PERSONAL AND COMMINITY HEALTH

DEFINITION OF TERMS COMMONLY USED IN PCH

HEALTH

This is a state of complete physical mental and social, wellbeing of an individual and not merely the absence of disease or disability

HYGIENE

This is the practice of keeping one self, one's way of living and working areas clean in order to prevent disease,

OR-. The study of health that teaches people how to keep their bodies healthy especially through the promotion of cleanliness

OR Is the study of health as it does concerns each individual

PERSONAL HYGIENE

This deals with the health of the individuals and involves understanding and care of both the body and minds.

PUBLIC OR SOCIETAL HYGIENE

This deals with the health of the community and is the responsibility of the community and of both central and local government.

FAMILY[S]

Is a group of two or more people [home] who are united by blood, marriage, adoption and commitment which exist as a family and who are mixed together as a unity.

COMMUNITY

Is a group of people who live in a specific place or locality sharing common interest and characteristics?

It's a group of living together having the same values, culture and norms with an intension or target goal

EPIDEMIOLOGY

The study of the distribution and determinants of health-related states or events (including disease) and the study to control diseases and other health problems

OR

The study of the patterns, causes, and effects of health and disease conditions in defined populations

Mortality

Mortality is used only to refer to a situation where people in a population are dying because of a disease.

Mortality rate describes the number of people dying because of a disease in a population.

Morbidity

Morbidity is a state of having poor health or a disease because of any reason. Whenever a person is afflicted with a disease to a level that it affects his health, the word morbidity is used by doctors.

Morbidity rate is referred to the rate of incidence of a disease or the prevalence of the disease in a certain population.

Prevalence

Refers to the number of people who already have the disease

Incidence

Refers to the number of new cases of a disease that are confirmed

COMMUNAL

This involves a large group of people.

COMMUNITY HEALTH

It's an art and science of taking care of health in all its aspects of life which include

- Promotion
- Preservation and prevention of diseases

PERSONAL HYGIENE

This is a science of health that deals with those measures taken by an individual to preserve his/her health.

Examples of those measures include;

- ❖ Cleanliness
- ❖ The bowels.
- ❖ Exercise, rest and recreation.
- ❖ Fresh air and sun light.
- ❖ Good habits.
- ❖ Good diet.
- ❖ Clothing.

Personal hygiene involves 3 major areas i.e.

- ➢ Cleanliness of an individual and care of the body
- ➢ Regulation of daily life activities to maintain physical fitness
- ➢ habits of mental outlook

AIMS OF HYGIENE

- ✓ To keep the body healthy and give one confidence
- ✓ To prevent spread of germs to other people and prevent illness
- ✓ To promote a good standard of living

PERSONAL AND COMMUNAL HEALTH

This is the health care system that concerns itself with the health of an individual and the community.

AIMS OF PERSONAL AND COMMUNAL HEALTH

- To provide, promote, preventive, curative and rehabilitative health care to individual and community as a whole. I.e. bringing them to a complete physical, mental and social wellbeing.
- Provide nurses with knowledge and skills of maintaining an individual health through health education.
- Health being a basic of human right which should be attainable at higher level. This helps nurses to work without discrimination. All should be treated equally.
- It helps nurses to overcome the challenges that may arise during counseling or advising patients, relatives and community members.
- Helps nurses to provide good care to patients who are unable to perform since they know the importance.

HOW CAN WE PROMOTE GOOD HEALTH

- Through health education e.g.; cleans water, sanitation.
- Residing in good houses.
- Good nutrition.
- Immunization.
- Having good relationship with the community.
- Proper planning by the government [MOH].
- Emphasis on environmental hygiene.

COMPONENT OF P.C.H

- General health measures.
- Food hygiene.
- Clean water supply.
- Environmental sanitation [waste disposal].
- Good housing.
- Vector control.
- Treatment of infections and other diseases.

P.C.H AS A SUBJECT

This subject includes all matters which affect the health of people either an individual in their own homes or as members of the community such as villages or towns.

This subject can be sub divided into;

- Personal hygiene.
- Public or community or social hygiene.

PERSONAL HYGIENE

This includes;

- Cleanliness.
- The bowel.
- Exercise.
- Rest and recreation.
- Fresh air and sun light.
- Good diet.
- Good habit.
- Clothing.

COMMUNITY OR PUBLIC HYGIENE

These include measures taken by the government, health authority, public workers, departments, Agriculture and veterinary departments which help to improve the health of people by the control and treatment of diseases adequate food production, water supply, etc.

PREVENTIVE MEASURES TAKEN BY THE GOVERNMENT

- Free inoculation to prevent yellow fever, plague typhoid fever.
- Antenatal services for pregnant mothers.
- Post natal clinics of women after delivery.
- Infant well fare for children under school age.
- School clinics for school children.
- Care of water supply.
- Sanitation –disposal of refuse.
- Control of pest, prevention of breeding places of mosquitoes, flies, flea, rats' mites, etc.
- Inspection of building, markets, shops and diary.
- Education of people on matter of health.
- Sick people to be treated in hospitals, dispensaries.
- Isolation infectious cases.

- Family planning clinics.
- Free vaccination

CLEANLINESS

SKIN

This must be kept clean and healthy in order to function well, daily bath is needed to remove dirt and give feeling of wellbeing.

FUNCTION OF SKIN

- Regulates body temperature.
- Protection against sun rays and germs.
- Sensory organ of touch.
- Produces vitamin D through it's ergo sterols.
- Excretes sebum to nourish skin.
-
- Excretes sweats.

EFFECTS OF LACK OF HYGIENE OF THE SKIN

- Sebum, sweat, dead skin, cells and bacteria if not removed decomposes and produces an unpleasant smell and irritate the skin.
- The pores become blocked and the heat of the body can't be regulated property.
- Dirt favors growth and germs and parasites and may give rise to diseases.

HANDS

- Should be washed frequently
- Finger nails should be kept short cut to the shape of the fingers.
- After washing hands dry with clean materials and apply lotion to prevent roughness cracking or soreness.

FEET

- Should be washed frequently to prevent smell from decomposing sweat.
- Dry in between toes thoroughly as wet surfaces promote the growth of spore fungal infection called Tania.
- Shoes or sandals should be worn to prevent picking hook worms and jiggers when walking bare footed.
- Shoes should be good fitting not to cramp the feet.
- Badly fitting shoes result in bore deformity, growth of corns or in growing toe nails.

- Too high heeled shoes should be avoided it throw the weight back ward causing backache and bad posture.
- Toe nails should be cut short and straight across to prevent in growing toe nails.

ABNORMALITIES/CONDITIONS OF WEARING BADLY FITTING SHOES

1. **Corns:** Thick painful round over growth and hardening of the skin

   Usually occurs at the top of or in-between the toes

   May need to be surgically removed

2. **Callosity:** A local hardening of the skin caused by friction or pressure

3. **Bromidrosis**: A profuse sweating of the feet/toes and can cause foul odors and sores

Diseases of the Feet

1. **Athletes Foot**: caused by a fungal infection that occurs between the toes

   a. Most common in communal living spaces
      i.e. Showers

2. **Jiggers**: due to poor hygiene of the feet and not wearing shoes

MOUTH AND TEETH

- Keeping the mouth and teeth clean is important to maintain good health.
- Teeth brushed each morning and before going to bed, nothing should again be eaten after cleaning before sleep.
- Brush teeth in up and down movement to remove food particles and prevent decay damage to enamel.
- Eat food containing adequate calcium such as dark green vegetables, beans, ground nuts and well water etc. and vitamin D like eggs, sun light ,milk, cheese, butter, etc. These make teeth healthy.
- Mouth should be rinsed after every meal.

POOR ORAL HYGIENE LEADS TO;

- ❖ Bad smelling breath.
- ❖ Indigestion.
- ❖ Tooth decay and dental carries and pain.
- ❖ Abscess formation on the gum.
- ❖ Toxins from infected teeth may enter blood stream causing illness

The following complications may arise if mouth/teeth are neglected:

a. **Stomatitis:** inflammation of the mucus lining of the mouth

b. **Rhinitis:** inflammation of the mucus lining of the nose

c. **Halitosis**: odor/smell from the nose

d. **Gingivitis**: inflammation of the gums

NOSE

This is part of respiratory system.

FUNCTIONS

- ❖ Warms air.
- ❖ Filter air entering respiratory tract.
- ❖ Moisten air.
- ❖ For these reasons breathing should be done by nose not mouth. The nose should be blown at intervals using handkerchief to remove accumulated dirt and germs, handkerchief changed daily.

HAIR

- ❖ Hair should be kept clean and tidy washed with shampoo or soap using warm water.
- ❖ In hot climate wash hair daily, it should be brushed.
- ❖ Well-kept hair gives a feeling of confidence and wellbeing.
- ❖ Dirty hair harbors lice this may cause ill health as result of some diseases.
- ❖ Dirty hair may allow spores of ring worms to develop.
- ❖ The brush and the comb must be kept clean in a good condition. They should never be shared.

Common Infections of the Scalp

- ✓ Pediculus Capitis (Hair Loss): Common with people whose hair is not kept regularly and/or sharing brushes/combs that are infected

- ✓ Lice and mites infect the scalp and cause itchiness
    - Highly contagious
    - Treatment is available at your local pharmacy & you must clean all infected surfaces – i.e. beddings
- ✓ Ringworm: A fungal parasite that attacks the hair follicle and destroys the hair – causes scar patches which are usually circular or ring shaped – can be found anywhere on the body that has hair
    - Highly infections and it can be transmitted easily when coming in physical contact with the infection
    - Treatment: remove all diseased hair and apply anti-fungal cream to infected area and to all/any utensils used on the infected area

THE BOWELS

The bowel should be opened regularly. The frequency may vary with the amount and the type of food taken but usually it is good to empty the bowels every day.

CONSTIPATION

This is the condition of infrequent and difficulty in evacuation of feaces.

The longer the evacuation remains in the colon the water is absorbed and the feaces becomes harden and difficult to expel.

PREVENTION OF CONSTIPATION

- ❖ Adequate roughage in the diet; this stimulates digestion.
- ❖ Adequate fluid intake which help keeping the feaces soft.
- ❖ Exercise to stimulate muscle tone and peristaltic movement in the intestine.
- ❖ Forming a regular habit of opening the bowels daily. Food entering the stomach stimulates peristaltic movement in the intestine which stimulate rectum to empty.
- ❖ This more noticeable after breakfast and is good time to form habit.

- Taking meals at regular ensures the stomach is not over loaded and food is properly digested.

EFFECTS OF CONSTIPATION

- Abdominal discomfort and flatulence.
- Tiredness.
- Headache.
- Poor appetite.
- Later may result into hemorrhoids

EXERCISE, REST AND RELAXATION

EXERCISE

- Is important in maintaining the health of the body.
- Helps all the muscles in the body to develop and improve muscle tone
- Keeps the joints moveable.
- Stimulates the appetite and improve digestion.
- Stimulates respiration, breathing is deepened and more oxygen is taken into the lungs resulting in a more efficient purification of blood.
- It quickens the circulation of blood causing an increased flow of blood every part of the body and helps to clear a way waste product. It improves kidney function.
- It improves bowel action by stimulating peristalsis in the intestines and helps to prevent constipation.
- It gives a feeling of fitness and well-being.
- The mind is relaxed and refreshed.
- Exercise should be taken regularly and when possible in the open air. It should not be taken too soon after the meal or when tired and not for long. Clothing should be changed after exercise.

Some good types of exercise are;

- Walking.
- Swimming.
- Dancing.
- Gardening.
- Volleyball
- Netball.
- Tennis.
- Running/Cardio

- Biking
- Yoga/Pillates
- Non-recreational activities – i.e. digging

A. Regulation of Daily Life to Maintain Physical Fitness

The activities involved are

1. Diet
2. Elimination of body waste
3. Washing of Clothes
4. Doing Exercise
5. Sleep & Rest
6. Fresh air & sunlight

Exercise

- Deep Breathing

  Passive and active exercises help to stimulate the circulation and improve the muscle activity

  Take deep breaths in through the nose and breathe out through the mouth

- Posture

  When Standing: feet should be a little less than shoulder width apart, back straight, and chin up

Results of Exercise

Negative Outcomes:

- Fatigue of the muscles and nerves and when not exercising properly, a person can cause harm to themselves
- When water is not taken a person can become dehydrated
- **Glucose should NOT be substituted for water**

Positive Outcomes:

- Building/stimulating stronger muscles, stimulating the mind by increasing heart rate and blood flow
- Will help the mental health of a person

Sleep & Rest

Sleep and rest are necessary to combat mental and physical fatigue that could lead to mental/physical breakdown if not received

Hours of sleep that should be received by each age group:

- Infants: 12-14hrs
- Children/Teenagers: 9-10hrs
- Adults: 6-8hrs

REST

Regular rest is necessary for the body to repair worn out muscles and organs. Sleep is the perfect form of rest .For good health; sleep must be sufficient and regular in a comfortable and relaxed position, the body should be kept warm during sleep, a warm bath before bed helps promote good sleep. The amount of sleep required varies with age:

- -Infants sleep most of the day.
- -Children sleep ranging from 12-16 hours a day.
- -Adults need from 6-9 hours a day.

RECREATION

This is provided by an activity which is different from ones usual work, it is a time of relaxation and should be something that is enjoyable. It is important for individuals to have some form of recreation as doing the same thing over and over again leads to depression and nervous exhaustion .Outdoor games like walking ,swimming, gardening dancing etc .provides both exercise and recreation ,reading ,needle work and music are also other good forms of recreation}

FRESH AIR, SUNLIGHT AND GOOD NUTRITION.

- Fresh air provides oxygen and removes carbon dioxide.
- Good posture helps to provide adequate oxygen.

- Tight clothing around the chest and neck should be avoided.
- Fresh air gives a feeling of fitness, improves the appetite and helps in the elimination of waste products.

SUNLIGHT

- Is important to maintain good health.
- Acts on ego- sterol on the skin to produce vitamin D
- The ultra violet rays kill many germs.
- It provides warmth.
- It encourages cleanliness as sun light shows up dirt and dust in our surroundings.

GOOD DIET

Food is necessary for growth, energy, strength, warmth and body repair. The amount required for health depends on size, sex age, climate, degree of activity and basal metabolic rate. Our diet should be well balanced one containing all the essential food nutrients that thebody requires to function normally and stay healthy.

These important nutrients or food factors are;-

- Protein-responsible for body building, needed for growth and repair.
- Carbohydrates –Energy providing food.
- Fats- Heat and energy supply.
- Vitamins- Protective food which regulate normal tissue activities.
- Mineral salts-For body building.
- Water-Makes up 2/3 of body weight for normal body function.
- Roughages- Prevents constipation.

GOOD HABITS

Habit is something we do without thinking about it.Good health can be maintained by forming regular habit, as we continue practicing doing particular activity,it becomes an habit e.g.going to bed at 10pm; the body will be ready to sleep at that time.

- Some good habits are:-
- Regular time for sleep.
- Daily bath.
- Daily bowel action.
- Regular meals.

CLOTHING

Clothing is worn for:

- Provision of privacy.
- Promotion of warmth.
- Protection from sun heat.
- Protection from wind, injuries, germs, rain.
- Identification purposes.

Clothing's made of different materials:-

Cotton

- Suitable for hot climates.
- Absorbs moisture.
- Allow evaporation.
- Non- irritating to the skin.
- Can be boiled and washed well.
- Easy to iron.
- Long lasting material.

Linen

- Suitable for hot climate.
- Light cool material.
- Long lasting and pleasant to wear but they are expensive, not easy to iron and washing must be done carefully.

Wool

- This is made from the fur of animals and mainly sheep.
- It retains heat, preferably worn in cold weather.
- Can be irritating.
- Expensive.
- Needs careful washing.

Synthetics

E.g. Nylon, made from chemicals and used mainly for under wares and night clothes;

- They are light.
- Not irritating
- Easy to wash.
- Do not need ironing.

Clothes should be changed frequently and washed thoroughly in clean soft water and soap. Stagnant water may contaminate it with bacteria and spores of fungi and lead to infection and itching.

After washing, they should be rinsed well and hanged to dry in a wire line in the fresh air and not put on the ground. When dry they should be ironed with hot iron to kill any source of infection. In damp climate, clothes should be dried to a void/prevent moulds from growing.

Clothes cupboard should be dry and clean; clothes should be loose and with normal fitting to allow movement and not constrict the blood vessels/circulation or breathing. In hot climate clothes should be light and of bright color as the dark colors absorbs heat, in cold weather, heavier, warmer clothing should be worn.

DETERMINANTS OF HEALTH;

Whether people are healthy or not, it's determined by their circumstances in the environment

- ✓ Income and social status

Higher income and social status are linked to good health

- ✓ Education level

Low education level is linked with poor health, more stress and low self confidence

- ✓ The physical environment

The state of water, safe housing, clean hair, employment working conditions etc.

Health service access

Access

DIMESIONS OF HEALTH

Overall good health and wellness are inter dependent on 5 dimensions i.e

1. **Physical health**

A state in which all the body parts are anatomically intact and performing their physiological functions perfectly

A person has all the body parts, naturally in their positions, no pathology, all parts doing their normal functions

2. **Mental health**

A broad array of activities directly or indirectly related to mental well-being, it includes mental aptitude, ability to perceive things as they are, ability to understand social structure, ability to make judgment

3. **Emotional health**

Neural hormonal reaction occurring in response to something physical or mental (stimulus)

- Ability to show appropriate reaction to stimuli
- Able to express emotions
- Able to regulate response

4. **Social health**

Ability to build satisfying relationships and this comes naturally to us

To do this you must;

Understand and accept diverse culture

Build network among different people

Adapt a positive self-image etc.

5. **Spiritual health**
   All humans have a spirit like vital force which animates us and this spiritual force gets us deranged before we fall sick

LEVELS OF PREVENTION OF DISEASE PROCESS

The disease process may be prevented in three main ways;

- Primary prevention
- Secondary prevention
- 3.Tertiary prevention

PRIMARY PREVENTION

Primary prevention means action taken prior the onset of disease and it removes the possibility that the disease will never occur and these include;

- Health prevention through health education, good nutrition, good hereditary and other health promotion activities.
- Specific protection through disinfection of food and other particles, immunization.

SECONDARY PREVENTION

This means an action which halts the progress of diseases at its early stage and prevents complications. This can be done through early diagnosis and early treatment.

TERTIARY PREVENTION

This means the disease process has advanced beyond its early stages but still possible to accomplish prevention. Or can also be defined as all measures available to reduce or limit impairment and disabilities, minimize suffering caused by existing departures from good health and to promote the patients adjustment to irremediable conditions.

Tertiary prevention includes;

- Disability limitation.
- Rehabilitations.

MODES OF DISEASE TRANSMISSION

Infection may be transmitted from the reservoir of infection to the susceptible individual in many different ways as follows;

1. **Direct contact.**

This is direct contact from the skin to skin, mucous to mucus of another person e.g during touching, kissing, sexual intercourse may spread contact disease like STDs, AIDs, leprosy, hepatitis B.

2. **Droplet infection**

This occurs due to contact transmission by infection agent contained in most respiratory secretion expelled during sneezing, speaking, coughing spitting and may spread disease like TB meningitis etc.

3. **Contact with soil**

Infection agents are present in soil and can cause disease when the host comes in the contact with the soil and this may cause disease like hook worm, tetanus etc.

4. Inoculation in to the skin or mucosa

The disease causing agent may be inoculated directly in to the skin or mucosa e.g. by the syringe/needle.

5. Trans -placental (vertical)

-Transmission of infectious agents trans-placental.

DISEASE CONTROL

OBJECTIVES OF DISEASE CONTROL

- ❖ To decrease mortality and morbidity.
- ❖ To reduce disease occurrence.
- ❖ To reduce the risk of disease transmission.
- ❖ To reduce the financial burden to the population.
- ❖ To decrease the duration of illness.
- ❖ To prevent possible complication.

TECHNIQUES FOR DISEASE CONTROL IN THE HOSPITAL

- ➢ Disinfection- is the use of chemical antiseptics to destroy microorganisms.
- ➢ Antiseptics-are chemical substances that are used to destroy microorganisms or inhabit their growth.
- ➢ Sterilization-Is a process of destroying all forms of microorganisms (including spores)
- ➢ Immunization

IN THE COMMUNITY

- ➢ Health education on cause, mode of spread, predisposing factors and prevention of diseases.
- ➢ Proper domestic waste disposal and management.
- ➢ Practicing good habit.
- ➢ Individualized constricting pit latrines and practicing its proper use.

- Prevention of water contamination before consumption.

ROLES OF THE COMMUNITY NURSE IN DISEASE CONTROL (EPIDERMICS)

- She works for prevention and control of diseases in various levels.
- She participates as one of the team member especially when it is large scale investigation.
- She has a greater concern with the occurrences of the disease health problem and risk factors prevailing in the community.
- Provide health education to the community regarding preventive and control measures of epidemics.
- Community health nurse takes vital role during at any unusual occurrence of any disease, she investigate regarding frequency and distribution and possible determinants analyzing of information collected.

PUBLIC HYGIENE

These are the services provided by the local government central .e.g.

- Housing.
- Lighting.
- Air and Ventilation.
- Water.
- Sanitation.

COMPONENTS OF AN IDEAL HOME

IN RURAL SETTING

- Main hut.
- Children's hut, boys and girls separately.
- Visitors hut.
- Food store.
- Kitchen with raised fire place.
- Rest /relaxation hut.
- Animal's hut/birds hut.
- A large enough compound.
- A ventilated pit latrine
- A bath shelter.
- A drying rack.
- A drying wire.
- A rubbish pit,

- Trees for shade wind breaking.
- A nearby water source.
- A flower garden.
- A wide road from the main road to the home.

IN URBAN SETTING

- ❖ Main house with master bedroom with water carriage toilet system and a bathroom, sitting room , dinning ,kitchen, three other bedrooms for boys ,girls and visitors with another toileting system , a store, garage if necessary .
- ❖ Animals/birds shade or house.
- ❖ A wide compound.
- ❖ A drying line.
- ❖ A drying rack.
- ❖ Source of light.
- ❖ Water source, commonly tap water.
- ❖ A rubbish pit or dustbin.
- ❖ Compound trees and flower garden.

HOUSING

To protect the health of the community, every country has its laws about housing constructions and other buildings, and also laws regarding the sites on which the house should be built, its height, ventilation and sanitation and the building materials used.

SITE

Is the area of land on which the house is built?

FACTORS TO CONSIDER WHEN SELECTING A BUILDING SITE

- The place should not be near a swamp because mosquitoes and other insects breed in swampy places.
- The site should be slightly raised.
- Soil should be porous like gravel and chalk.
- There should be no overcrowding to provide enough space for free air circulation.
- Some big trees within the site are recommended for the provision of resting shade in hot winter and also act as wind break.
- There should be enough space for cultivation.

- The site should be near essential services such as school, Hospital, Market, clean water source, policing outposts.
- There should be a road within walk able distance from the site but not too near to the home to prevent home accidents.
- The attitude of the community in such area should be good.
- The security in such an area is important.
- The government's policy concerning the area.
- A clean water source for domestic use.

BUILDING A HOUSE

The house should have a good foundation, the depth depending on the type of soil and the size of the house, there should be a separate place for cooking, eating, sitting/living and sleeping, arrangements for the toilets being water carriage system or pit or dry toilets made.

REQUIREMENTS FOR STARTING A BUILDING

- ❖ Enough capital.
- ❖ Specious land with good quality soil.
- ❖ Slightly raised surface not sloppy.
- ❖ Nearby source of water for building and other domestic uses.
- ❖ Adequate man power.
- ❖ Accessible road for the vehicle which collects the building materials.
- ❖ The availability of the building materials.
- ❖ The location of electricity lines in rural areas.
- ❖ The governments consent to ensure that the land is not affected by future road plans in urban areas.
- ❖
- ❖ The security of the place because the building may stop so prematurely.

ROOF

Should be a sound one and projected over the walls to protect the house from rain and wind and to shade the interior from sun rays. The roof may be made of corrugated iron sheets or thatch, the thatch is good in that it is cheapest and coolest but it harbors mites, ticks, rats and other insects. Corrugated iron sheets make the house hot and there should be a ceiling between the roof and the room, there should be air space between the ceiling and the roof protected against bats and the rats by the wire netting.

THE ROOMS

Rooms should be high and airy and well lit with plenty of window space and air outlets to ensure good ventilation .The windows and outlets should be protected from thieves, mosquitoes and other insects. Each room should have adequate sun light but not over heated. The wall may be concrete, concrete or blocks, mud or mud bricks. Mud walls harbors mites and other insects but they are cheap and should be protected from white ants and kept in good condition. Concrete walls are expensive but last longer.

THE FLOORS

The floor may be made of cement, tiles or mud, mud floor are cheapest .They must be kept in good condition e.g. Cracks harbors mites, ticks and other insects; they should not be smeared with cow dung as it attracts flies and breeds germs.

THE KITCHEN

The kitchen should be well ventilated and lightened and easy to clean .fire place should be raised of the ground and have chimney to take away smoke. The kitchen should have adequate clean water, a covered pail for holding waste, there should be table for preparing food and adequate cupboard for food and cooking utensils, food cupboard must have a door and be well ventilated.

THE VERANDA

This is formed by the roof projecting over the walls of the house .This keeps the house cool and shades the rooms, it also provides sitting out place in the evening.

HYGIENE OF THE HOME

- The house should be kept clean and regularly repaired.
- Furniture dusted daily and they should be adequate according to the family's need.
- Table, chairs, cupboards, beds, can be made cheaply from home.
- Windows kept clean, they should be open and should be having curtains.
- Bed linens washed frequently and ironed.
- Overcrowding should be avoided.

THE COMPOUND

A compound is the area around the house.

- It should be kept clean and tidy to prevent attracting flies.
- Flowers and some compound grass should be planted at the compound to make it attractive, less slippery during rainy season and also for dust strapping during windy season.
- The compound grass should be kept short to prevent snakes and other insects.
- Trees have to be planted to provide shade and to act as wind brakes but should not overshadow the house.

The compound should be well planned and have:-

- Small area for gardening.
- Exercise and recreation.
- Granaries for storing food and in good working condition.
- Should have houses for animals and chicken.
- A pit latrine, if there is no water carriage system latrine and the pit latrine should be 10 meters away from the housings.
- A rubbish pit dug 30 meters away from the home.

EFFECTS OF POOR HOUSING

Small, dark, overcrowded and poorly ventilated housing contribute to poor health in the following ways:-

The spread of infectious diseases are more common especially the air bone diseases like Tuberculosis and influenza.

- It makes an individual more liable to diseases and effects of illness.
- Vermin like lice, scabies mite are more easily spread.
- Damp housing leads to increase in rheumatic conditions.
- Home accidents are more common in homes with poor housing.
- Work and study for children is more difficult, this affects their development and their progress suffers.
- Hobbies such as reading needle work and drawing cannot be satisfied, there is a higher child mortality rate.

LIGHTING

Good natural and artificial lighting is important in houses and working places.

There are two types of types of lighting:-

1. NATURAL LIGHT.

2. ARTIFICIAL LIGHT.

1. **NATURAL LIGHT.**

- This is sun light, it's the best kind of light and is also important for health.
- Sunlight makes the room bright, pleasant and dry showing up dusts and dirt encourages cleanliness of the home.
- Good natural light in a home helps reduce home accidents therefore windows should be placed in such a way as to provide maximum natural light.
- Natural light provides warmth.

- Sunlight acts on ergo- sterol in the skin and helps in the formation of vitamin D.
- It gives a feeling of wellbeing and stimulates the mind and body.
- It kills many germs and prevents the growth of others.
- To have good natural light, the room should have sufficient window space and windows placed in such a way as to give maximum light. The window should be kept clean.
- Walls and ceiling should be painted with light colors to allow good reflection of light.

2. ARTIFICIAL LIGHT

The main sources are electric light, oil lamps and candles.

ELECTRIC LIGHT

This is the best form of artificial light from filament lamps of fluorescent tubes .It gives a good light, it's clean and has no naked flame, doesn't flicker and does not use up oxygen or add carbon dioxide or water vapor to air.

NB. All electric equipment must be switched off before cleaning .It must be kept dry and never touched with wet hands as electricity passes through water.

OIL LAMPS

These consist of reservoir containing paraffin so and cotton wick .The paraffin soaks up the wick and on lighting produces flame .They are portable and can be carried from one place to another.

CANDLES

They are made of wax with a wick in the center, they are useful in emergency. Oil lamps and candles give a poor light which is hot and constantly flickers .They are hazardous as they have naked flames, they also darken the walls and ceiling of rooms, they add impurities to the air such as carbon dioxide, moisture ,heat and soot formation, they use up oxygen.

AIR AND VENTILATION

AIR

Air is a mixture of gases surrounding the earth.

COMPOSITION OF AIR

- Oxygen 20%
- Carbon dioxide 0.03%
- Nitrogen 79%
- Water vapor {in small amount but varies}

- Others gases 1%

OXYGEN

Oxygen is essential for life and for all forms of combustion e.g. breathing, and burning.

CARBON- DIOXIDE

Carbon-dioxide is a heavy gas which is a mixture carbon and oxide.

Carbon-dioxide is produced by:

-Respiration of man and animals.

-Burning of all fuels.

-Decaying organic matter, plants or animals, plants absorb it during day light, they retain the carbon and set free the oxygen.

NITROGEN

This gas forms the bulk of air; it has no effect on man but serves to dilute the oxygen in the atmosphere and checking the rate of combustion.

WATER VAPOUR

This is water in the form of gas and comes from:

-Expired air.

-Evaporation from water surfaces such as rivers and lakes and from moist surfaces such as skin, plants and wet clothes.

THE ATMOSPHERIC PRESSURE

- The air has a weight and volume; it can support a bird and an aero-plane.
- Air pressure falls steadily away from the earth's surface it is also essential lessened by the heat and moisture so that it rises until in high altitude it is cooled and descends again, thus we have a constant circulation of air causing winds.
- The instrument for measuring air pressure is called a barometer.
- Fresh air is cool, it moves a little and is free from harmful germs and other impurities. It allows the body to maintain its normal temperature by evaporating the sweat and it gives a feeling of wellbeing.

AIR MAY BE CONTAMINATED BY:

1. **Respiration of animals and man**

-Where oxygen is reduced and carbon-dioxide, water vapors and germs are increased as in respiration of man and animals.

2. **Burning of fuels**

-Burning fuels such as oil lamps, candles, charcoal, and fire wood heat add impurities

Such as soot and smoke to the air.

3. Industrial waste

-Impure gases and fumes from factories far and refineries.

4. Organic matter

-From animals or planted such as skin feathers, skin, feathers, furs dust from dust forms, Hay or cotton.

5. Inorganic matter

-Inorganic matter such as lime, soot, and smoke.

6. Decaying matter

-Decaying matter such bad food, and vegetables excreta, which give rise to bad smell and add germs and other impurities to air.

7. In a Hospital ward

-Organic matter such as dirty linen sluices, specimens and other discharge from wound also contaminates air.

NATURAL PURIFICATION OF AIR IS A CHIEVED BY.

- sition and in cool clean dark and well ventilated room.
- **RAIN**- Wash away impurities.
- **SUN**- Dries and warm the air, kills germs and prevent its growth.
- **WIND** - Dilute and mix the atmospheric gases, impure air rises and cool, fresh air takes its place.
- **PLANTS**- Absorbs carbon-dioxide during the day light and set free oxygen to air.
- **OXIDATION-**Oxygen in the air neutralizes some impurities such as soot, dust, germs and makes them harmless.

VENTILATION

Ventilation is the maintaining of the atmospheric conditions within homes ,work places and places of entertainments, so that air inside is kept as near as possible to the freshness of the outside atmosphere.

In a well-ventilated room, the air moves gently, it is cool and free from harmful germs and other impurities.

GOOD VENTILATION

This is very important for health, it keeps the air fresh and supplies the oxygen needed for the body.

It also helps to maintain normal body temperature by evaporating the sweat on the skin, it reduces the spread of infections such as common cold, influenza, bronchitis and pulmonary tuberculosis.

TYPES OF VENTILATION

1. Natural ventilation.
2. Artificial ventilation.

1. **NATURAL VENTILATION**

This is used in most domestic dwellings where air enters through the windows and doors and as the air circulates and becomes contaminated, it becomes hot and then it rises and escapes through air outlets high on the walls and near the ceiling, meanwhile the fresh air from outside gain entrance into the room to replace the used up one.

2**. ARTIFICIAL VENTILATION**

This is achieved by mechanical means by use of fans which keeps the air moving and cool or air conditioning where fresh air is forced into the building used up air is forced out.

Artificial air is commonly used in operating theatres and large buildings where many people congregate such as cinemas and theatre.

GOOD VENTILATION IS A CHIEVED BY:

- The air from outside must be fresh,
- The compound must be kept clean with proper disposal of refuse and excreta.
- Dustbins for waste must be available and kept covered.
- The house should be surrounded by grass so that less sunlight is reflected.
- Some shade trees help to provide shade to the house, protecting it from the sun rays and reduce the temperature of the rooms.
- Plants, shade trees and grass also absorb carbon dioxide during day light and set free oxygen in exchange.

- Animals should not be allowed in the house.
- The house must be kept clean and overcrowding avoided.
- There must be adequate window space with the windows facing each other to allow cross ventilation, air outlets should be high in the walls near the ceiling because hot stagnant air rises and is replaced by fresh air.
- The ceilings and walls inside and outside the house should be painted with light colors so that less heat is absorbed and the rooms kept cool.

IN A HOSPITAL WARD

- There should be adequate space between beds to allow air to circulate.
- Visitors should be restricted to avoid using up oxygen.
- Proper management of dirty linen, sputum mugs, bed pans, dirty dressings and discharges.
- Air outlets like doors, windows should be open most of the times, and must be kept open both during day and night in Tuberculosis ward.

THE EFFECTS OF POOR VEVTILATION

- In a badly ventilated room, the air is not moving .It becomes stagnant, full of water vapor, germs and other impurities .The oxygen becomes less and carbon dioxide increases, the temperature of the air is raised and it becomes hot.
- Normally the body is cooled by the evaporation and the body temperature increases where ventilation is poor and no evaporation is taking place. Therefore where evaporation in inhibited the impacts are great discomfort with sleeplessness, headache, faintness and nausea.
- Respiratory infections such as common cold, influenza, bronchitis and pulmonary tuberculosis are more easily spread.
- People living in such conditions have lowered resistance to infections; they may also suffer from fatigue and have poor health.

WATER

Definition

Water is the liquid that forms the rivers, lakes swamps rain etc. and is the basis of fluids of living organisms, it is essential for life and forms 60% of body weight.

COMPOSITION OF WATER

Water is composed of two parts, hydrogen and one part is oxygen.

PROPERTIES OF WATER/CHARECTERISTICS

Water has two main properties:

1. **PHYSICAL PROPERTY**

-It is colorless, odorless, and stainless and its boiling point is 100 degree centigrade. It assumes the shape of the container, has a specific gravity of 1.0.

2. **CHEMICAL PROPERTY**

-Neutral to litmus paper, is a universal solvent, reacts with hydroxide to form salt, and reacts with nonmetal to form acid.

CAUSES OF WATER LOSS FROM THE BODY

- Severe vomiting.
- Severe diarrhea, cholera
- Severe sweating.
- Severe burns..
- Poly -urea following diabetic disease.
- Inadequate intake of water.
- Prolonged heating by hot sun shine.

ROUTES THROUGH WHICH WATER MAY GET LOST

- Through the lungs during expiration of carbon-dioxide from the lungs.
- Through the kidney in form urine, in situations where over activation of kidney is involved either by an infection or anti-diuretic drugs.
- Through the skin as in severe burns, severe sweating while working under hot sunshine or room even in diseases which results into sweating.
- Through the gastro intestinal tract, i.e. through vomiting or diarrhea where by the intestinal lining is not in position of absorbing the required amount of water.

USES OF WATER

NB. The body requires an average amount of water of **(1½-2)** liters a day to replace the lost amount and this maintains good health and functioning of the body.

USES IN THE BODY

- It is needed for building all body tissues and is the basis for all body fluids and secretions such as blood, lymph, urine, gastric juices and respiration.

- Provides some mineral salts.
- Helps to prevent constipation.
- Regulates the body temperature.
- Helps in the execration of waste products from the body.
- Replaces fluids lost from the body.

OTHER DOMESTIC USES MAY BE

- Washing the body, Utensils, Vehicles.
- Cooking and cleaning vegetables.
- Watering gardens, plants and fruits.
- Used in water carriage systems.
- Drinking for animals and humans.
- Recreation like swimming, and industrial use.
- Agricultural purposes.
- Tourist attraction.
- Means of transport.
- Construction purposes.

FACTORS THAT INFLUENCE AMOUNT OF WATER TO BE USED

- Availability of water –People tend to misuse water when there is much supply and economize when there is scarcity.
- Climatic factor. People us water during hot condition more often for bathing and drinking.
- Distance –Fetching water from far distance is hard and therefore people tend to economize water.
- Activities –Grinding mills and irrigation takes a lot of water.
- Standard of living- people of advanced standard of living use a lot of water.

NB. Drinking water should be pure, colorless with no smell.

THE WATER CYCLE

This is a circulation process of water in different stages.

A DIAGRAM SHOWING THE WATER CYCLE

- Water goes in a cycle, it falls as rain and fall into the ground and some runs off as stream and gradually much of it collects into the rivers and sea.
- From the sea, lakes, rivers, streams and any wet surfaces like forests, plants and respirations of man and animals. The water vapor rises into the land and as it cools, it condenses and forms clouds and later falls as rain.

SOURCES OF WATER

Rain, Ocean, Sea, Lakes, Rivers, Swamps, springs, Wells, Glaciers {on top of the mountains}.

RAIN WATER

Is a source of water for many people .It may be collected from the roofs by means of gutters and pipes. Rain water is pure but becomes contaminated as it falls through the atmosphere and collecting places. It should be purified before drinking.

ADVANTAGES

- It is pure.
- Soft, does not waste soap.
- Does not coat saucepan.
- It is cheap.

DISADVANTAGES

- Can be contaminated as it falls from the atmosphere.
- Needs purification before use.
- Difficult to collect when using a grass thatched house.
- Rain water may fall concurrently with strong wind, ice, thunder strike which may become destructive to crops, houses and human life.
- Gutters and large tanks are required {expensive}
- The water is soft and does not contain any essential salt.
- May not taste good.

SURFACE WATER

This comes from rain water and they are –the most common source of water for most people and also most polluted or contaminated by animals' droppings, defecations, urinations by man, washing of clothes, swimming, children playing in it, leakage from latrines built too near

Examples of surface water are:

- Rivers.
- Lakes.
- Springs.
- Dams.

ADVANTAGES

- Easily accessible and can be obtained by hands or simple pimping,
- It's permanent, e.g. Rivers, Lakes etc.
- It is large and can be adequate for other uses.

DISADVANTAGES

- Highly contaminated.
- Chemicals from industries are deposited in it which can be harmful.
- Needs purification before use {expensive.}
- Source may be dangerous.

UNDER GROUND WATER

This water is formed from sinking water when rain falls .it can be inform of spring or well.

1. **Spring water.**

This where the underground water comes to the surface, it may be shallow or deep.

a. Shallow spring.

Is where the rain water is arrested in the first impermeable layer of the soil and comes out as spring where this layer reaches the surfaces.

b. ***Deep spring.***

This is where rain water has passed through at least one impermeable layer of soil and comes out as a spring where deep layer reaches surfaces.

2. Wells.

This is where a hole is dug and water is brought to the surface .It may be shallow or deep well.

a. ***Shallow well.***

Here the hole is dug and water is brought to the surface from the first impermeable layer of soil.

b. ***Deep well.***

This is where the hole is dug through one or more impermeable layers of soil. Water from shallow springs and wells is usually soft but contaminated; the floor may not be constant during dry season. This water needs purification before use.

Water from deep springs and wells is soft and pure but may be contaminated if the spring or well is not protected. The quantity is good and not affected by dry season.

DISADVANTAGES OF DEEP SPRING AND WELL WATER

- Hard water due to dissolved mineral salt.
- Expensive to dig.
- Water from the first impermeable layer may contaminate.
- Water area needs proper protection.

  NB. Water from the springs or well may be hard or soft.

HARD WATER

This contains excessive mineral salts such as calcium and magnesium, it is usually found in deep wells and springs, if the well or spring is well protected is safe for drinking.

DISADVANTAGES OF HARD WATER

- Difficult to form leather and waste soap.
- Takes longer to boil, wasting fuel.
- Impairs the texture and color of materials, not good for cleaning the skin hair.
- It hardens the outside of meat and vegetables and germs and ova of hook worms not killed.
- Not goods for cooking and making tea.
- It leaves ring of scum on bath and skin needing extra cleaning.
- On boiling, hard water deposits fur which spoils pots and kettle.

SHOFT WATER

Is water that contains little or no mineral salts eg rain water, lakes ,shallow wells, springs ,rivers etc.

ADVANTAGES

- Good for cooking, washing, cleaning utensils.
- Easily forms lather hence does not waste soap.

DISADVANTAGES

- Usually highly contaminated.
- Needs purification all the time/expensive.
- Not good for drinking, unpleasant taste.
- Have no or very little minerals.
- It dissolves lead which causes poisoning.

DIAGRAM SHOWING SPRING WATERS

SOURCES OF CONTAMINATION OF WATER

- **By humans** - By dirty habits in or near water supply such as urinating, disposing refuse, bathing or washing clothes, swimming or playing and Seepage from latrines built too near tothe water supply.
- **Animals-**Grazing, defecating, urinating or washing in water.

AT HOMES

- Dirty storage tanks or ports or leaving the pot uncovered.
- Dirty containers user for collecting water or leaving the water uncovered.
- Putting arms or cups into the water, a floater should be used leaving the water standing on the floor.
- Using containers made from lead for collecting and storing the water, it can get spoiled if stored for long.

INDUSTRIES

-Depositing of rubbish or chemical in the water.

METALS

Such as lead pipes or lead container dissolved in water

DANGERS OF CONTAMINATED WATER

- It spreads diseases Typhoid and Paratyphoid, Dysentery, Diarrhea Hepatitis.
- Poliomyelitis.
- Guinea worms.
- Bilharzias.

INTESTINAL PARASITES SPREAD BY DRINKING CONTAMINATED WATER

- Hook worms, roundworms, pinworm, bilharzias.

DISEASES SPREAD BY OR BY WASHING OR BATHING IN CONTAMINATED WATER.

- Eye and ear infections.
- Skin diseases.

- ❖ Bilharzias.

NB. Mosquitoes breed in stagnant water and spread the organism of malaria, yellow fever, Dengue fever and filariasis, small black water flies. Which leaves in water may spread the micro-organisms causing river blindness {onchocerciasis}

PREVENTION OF CONTAMINATION OF WATER

1. **PROPER PROTECTION OF WATER SUPPLY.**

- The water supply must be protected from children playing and animals defecating, urinating, disposing of refuse, bathing, washing clothes, swimming should not be allowed in or near water supply.
- Parts of rivers and lakes used for domestic purposes and spring should be protected and fenced around. Wells should be dug deep and cemented or bricks to the first impermeable soil to prevent shallow and deep water mixing. If possible a pump should be fitted as a use of buckets may contaminate the water.
- If a pump is not possible, a wall should be built around the well and have a good fitting lid/cover, Ion pipes should be used not lead. Pipes and pumps should be kept in good condition.
- The ground around the well should be cemented with a drain to lead away wasted water.
- Latrines, septic tanks or soak pits should be at least 50 meters from the water source.

2**. PROTECTION OF WATER IN THE HOME**

- The water should be kept in clean containers kept covered and raised off the ground.
- Hands should be washed before handling containers.
- A dipper should be used for removing the water and left floating and dipper not used for other purposes.
- Hands should not be dipped in water.
- Children should not be allowed near the water places.

STORAGE OF WATER

In homes, water may be kept in clean pots or galvanized irons or cement tanks at the side of the house.

1. WATER POTS.

Water pots must be kept clean, covered raised off the ground, no hand dipping in a pot.

2. TANKS.

Made either by galvanized iron or concrete and built at the side of the house. Water is collected off the roofs by means of gutters and pipes leading to the tank. The tanks should be made in so that a person can enter in it and clean, but to have a tightly fitting lid to keep out insects and impurities. The openings where the water runs in should be covered with wire gauze to keep out mosquitoes and refuse .The tap for drawing off water should be at least 12 cm from the bottom of a tank to avoid drawing off the sediment from the tank.

There should be a drain around the tank to carry away waste water .Arrangement should be made to reject the first rain water as it is highly contaminated.

3. AT WATER WORKS.

Water is stored at large scale and in a large covered ventilated tanks and pumped the towns, buildings and houses through pipes.

PURIFICATION OF WATER

Water can be purified in two ways.

1. **NATURAL PURIFICATION.**

- When water is moving slowly, solid matter such as mud, sand settle at the bottom.
- Water plants absorb carbon dioxide and give out oxygen.
- Sun light and oxygen kills many germs and prevent growth of others.
- Some germs are eaten by the protozoa; protozoa are eaten by the insects and insects eaten by the fish with their larva.

2. **ARTIFICIALLY PURIFIED**

HOME PURIFICATION METHODS

I. Boiling.

Kills many germs and destroy in organic impurities .The water is allowed to boil for five minutes, it is then poured into a clean covered container and allowed to cool

Homemade filter. This consist of two clean water pots ,some holes are drilled into the bottom of one pot and wire gauze is placed on top the holes and then stones .Gravels and sand in layers and impure water is poured on top ,this pot is placed on top of another clean pot which is raised off the ground .

The water filters through the, stones, gravel and sand into clean water pot underneath.

DIAGRAM SHOWING HOME MADE FILTER.

*3. **Chlorinating.***

¼ or four drops of chlorine or lime is added to 16 liters of water and left for ½ an hour , the water is then safe for drinking .

*4. **Candle filter***

This consists of two containers; the top container has one or two candle filters. The impure water is then poured into this container and then placed on top of the bottom containers.

This filter through the candle filters into the bottom container .There is a tap at the bottom side for withdrawing the clean water.

5. Use of aqua tablets.

One tablet of aqua is dropped into 20 liters of impure water and left for 30 minutes and after that the water is safe for drinking.

6. Large scale purification of water work.

Water from the river and lakes passes into the sedimentation tank, large open tanks and stay for three or more weeks where natural purification takes place by the following process.

a) **Sedimentation**

This is where matter settles at the bottom.

b) **Sunlight.**

Kill bacteria and prevent growth of others.

c) **Oxygen.**

Acts on some impurities and makes them harmless.

d) Natural death of germs as they do not survive for three weeks then water passes for filtration process.

The water passes through a filter bed made up of:

- At the bottom are stones.
- Above this layer of gravel.
- A layer of sand.
- A green gelatinous layer of algae made of minute pants forms of top.

This green layer is the real bacterial filter and filters90% the bacteria in the water. When this layer becomes too thick, it is removed and a new layer is allowed to form. This takes about two days.

Chlorinating

Next the water is piped to the chlorinating house where chlorine gas is added, this kills germs and sterilizes the water.

Storage tanks

The purified water is piped to large, covered ventilated tanks and from there the water is piped to towns and buildings through iron pipes.

SANITATION

Definition

Sanitation is the proper disposal of refuse and excreta.

AIMS

- ❖ It prevents breeding of flies
- ❖ It prevents breeding of mosquitoes and other insects.
- ❖ Prevents contamination of food, water, air.

DISPOSAL OF REFUSE

Refuse are present both in towns and rural areas and they should be disposed of in a proper way.

IN TOWNS

The household refuse is disposed of in refuse bins.

Then the local authority collects the refuse once or twice a week in a closed vehicle where it is disposed of outside the town or city.

METODS OF DISPOSAL

- ➢ Burying
- ➢ Incineration
- ➢ Others like papers and rags reused for other purposes.
- ➢ Others are reused for feeding animals.

IN RURAL AREAS

In rural settings, refuse not deposed as in town.Here each household is responsible for disposal depending on the type of refuse.

- ➢ Burning is the most hygienic method of disposal,waste like papers, magazine, etc.And there should be a specific place for it
- ➢ Burying waste such as broken glasses, bottles,empty tins,etc, a piece of land should be for that.
- ➢ Compositing.Fruits, vegetables can be poured into a pit and used later for manure.
- ➢ Waste food.Used for feeding animals or emptied into pit for manure.
- ➢ Waste water.Watering plants or allowed to soak away into soak pit.

IN HOSPITAL

- ➢ Wasted food from infectious patients must be burnt
- ➢ Dirty dressings, swabs and bandage are put in a well-covered container, collected and taken be burnt in an incinerator.
- ➢ Placenta is disposed of by burying, burning or throwing into a placenta pit.
- ➢ Refuse bins are made of galvanized iron or strong plastic and are round in shape so that they can be easily washed out. They should have a handle on each side for easy lifting and

have well-fitting lids to keep out rats, cats. Mice and insects .The bins should never over fill. It should be washed daily and disinfected weekly.

EFFECTS OF IMPROPER DISPOSALOF REFUSE.

1. Contamination

-It contaminates/ pollutes air giving bad smell, and also water supply as industrial waste is disposed into

2. Spread of diseases

-Can spread water borne diseases like typhoid, dysentery, hepatitis, cholera, and poliomyelitis.

3. Attraction of insects and flies.

-Due to bad smell, flies can get attracted and breeds there.

4. Home accidents

-Broken tins, glasses can cause injury

5. Dirty home

-Rubbish left any how gives the home an uncared for appearance.

6. Poor soils

-Makes soil infertile .Eg pill bag, sacks.

PROPER METHODS OF DISPOSING EXCRETA

METHODS

- Pit latrines
- The flush lavatory

NB. Other type of toilets like dry may be risky and needs excreta attention.

A PIT LANTRINE.

Is a pit [hole] dug to receive human excreta?

Good pit latrine should be the following;

- Dug more than 25-30 meters deep to prevent breeding of flies.
- Soil should be permeable to allow liquid part to drain away.
- 30 meters away from house.

- 50-150 meters away from water supply.
- Should have shelter for privacy with door and ventilators and ventilators covered with wire gauze.
- Should have roof made of thatched or iron.
- Floor if possible should be cemented
- There should be well fitting lid to cover hole with handle.

CARE OF A PIT LANTRINE

- Cemented floor to be washed daily with disinfectant
- Floor should not have cracks
- Wall washed once a while, no cobwebs.
- Hole covered if not on use.
- Door kept closed or locked if not in use.

UN-CEMENTED FLOOR

- Swept daily.
- Smear once in a while.
- Walls haveno cracks.
- Other care as above.

ADVANTAGES OF A PIT LATRINE

- Cheap and easy to build.
- No special knowledge needs for building as simple explanation can do.
- When used properly is effective in disposal of excreta.
- When full, another can be made cheaply
- A filled up latrine can be used as manure

DISADVANTAGES OF SHALLOW PIT LATRINE

- Fills up quickly.
- Over flow during rainy season [contamination].
- Flies breeds in them.
- Children may fall in it as not well protected

THE WATER CARRIAGE SYSTEM

Definition

The water carriage system is a process by which the sewage is taken away by means of water through pipes to the sewage disposal works for treatment and disposal.

DIAGRAM SHOWING THE WATER CARRIAGE SYSTEM

COMPOSITION

The sewage consists of the following;

- Excreta from lavatory pans.
- Waste water from sinks, hand basins and baths.
- Surface water like rain water.

The water carriage system is consisting of the following parts;

- Collecting places
- Drain pipes.
- Sewer.
- Sewage disposal works.

a. COLLECTING PLACES.

These are places like sinks, hand basins, baths for waste water and flushes lavatory pads for urine and feaces. The water from the collecting places passes from down into the draining pipes.

Feaces and urine are passed into the lavatory pans and is washed away by flushing the water. The water then enters the pans from around the rim and washed down at the same time, leaving from clean water in the trap. Traps are found under all collecting places that are a bend in the pipes and containing water called water seal. This prevents smell from decomposing sewages passing into the house.

b. DRAIN PIPES.

These are pipes that carry water away from collecting places up to sewage works. Rain water pipes carry rain water of gutters of roof while Soil pipes carry excreta from lavatory pans. These pipes enter the ground and empty contents into house drain. House drains Underground pipes that slope down wards to inspection chamber. Inspection chamber is where house drain empties. It passes in channel to enter another pipe a continuation of

house drain. The chamber is for inspection, clearage of blockage and disinfection. Each building has own house drain and all the house drains empty into the sewer. The sewer is a very large pipe underground set in cement and slopes down ward to sewage works.

C.SEWAGE WORKS

From the sewer the sewage enters iron grid which holds back large objects like papers, rags. They are removed and burnt .Sewage passes into sediment tanks which is a large sloping tank for storage of sewage for 24hrs for solid to settle. This solid is called sludge and liquid part is called effluent while in sediment tank bacteria works on it making it harmless and eventually used as manure. Effluent passes through filter bed made of stones on which green gelatinous layer forms on top. The green layer filters 90% of bacteria. The effluent purified is then poured into sea, rivers, and lakes but in hospital, effluent drains a way in soak pit. Soak pit is a large hole dug in the ground filled with stones where effluent part is carried by pipes and drains a way into the ground. A soak pit is also used for draining waste water from sinks, baths, etc.

INSECTS AND PARASITES

COMMON INSECTS THAT CAUSE DISEASES

- Houseflies
- Tsetse flies
- Tumbu flies
- The rat flea
- Cockroaches

HOUSE FLIES

They are common flies we see around.

DESEASES TRANSMITTED BY FLIES

- Diarrhea
- Amoebic and bacterial dysentery
- Typhoid and paratyphoid
- Cholera

- Gastro enteritis
- Eye and skin infection
- Thoughts to transmit yaws as they are attracted by sores.

THE LIFE CYCLE

The house fly feeds and breeds on feaces, decaying matters. E.g. animals, vegetable.
The female lays eggs and hatch into larva in 1-3 weeks according to climate. After about one week, the larva forms the pupae and the adult fly emerges from pupae after about 3 days, one week after emerging from pupae, the female lays her first batch of eggs in a batch. The house fly leaves about 4 weeks during that time, the female lay about 6 batches of eggs so that each female fly lays about 1000 eggs in her life time .The flies are active by day and rest at night. The bodies and legs covered with hairs. When flies land on feaces or decayed matter sores wounds, the germs become to the hairs on their bodies and legs and then carry these germs onto human food, skin and eyes when they land on them.

LIFE CYCLE DIAGRAM

PREVENTIONS

- Breeding should always be eliminated by proper building, use and care of latrine.
- Refuse bins should not be overfilled and always kept covered.
- To avoid attracting flies, home should be kept clean and well ventilated.
- Food should be kept covered and waste food placed in covered container until disposal.
- Wounds and sores should be covered with clean bandage
- To avoid flies spreading diseases, exposed utensil should be turned upside down and food kept covered.
- Babies and young children should be protected using mosquito net when sleeping.
- Health education to public on breeding and feeding habits of flies, their dangers and prevention.

TSETSE FLY

This is the type of fly that lives and breeds in bushes along rivers and streams.

DISEASES TRANSMITTED BY TSETSE FLY.

Sleeping sickness [Trypanosomiasis]

LIFE CYCLE

The tsetse fly breeds and lives in the bushes. The female lays a single larva at a time and lay about 12 larvae in a life time. She lays the larva in a worm shady place on the ground usually in swampy areas or vegetable growing along the banks of rivers and lakes.

The larva develops into pupa and after about 3 weeks, the pupa becomes an adult fly.

The adult fly lives for about 3 months. The tsetse fly both male and female carries the protozoon of sleeping sickness, the trypanosome. The flies bit both man and animals and always attack by and only bit in open. They do not enter the house or other places inhabited by man.

The fly has to bit an infected animal or person and suck up infected blood in order to become infected fly bits a victim the trypanosome. When the infected fly bits a victim the trypanosome is injected into the body, enters the blood

Stream and starts to reproduce.

LIFE CYCLE DIAGRAM

PREVENTION

- Vegetation near bank of rivers and lakes should be cleared.
- Turning bush land in to agricultural land.
- Proper treatment of infected person.
- To prevent sleeping sickness, areas where the tsetse fly is known to be should be avoided if possible.
- The body should be protected by wearing adequate clothing.
- The public should be educated about the breeding habits of the flies, the dangers and prevention.

THE TUMBU FLY

The tumbu fly is a large yellow fly.

DISEASES SPREAD BY TUMBU FLIES.

-Painful swelling on the skin containing pus.

LIFE CYCLE

The female lays eggs on dry soil, sand and Eggs hatch into larva in 2 days and larva develops into adult.

TREATING INFECTED PART.

Open the entrance made by the larva and squeeze it out and apply antiseptic to the wound.

PREVENTION

- Avoid hanging clothes on the ground.
- Proper ironing clothes. ,

EPIDEMIOLOGY IN COMMUNITY HEALTH

Definition

Epidemiology is a branch of medical science which deals with epidemics and its control.

OR,

The distribution of determinants of health related statesor events in specified populations.

The term Epidemiology has three greek words;

- Epi,meaning –upon.
- Demos, meaning –people.
- Logos, meaning –science.

DEFINITION OF IMPORTANT TERMS USED IN EPIDEMIOLOGY.

INCIDENCE

-Number of people developing the disease during a defined period of time per 1000 population.

PREVALENCE

-Is the number of people having a disease at a given point of time or during a defined time period per 1000population.

CASE

-Is the person identified as having a particular disease, behavior or condition.

RATE,

-Is the number of occurrences of an event per unit time expressed per 1000 population.

CARRIER

-Presence of a specified infectious agent in the absence of chemical diseases. A carrier serves as a potential source for further transmission in the community[temporary carrier state lasts for less than six months but chronic carrier state may last for life longer].

CONTACT

-Exposure to a source of an infection. Transmission due to direct contact may occurwhen the skin or mucous membranes touch as in the body contact, kissing or sexual intercourse.[also known as contagious disease].

RESERVOIR OF INFECTION

-The natural habitat of an infectious agent where the infections agent may survive or multiply. [May be human or animal or soil].

PATHOGEN

-A micro-organism capable of causing disease.

EPIDERMIC

-Occurrence of disease in a community area, clearly in excess of what is expected also called an [out break]

ERADICATION

-Termination of an infectious agent resulting in cessation of transmission of infection from given area.

ADVANTAGES OF EPIDEMIOLOGYnew innovative techniques, measures and programmes.

EPIDEMIOLOGY TRIAD/CHANNEL/PROCESS

The disease process demands connection between those conditions for interaction in order to invade and multiply in the body. They are;

- Agent.
- Host.
- Environment.

1. **Agent factor**

Thisis the disease causing organism.

These are classified into the following categories;

Non-communicable agent -is the one whichdoes not transmit diseases to others and they include the following;

- ❖ Physical agent.
- ❖ Chemical agent.
- ❖ Biological agent.
- ❖ Nutritional agent.

i. ***Physical agents,*** includes; Heat,light radiation etc.
ii. ***Chemical agents*** include; Acids, alkaline, metals etc.
iii. ***Nutritional agent,*** includes; lack of or excess nutritional factors.
iv. ***Biological agents***, these are disease causing organism that are always transmissible from one individual to another individual and therefore they are called communicable diseases, and are transferable only through another medium like insects.

2.**Environmental factor**, Is the aggregate of all external conditions and influences affecting the use and development of an organism.

CLASSIFICATION

i. ***Physical environment***. All those inanimate objects like; water, food, etc.
ii. ***Biological environment***. All those animate objects like; animals, insects and other humans.
iii. ***Socioeconomic environment.*** Social and economic factors like housing social group, **education, etc.**

3.Host factors

This is a condition which determines the outcome of interaction between the agents and host in a suitable environment.

CLASSIFICATION

Age

Extreme age of children and elderly have low immunity making them susceptible to infections.

Sex

Female commonly suffer infectious especially the pregnant ones due to suppressed immunity meanwhile men usually suffer from prostitis or enlargement of the prostate gland.

Habits and customs

Some health habits eg spitting, careless excreta disposalpractice in some communities frequently predispose to epidemics.Some customs like male circumcision may transmit infections.

Genetic factors

Abnormality in the gene of individuals during cell division may predispose to infections.

NATURAL HISTORY OF DISEASE

Every disease has a period before man as involved .This followed later by the interaction between the Agent, Host and Environment.

If the host is to withstand the stimulus, the disease process will not be allowed to progress but if the agent takes the upper hand, the disease progresses with the tissue and physiological charges in the body.

The process takes two phases

1 Pre-pathogenesis phase
2 Pathogenesis phase

PRE-PATHOGENESIS

This is the period before man is involved.

EARLY PATHOGENESIS

The disease invades the host after interaction in the environment.

Changes that occur;

- The disease will not be seen unless investigation is done.
- Further progression of the disease produces signs and symptoms.

LATE PATHOGENESIS

- If the signs and symptoms are not recognized earlier and the disease is treated, it may result in to disability, defect or death or may end in to complete recovery without any disability depending on the host factor and effectiveness of the treatment taken.

SUMMARY OF PATHOGENESIS

LEVELS OF PREVENTION OF DISEASE PROCESS

The disease process may be prevented in three main ways;

- Primary prevention
- Secondary prevention
- 3.Tertiary prevention

PRIMARY PREVENTION

Primary prevention means action taken prior the onset of disease and it removes the possibility that the disease will never occur and these include;

- Health prevention through health education, good nutrition, good hereditary and other health promotion activities.
- Specific protection through disinfection of food and other particles, immunization.

SECONDARY PREVENTION

This means an action which halts the progress of diseases at its early stage and prevents complications. This can be done through early diagnosis and early treatment.

TERTIARY PREVENTION

This means the disease process has advanced beyond its early stages but still possible to accomplish prevention. Or can also be defined as all measures available to reduce or limit impairment and disabilities, minimize suffering caused by existing departures from good health and to promote the patients adjustment to irremediable conditions.

Tertiary prevention includes;

- Disability limitation.
- Rehabilitations.

MODES OF DISEASE TRANSMISSION

Infection may be transmitted from the reservoir of infection to the susceptible individual in many different ways as follows;

1. Direct contact.

This is direct contact from the skin to skin, mucous to mucus of another person eg during touching, kissing, sexual intercourse may spread contact disease like STDs, AIDs, leprosy, hepatitis B**.**

2. Droplet infection

This occurs due to contact transmission by infection agent contained in most respiratory secretion expelled during sneezing, speaking, coughing spitting and may spread disease like TB meningitis etc.

3. Contact with soil

Infection agents are present in soil and can cause disease when the host comes in the contact with the soil and this may cause disease like hook worm, tetanus etc.

4. Inoculation in to the skin or mucosa

The disease causing agent may be inoculated directly in to the skin or mucosa e.g. by the syringe/needle.

5. Trans -placental (vertical)

-Transmission of infectious agents trans-placental.

OBJECTIVES OF DISEASE CONTROL

- ❖ To decrease mortality and morbidity.
- ❖ To reduce disease occurrence.
- ❖ To reduce the risk of disease transmission.
- ❖ To reduce the financial burden to the population.
- ❖ To decrease the duration of illness.
- ❖ To prevent possible complication.

TECHNIQUES FOR DISEASE CONTROL IN THE HOSPITAL

- ➢ Disinfection- is the use of chemical antiseptics to destroy microorganisms.
- ➢ Antiseptics-are chemical substances that are used to destroy microorganisms or inhabit their growth.
- ➢ Sterilization-Is a process of destroying all forms of microorganisms (including spores)
- ➢ Immunization

IN THE COMMUNITY

- ➢ Health education on cause, mode of spread, predisposing factors and prevention of diseases.
- ➢ Proper domestic waste disposal and management.
- ➢ Practicing good habit.
- ➢ Individualized constricting pit latrines and practicing its proper use.
- ➢ Prevention of water contamination before consumption.

ROLES OF THE COMMUNITY NURSE IN EPIDERMICS

- She works for prevention and control of diseases in various levels.
- She participates as one of the team member especially when it is large scale investigation.
- She has a greater concern with the occurrences of the disease health problem and risk factors prevailing in the community.
- Provide health education to the community regarding preventive and control measures of epidemics.
- Community health nurse takes vital role during at any unusual occurrence of any disease, she investigate regarding frequency and distribution and possible determinants analyzing of information collected.