 microgram, one month later 2nd dose 20-microgram – 6 month later 3rd dose 10 microgram.

Application of vaccination

1. Medical or paramedical personnel exposed to the risk of infection
2. Medical and paramedical students /on starting hospital training.
3. Cases of impaired body resistance whom in need of repeated blood transfusion
4. Compulsory vaccination of infants and young children at 2, 4,6 months and poster dose at 18-24 months protective value of the vaccine it give 96% protection for at least 7 years /when to give booster dose.
5. Infant borne to infected mother

B- Control measures:

1- Report to local health authority.
2- Concurrent disinfection of equipment contaminated by blood, saliva, or semen.
3- Investigation of contact and source of infection.
4- Immunization of contacts.

3- Virus C hepatitis

Identification

In Egypt HCV infection rate is (14.7)%. Egypt has a higher incidence of HCV infection than any other country in the world (2012) **.** Acute hepatitis that may become chronic in a good percent of cases

Causative organism

Hepatitis c virus (HIV)

Modes of transmission: -

as hepatitis B virus

- Exposure to infected blood or serum.
- Sexual transmission
- Undetermined methods, yet
- Incubation period long two or more months.
- Prevention as virus B hepatitis.

4- Virus E hepatitis

- Mode of infection as hepatitis A: water is particular important
- Incubation period 30 –40 days
- Prevention: - As hepatitis A - Water and food sanitation

Application of the levels of prevention

(for hepatitis B,C,& D)

I-Primary prevention

A- Health promotion:

- Health education to the public through mass media about the disease, signs & symptoms, mode of transmission, prevention and control.
- Well balanced diet.
- Provision of adequate housing.
- Encourage the public to utilize community resources.
- Periodic check up.
- Marriage counseling or sex counseling.
- Follow proper health habits.

B- Specific protection

Be attention for high risk group such as:

1- Nurses and other health care personnel exposed to blood or blood products, or other body fluids.

2- Sexual contact with infected person

3- Haemodialysis patient, recipients of blood product (blood transfusion).

4- Homosexually active men, heterosexuals with multiple sexual partners.

5- Travelers to setting with poor or uncertain sanitary condition.

Health education for the high risk group about the disease, its prevention, and precautions such as:

- Precautions about sexual relations.
- Sterilization of all equipments.
- Using of disposable syringe.
- Screening of blood donor.
- Immunization is recommended.

II- Secondary prevention

A- Early diagnosis & Proper treatment:

- Through investigation for Signs and Symptoms
- Laboratory tests, such as liver enzymes and complete blood picture.
- Hepatitis markers are recommended.

Table (10): Liver function test

Test name	**Ref. interval/units**
Total bilirubin (TBI)	3.4-17.1umol/L
Direct bilirubin (DBI)	0.0-5.0 mmol/L
Total protein (TP)	64.0-88.0 g/L
Albumin (ALB)	34.0-50.0 g/L
albumin/Globulin ratio (A/G)	1.0
Aspartate Aminotransferase (AST)	5-37 u/L
Alanine Aminotransferase (ALT)	5-65 u/L
Alkaline phosphatase (ALP)	36-136 u/L
Gama-Glutamyl Transferase (GGT)	5-85 u/L

Proper treatment through:-

- Bed rest until S & S have subsided.
- Restrict activities until the hepatic enlargement and elevation of serum bilirubin level and liver enzymes have disappeared.
- Daily subcutaneous injection of 5 million units of alpha-interferon for 4 months.
- Long-term follow up is required to determine if the effects of interferon are sustained and if this therapy decreases the incidence of hepatocellular carcinoma.
- Special attention for patient's nutrition to maintain body weight, prevention of hypoglycemia, dehydration, and hepatic coma. Also, to help liver tissues' reconstruction.

Nutrition for acute stage include:

- Glucose 5% - 10%
- Fluids
- Small frequent soft meals
- Or semisolid meals

Nutrition after acute stage:

- Nutrition regimen of high protein and low fat nutrients.
- Increase fluids intake and increase vitamin (all types of fruits)
- Improve appetite (digestive & appetizer, prepare meals in attractive manner, and tooth brush).

- Breakfast meal is very important (eat breakfast as a king, lunch as a prince, and dinner as pauper).

Dietary recommendations for Carbohydrates, Protein, & Fats for Hepatitis / Liver disease:

It is important to keep in mind the difference in calorie content among different food groups. While Protein and Carbohydrate each supply 4 calories per gram, Fats supply 9 calories per gram.

- Total protein intake would range between about 40-100 grams per day=equaling the approximate 20%-30% of daily caloric intake.
- People with unstable liver disease (decompensated Cirrhosis) need to lower the percentage of animal protein they consume and they need to eat mostly vegetable source of protein.(to ↓ episodes of encephalopathy). Limit any type of protein consumption to 20 grams or less per day in cases of encephalopathy episode.
- A well-balanced diet will include at least 400 grams of Carbohydrates (simple Carbohydrates rather than complex Carbohydrates is recommended).
- As regular rule, no more than 30 percent of person's caloric intake should come from fat. That's the absolute maximum (from 10 % to 20% is recommended).

Vitamins, Minerals and Liver disease & Hepatitis:

- Excessive intake of vitamins has the potential to cause serious health problems. This is true even for people with

normally functioning livers. Vitamin supplements should be as doctor order.

- Calcium should be taken with vitamin D, and not exceed over 1000-2000 milligrams ⁄ day as doctor order (↑ Ca intake make many medical problems).
- Iron should be taken in different time of calcium intake. The amount of iron in the body usually amounts to about 3-4 grams,(50mg ⁄ kg in men & 40 mg ⁄ kg in women). In extreme excess, Iron is toxic to the liver, and can lead to cirrhosis, liver failure, and liver cancer(this applies especially to people with alcoholic liver disease and chronic hepatitis C.
- As regards Sodium (Na) intake, the body requires only about 50- 400 mg ⁄ day. Patient with ascites must be placed on a severely salt-restricted diet.
- Avoid raw shellfish intake (source of many outbreak of (HAV)).
- Decrease consumption of gas-containing foods and of foods that they are having difficulty digesting.
- Recent study has suggested that caffeine may in fact be advantageous to people with liver disease (1 or 2 cups of a caffeine-containing beverage per day.

B- Disability limitation:

To prevent complication, the patient should follow proper treatment with periodic check up.

III- Tertiary prevention

A- Psychological:

Spiritual support is very important.

B- Physical:

- Every effort should be done to promote healthy lifestyle.
- Infected person should be counseled and advised how to prevent infection to others.
- Follow proper treatment.

C- *Social*:

Social services and management of family problems.

Dengue fever

Introduction

Dengue (break-bone fever) is a viral infection that spreads from mosquitoes to people. It is more common in tropical and subtropical climates. About half of the world's population is now at risk of dengue with an estimated 100–400 million infections occurring each year. Dengue is found in tropical and sub-tropical climates worldwide, mostly in urban and semi-urban areas.

Infectious Agent

Dengue viruses are spread to people through the bite of an infected *Aedes* species (*Ae. aegypti* or *Ae. albopictus*) mosquito.

Phases of Symptomatic Dengue

Febrile Phase

Symptomatic dengue begins abruptly after an incubation period of 5–7 days (range 3–10 days) and has a 3-phase clinical course: febrile, critical, and convalescent. Fever typically lasts 2–7 days and can be biphasic. Other signs and symptoms include severe headache; retro-orbital pain; bone, joint, and muscle pain; macular or maculopapular rash; and minor hemorrhagic manifestations, including ecchymosis, epistaxis, bleeding gums, hematuria, petechiae, purpura, or a positive tourniquet test result. Some

patients have an injected oropharynx and facial erythema in the first 24–48 hours after onset. Warning signs of progression to severe dengue occur in the late febrile phase around the time of defervescence (i.e., temperature <100.4°F [38°C]) and can include severe abdominal pain, difficulty breathing, extravascular fluid accumulation, progressive increase in hematocrit (hemoconcentration), postural hypotension, lethargy or restlessness, liver enlargement, mucosal bleeding, and persistent vomiting.

Critical Phase

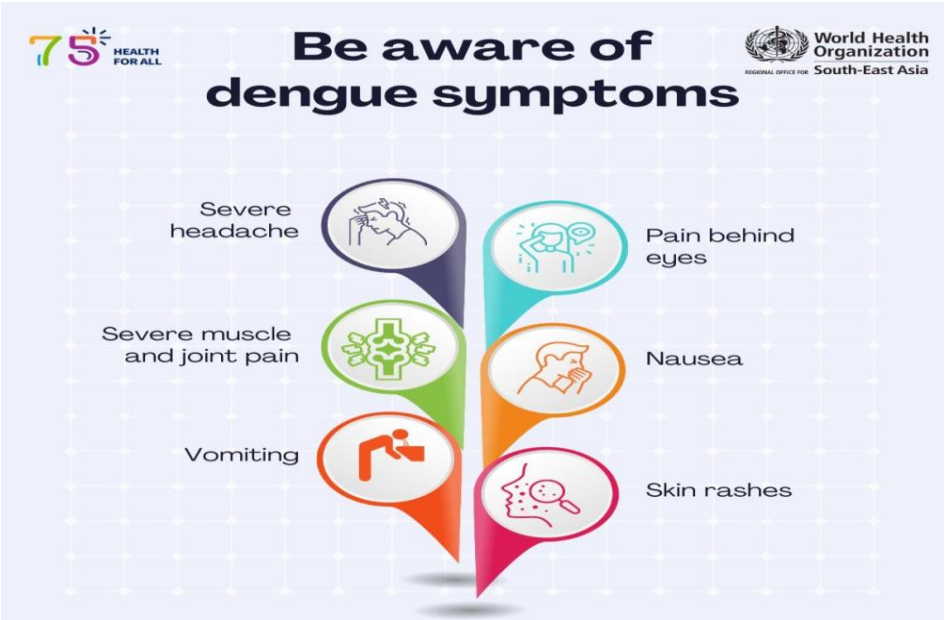
The critical phase of dengue begins at defervescence and typically lasts 24–48 hours. Most patients improve clinically during this phase, but those with substantial plasma leak (resulting from marked increase in vascular permeability) progress to severe dengue. Patients with substantial plasma leak can develop ascites or pleural effusions, hemoconcentration, and hypoproteinemia. Physiologic compensatory mechanisms narrow the pulse pressure as diastolic blood pressure increases, initially maintaining adequate circulation; patients might appear well despite early signs of shock.

Once hypotension develops, however, systolic blood pressure rapidly declines, and irreversible shock and death can ensue despite resuscitation efforts. Especially in cases

of prolonged shock, patients can develop severe hemorrhagic manifestations, including hematemesis, melena, or menorrhagia. Uncommon manifestations during this phase include encephalitis, hepatitis, myocarditis, and pancreatitis. Laboratory findings commonly include elevated aspartate aminotransferase and alanine aminotransferase, hyponatremia, leukopenia, lymphopenia, thrombocytopenia, and a normal erythrocyte sedimentation rate.

Convalescent Phase

As plasma leakage subsides, patients enter the convalescent phase and well-being improves; extravasated intravenous fluids and abdominal and pleural effusions are reabsorbed, hemodynamic status stabilizes (although bradycardia could manifest), and diuresis ensues. The patient's hematocrit stabilizes (or falls because of the dilutional effect of the reabsorbed fluid), and the white cell count usually starts to rise, after which the platelet count recovers. The convalescent phase rash might desquamate and be pruritic.



Transmission

Transmission through the mosquito bite

The virus is transmitted to humans through the bites of infected female mosquitoes, primarily the *Aedes aegypti* mosquito. Other species within the Aedes genus can also act as vectors, but their contribution is secondary to *Aedes aegypti*.

Human-to-mosquito transmission

Mosquitoes can become infected by people who are viremic with DENV. This can be someone who has a symptomatic dengue infection, someone who is yet to have a symptomatic infection (they are pre-symptomatic), but also

people who show no signs of illness as well (they are asymptomatic).

Human-to-mosquito transmission can occur up to 2 days before someone shows symptoms of the illness, and up to 2 days after the fever has resolved.

The risk of mosquito infection is positively associated with high viremia and high fever in the patient; conversely, high levels of DENV-specific antibodies are associated with a decreased risk of mosquito infection. Most people are viremic for about 4–5 days, but viremia can last as long as 12 days.

Maternal transmission

The primary mode of transmission of DENV between humans involves mosquito vectors. There is evidence however, of the possibility of maternal transmission (from a pregnant mother to her baby). At the same time, vertical transmission rates appear low, with the risk of vertical transmission seemingly linked to the timing of the dengue infection during the pregnancy. When a mother does have a DENV infection when she is pregnant, babies may suffer from pre-term birth, low birth weight, and fetal distress.

Other transmission modes

Rare cases of transmission via blood products, organ donation and transfusions have been recorded. Similarly, transovarial transmission of the virus within mosquitoes has also been recorded.

Risk factors

Previous infection with DENV increases the risk of the individual developing severe dengue.

Urbanization (especially unplanned), is associated with dengue transmission through multiple social and environmental factors: population density, human mobility, access to reliable water source, water storage practice etc.

Community's risks to dengue also depend on population's knowledge, attitude and practice towards dengue, as well as the implementation of routine sustainable vector control activities in the community.

Consequently, disease risks may change and shift with climate change in tropical and subtropical areas, and vectors might adapt to new environment and climate.

Diagnostics and treatment

- Most cases of dengue fever can be treated at home with pain medicine. Preventing mosquito bites is the best way to avoid getting dengue.
- There is no specific treatment for dengue. The focus is on treating pain symptoms.
- Acetaminophen (paracetamol) is often used to control pain. Non-steroidal anti-inflammatory drugs like ibuprofen and aspirin are avoided as they can increase the risk of bleeding.
- There is a vaccine called Dengvaxia for people who have had dengue at least once and live in places where the disease is common.
- For people with severe dengue, hospitalization is often needed.

Prevention and control

The mosquitoes that spread dengue are active during the day. Lower the risk of getting dengue by protecting from mosquito bites by using:

- Clothes that cover as much of the body as possible

- Mosquito nets if sleeping during the day, ideally nets sprayed with insect repellent
- Window screens
- Mosquito repellents (containing deet, picaridin or ir3535)
- Coils and vaporizers.

Reference

- **Allendar J and Spradley B., (2009):** Community Health Nursing: Concepts and Practice, New York, Lippincott Willams&Wilkins**.**
- **Allender J, Rector C and Warner K, (2005)**: Community & Public Health Nursing: Promoting the Public's Health, 8th Edition, Sydney: Lippincott Williams &Wilkins.
- **Anderson ET and Farlane JM, (2011**): Basic concepts& community health nursing: Community as partner theory and practice in nursing, 6th ed., A Macmillan company, Philadelphia.
- **Brother J,(2009):** Basic concepts of community health nursing, 2nd ed,
- **Centers for Disease Control and Prevention (CDC), (2010**: Available at: www.cdc.gov/hepatitis/HCV/PDFs/HepCGeneralFactSheet.pdf.
- **David Harvey M, (2006):** Community Child Health and Peditrics, third edition.
- **Elizabeth I & Judith M, (2011):** Community as partner, theory and practice in nursing, 6 ed, Wolters kluwer /Lippincott Willims and Wilkins

- **Hitchock JE, Schubert PE, (2010):** Community Health Nursing in action, London.
- **James F, (2009):** An introduction to community health nursing, sixth edition.
- **Janice M, (2009):** Community Health Nursing, second edition.
- **Judith A. & Barbara S, (2005):** Community Health Nursing: Promoting and Protecting the Public's Health, 6th edition, Lippincott Willams&Wilkins, New York.
- **Mary A and Malanie, (2007):** Public health nursing. 4th edition**.**
- **Miles MA and Mcewen M, (2010):** Community Health Nursing, Promoting the health of population,
- **Nies M, McEwen M (2011):** Community/Public health nursing, promoting the health of population.
- **Roberta H, (2005):** Introduction to community based nursing, 4th edition.
- **Stanhope M and Lancaster G, (2010):** Foundation of Community Health Nursing: Community Oriented Practice, Mosby, Philadelphia.

- **World Health Organization (WHO), (2010):** Available at (http://apps.who.int/inf-fs/en/fact164.html.