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TEACHER'S RESOURCE BOOK FOR
ACTION-ORIENTED SCHOOL HEALTH CURRICULUM
IN PRIMARY SCHOOLS

(Part II)

(Draft for field testing)



WORLD HEALTH ORGANIZATION
REGIONAL OFFICE FOR THE EASTERN MEDITERRANEAN
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CONTENTS

Page

INTRODUCTION.....

HOW TO USE THE TEACHER'S RESOURCE BOOK

UNIT 1: FOOD, NUTRITION, GROWTH AND DEVELOPMENT

- 1.1 Food and growth.....
- 1.2 Growth and development.....
- 1.3 Preparing, planting and maintaining a garden.....
- 1.4 Food we all should eat when we are sick.....
- 1.5 Diet for children for the first 4 to 6 months of life, from 4 months to 1 year and one year and older.....
- 1.6 Wrong beliefs that affect food and nutritional status of a community.....
- 1.7 Choosing better food at lower cost.....
- 1.8 Identifying major food groups.....
- 1.9 Malnutrition.....
- 1.10 Anaemia
- 1.11 Night blindness.....
- 1.12 Habits that affect health
- 1.13 Nutritional educational games.....

UNIT 2: ORAL HEALTH

- 2.1 Caring for teeth and gums.....
- 2.2 Method of cleaning teeth.....
- 2.3 Common diseases of the teeth and gum.....
- 2.4 Staging a puppet show on how to care for the teeth.....

UNIT 3: CARE OF EYES, EARS AND NOSE

- 3.1 Normal eye care.....
- 3.2 Care of sick eyes.....
- 3.3 Identifying children with vision or hearing problems.....
- 3.4 Caring for stuffy and running nose.....
- 3.5 Infection of the ear.....

UNIT 4: PERSONAL CLEANLINESS (HYGIENE)

- 4.1 How gut infections are spread or transmitted.....
- 4.2 Nine ways by which we can maintain personal cleanliness....
- 4.3 Cleanliness rules to be followed when eating or drinking...
- 4.4 Children's food and personal hygiene.....
- 4.5 Clean home.....

UNIT 5: PUBLIC CLEANLINESS (SANITATION)

- 5.1 Making our neighbourhood / School healthier.....
- 5.2 Making a soak pit.....
- 5.3 Refuse of solid waste disposal.....
- 5.4 Control of vectors in the village.....
 - 5.5.1 Control of flies.....
 - 5.5.2 Control of lice.....
 - 5.5.3 Control of mosquitos.....
 - 5.5.4 Control of bed bugs.....
 - 5.5.5 Control of cockroaches.....
 - 5.5.6 Control of rats.....

UNIT 6: ACCIDENTS

- 6.1 Accidents.....

UNIT 7: FIRST AID

- 7.1 Managing fever.....
- 7.2 Managing bleeding noses.....
- 7.3 Managing children with poisoning.....
- 7.4 Managing wound, cut and bruises.....
- 7.5 Signs of rabies in the animal and the prevention of rabies...
- 7.6 Management of small burns with or without blisters.....
- 7.7 Management of difficult breathing due to something which got stuck in the throat.....
- 7.8 Drowning and mouth to mouth breathing.....
- 7.9 Managing strains and sprains.....
- 7.10 Snake bite.....

UNIT 8: WATER AND HEALTH

- 8.1 Water and life.....
- 8.2 The water cycle.....
- 8.3 The three forms of water.....
- 8.4 Sources of water in the community.....
- 8.5 Preventing contamination of water source.....
- 8.6 Making available safe drinking water.....
- 8.7 Water in health and sickness.....

UNIT 9: SOCIAL AND MENTAL HEALTH

- 9.1 Communication.....
- 9.2 Emotions.....
- 9.3 Understanding children with special problems.....
- 9.4 Stress.....

UNIT 10: EXERCISE AND FITNESS

10.1 Exercise and sleep.....

UNIT 11: COMMON SICKNESS:

- 11.1 Different kinds of sickness and their causes.....
- 11.2 Survey of common sickness and their causes.....
- 11.3 How disease agents enter the body and how body defends against it.....
- 11.4 Early signs of illness.....
- 11.5 Caring for children who are sick
- 11.6 The six vaccine preventable diseases and immunizations.....
- 11.7 Finding out the Community's health needs and the health services available to the community.....
- 11.8 Diarrhoea.....
 - 11.8.1 Diarrhoea and diphtheria.....
 - 11.8.2 Managing diarrhoea at home.....
 - 11.8.3 Preparation rehydration drink or oral rehydration solutions.....
 - 11.8.4 Preventing diarrhoea.....
- 11.9 Identifying and managing common skin infections and infected wounds.....
 - 11.9.1 Scabies.....
 - 11.9.2 Ringworm.....
 - 11.9.3 White spots of the face and body.....
 - 11.9.4 Impetigo.....
 - 11.9.5 Boils and abscesses.....
 - 11.9.6 Small sores with pus.....
 - 11.9.7 Chickenpox.....
 - 11.9.8 Identifying and managing infected wounds.....
 - 11.9.9 General rules for treating skin problems.....
- 11.10 Identifying and managing some common infection due to worm and parasites.....
 - 11.10.1 Round worm (Ascaris).....
 - 11.10.2 Thread worm (Pinworm).....
 - 11.10.3 Hook worm
 - 11.10.4 Tape worm.....
 - 11.10.5 Amoebas.....
 - 11.10.6 Blood flukes (Schistosomiasis).....
 - 11.10.7 Malaria.....
 - 11.10.8 River blindness (Onchocerciasis).....
- 11.11 Common Respiratory Infections
- 11.11.1 Cough.....
- 11.11.2 Sore throat, tonsillitis and rheumatic fever.....
- 11.11.3 Pneumonia.....
- 11.11.4 Asthma.....
- 11.11.5 Cold and flues.....
- 11.12 Hepatitis.....
- 11.13 Allergic reactions.....

UNIT 12: DRUGS, SMOKING AND DRINKING ALCOHOL

- 12.1 Medicines and their use.....
- 12.2 Overuse of medicines in some common sickness.....
- 12.3 Dangerous misuse of medicines and guidelines for the use of
medicines
- 12.4 Smoking and chewing tobacco and its effect on health.....
- 12.5 Drinking.....

LIST OF REFERENCES

INTRODUCTION

This Resource Book has been prepared for school teachers responsible for teaching health topics to primary school children (age 6-13). This book is to be used in conjunction with the Teacher's Handbook which describes the methods recommended for conducting health education in primary schools.

The book contains twelve units. Each unit is divided into topics, and each topic into activities. Where topics were very large they were divided into sub-topics before being broken down into learning activities.

Corresponding to each learning activity, suggestions have been made as to which grades they may be taught and which subjects they can be incorporated in.

Corresponding to each topic and set of learning activities, resource material has been provided. Much of this material has been reproduced with only a few alterations, from available sources.

The overall objective of the resource book is to assist the teachers in initiating activities that will bring about a shift from emphasis on teaching pupils to emphasis on providing learning experiences for the pupils e.g., making it more action-oriented. It may be pointed out, however, that each country will select and adapt topics and learning activities and integrate them in the subjects currently taught in the school according to their needs. SOME OF THE MATERIAL INCLUDED IS FOR THE BENEFIT OF THE TEACHER AND IS NOT INTENDED FOR TEACHING PRIMARY SCHOOL CHILDREN. These materials will assist the teacher to provide practical advice and some assistance to the members of the community. It will help him/her to share knowledge, and involve the community in activities that can improve their health.

HOW TO USE THE TEACHER'S RESOURCE BOOK

SELECTING A TOPIC

Select a topic listed under the units that you think needs to be taught.

IDENTIFYING LEARNING/PERFORMANCE ACTIVITIES

Once the topic has been selected you may refer to the appropriate section and read the major activities listed under the topic. These are activities which the pupils are expected to perform. You may like to modify or suggest new activity which is more appropriate to your situation.

DECIDING ON THE GRADES AND THE SUBJECT IN WHICH THE ACTIVITY CAN BE INTEGRATED

Corresponding to each learning activity, suggestions have been made regarding the subject where it can be integrated and the grade or grades where they can be taught. It is important that local circumstances should be taken into consideration when deciding on these two issues.

REFERENCE MATERIALS

Under each topic and list of learning/performance activities are listed reference materials which are numbered in brackets. This number is to assist you in locating the reference materials. It is important to read the entire reference material.

These above guidelines are designed for use in schools where the same teachers teach his or her class all subjects. In schools where different teachers teach different subjects to same class, the teacher's resource book has to be processed first by those responsible for development of primary school curriculum.

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UNIT VIII

WATER AND HEALTH

UNIT 8: WATER AND HEALTH

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
8.1 <u>Topic:</u> Water and Life <u>Learning activities:</u> - Perform a simple survey on ten families identifying how water is used. - <u>List</u> the different uses of water as identified in the survey. - <u>Identify</u> the 4 most important uses of water based on results of the survey. - <u>Draw</u> pictures of plants and animals in different situations showing their dependancy on water for survival. - <u>Recite</u> (for muslims) Verse 99, chapter VII of Koran. <u>Resource material:</u> All living things need water (8.1).	Mathematics " " Art Religion	1-3 " " " "
8.2 <u>Topic:</u> The Water Cycle <u>Learning activities:</u> - Describe in simple terms the water cycle. - <u>Draw</u> and <u>explain</u> the water cycle in the class. <u>Resource material:</u> The nature of water.	Geography "	4 "

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
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8.3 Topic: The Three Forms of Water

Learning

<u>activities</u> :- List and <u>draw</u> the three forms of water on the surface of the earth with examples.	Science & Hygiene	5-6
- List and <u>draw</u> the three forms of water as it precipitates back to earth with examples (8.2).	"	"
- <u>Explain</u> under what conditions/temperature water starts to freeze, boil or transforms itself to vapour.	"	"

Resource material

Water has three forms (8.3).

8.4 Topic: Sources of Water in the Community (8.4)

Learning

<u>activities</u> :- Identify and list sources of water available in the community/school/home.	Geography	3-4
- <u>Present</u> findings in the class.	"	"
- <u>Draw</u> and <u>label</u> sources of water available to the community/school/home and display them in the class.	"	"
- <u>List</u> advantage and disadvantage of each source.	"	"

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
8.5 <u>Topic:</u> Preventing Contamination of Water Sources		
<u>Learning activities:</u> - <u>List</u> at least two ways of how water is contaminated according to its sources.	Science/Hygiene, Home Econ.	3-4
- <u>Describe</u> ways of protecting different sources of water supplies available in the community/home/school.	"	"
- <u>Communicate</u> to parents the information related to contamination of water.	"	"
.		
<u>Resource material:</u> Sources of water contamination and their protection.		
8.6 <u>Topic:</u> Making available Safe Drinking Water		
<u>Learning activities:</u> - <u>Identify</u> methods currently employed by families in purifying water at home.	"	4-6
- <u>Present</u> findings in the class.	"	"
- <u>List</u> the three main methods used for cleansing water.	"	"
- <u>Describe</u> and <u>demonstrate</u> the 3-pot storage system.	"	"
- <u>Demonstrate</u> how <u>filtration</u> works in cleaning water in the class.	"	"
- <u>List</u> three ways of sterilizing water.	"	"
- <u>Demonstrate</u> the simplest and safest method of sterilization.	"	"
- <u>Communicate</u> to parents simple appropriate methods for purifying water at the home/school.	"	"

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
8.7 <u>Topic</u> : Water in Health and Sickness		
<u>Learning activities</u> : - Participate in conducting a survey of five families to identify common diseases related to lack of water or the use of dirty water. - Present findings in the class. - List at least three uses of water which are related to prevention of diseases. - List at least five ways of using water in treating illness. - Prepare health messages related to water and health. - Communicate to parents health messages related to water and health. - Write a composition under the title "Water and I". - Read the Child-to-Child to Reader, "Dirty Water".	Science/Hygiene, Home Ec. 2-4 " " " " " " " " " " Language "	 " " " " " " " " " " "
<u>Resource material</u> : The role of water in providing and treating common sickness (8.7).		

8.1 ALL LIVING THINGS NEED WATER

Every living thing needs water ! Humans can exist for a longer period of time without food than they can without water. Man's need for water is vital to every system in the human body, particularly the system that flushes out waste products. Humans and animals take water from all the food they eat, as well as the liquids they drink. Some animals, such as Koala bears and desert rats, never drink any water. They obtain all of their liquid nourishment from the leaves of the plants upon which they feed. Plants need water to circulate nutrients within their structure and to hold themselves rigid. NOTE : Animals and plants are capable of using water directly from the natural source, but humans should use water that has been treated to remove substances that might cause illnesses.

Directions :

Duplicate picture below for each pupil. Read the following directions to the class :

Number One. "Draw a picture of the animal who lives here."

The picture drawn should be of an aquatic animal. These creatures extract oxygen from water. They cannot live outside of water because their bodies are made in a special way.

Number Two. "Draw a picture of a plant or flower receiving the water it needs to live."

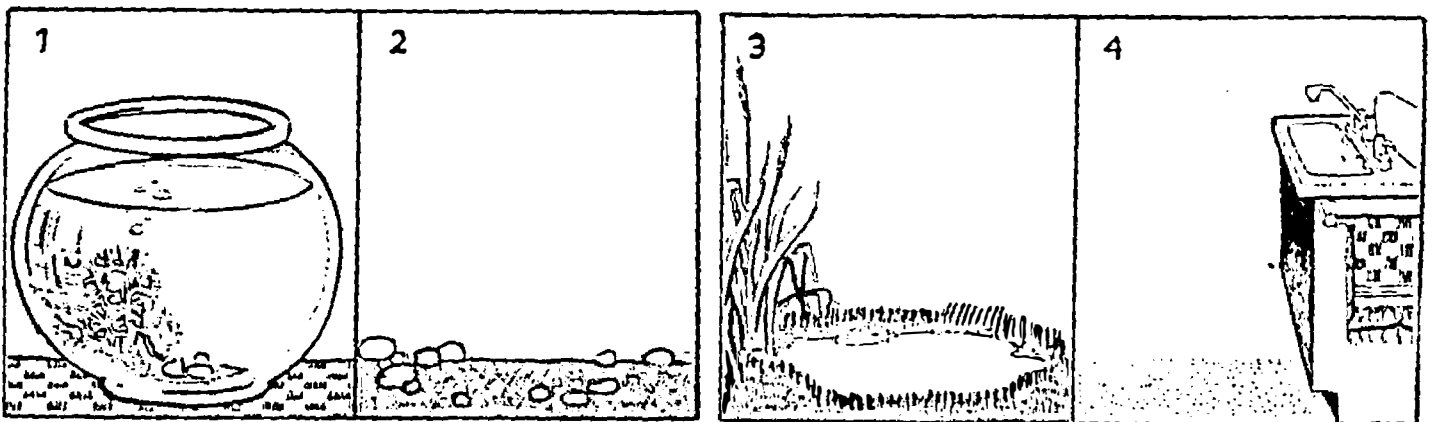
This picture should be a plant with rain or irrigation of some sort, or someone could be watering it.

Number three. "Draw a picture of an animal taking a drink from a Pond."

This could be a drawing of any animal(s) drinking from a natural source.

Number four. "Draw a picture of yourself drinking a glass of water."

A self-portrait of the student drinking water from a glass helps to demonstrate that humans should drink water from sources that have been treated and are clean.



Source : American Water Works Association, 6666 W. Quiney Ave., Denver, Colorado 80235, USA.

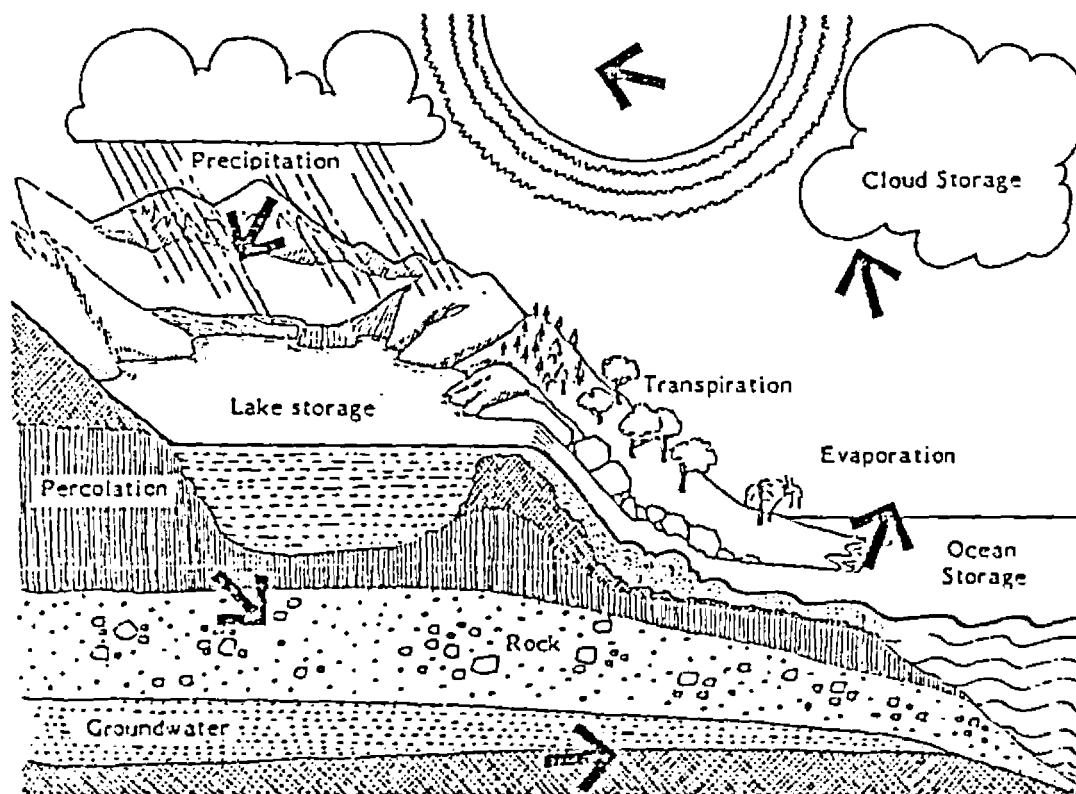
8.2 THE NATURE OF WATER

Water is needed by all living things, but humans have special needs. People are not as capable of tolerating many waterborne diseases and water contaminants as are most other animals. Humans also have learned to use water in a multitude of ways and to process water for use and reuse. Every food has water in it in some form. Water is necessary for everything we manufacture. Water is also used as a source of energy. Hydro-electric power is electricity created through the natural motion of water. Geo-thermal energy has its source in super-heated subterranean water.

In other cases, energy is used to heat water, which creates steam that drives machinery or provides heat for buildings. At the other end of the thermometer, water cools us and our machines.

A wonderful characteristic of water is its constant renewal of itself. Through the never-ending cycle of precipitation, evaporation and transpiration, condensation and then precipitation once again, the water on earth at the beginning of time is still here.

Water is present in three forms, solid, liquid and gas. The form changes with the temperature of the water. At 32° Fahrenheit (0° Celsius) it becomes ice. Heat it to 212° Fahrenheit (100° Celsius) and it turns into vapor. The characteristic difference is the molecular bond. When water is frozen the molecules hold together tightly. As water heats up the molecules loosen their bond until they separate into invisible vapor, moving upward into the atmosphere to cool again, join with other bits of vapor, bond together and fall to earth once more as precipitation.



Source : American Water Works Association, 6666 W. Quiney Ave., Denver, Colorado 80235.

8.3 WATER HAS THREE FORMS

Water is all around us. It is in the air, in and on the ground, in everything we eat or drink, in animals, in man, in plants, just everywhere ! Eighty percent of the earth's surface is water in some form. The three forms of water are :

- LIQUID - Saltwater oceans (97 percent of all the water on earth).
 - Freshwater - lakes, streams, rivers, ponds, wells,
 - Groundwater (1 percent of all the water on earth).
- SOLID - Glaciers, icebergs, ice snow (2 percent of all water on earth).
- GAS - Vapor in the air, clouds.

WATER AS PRECIPITATION EXISTS IN THE SAME THREE FORMS :

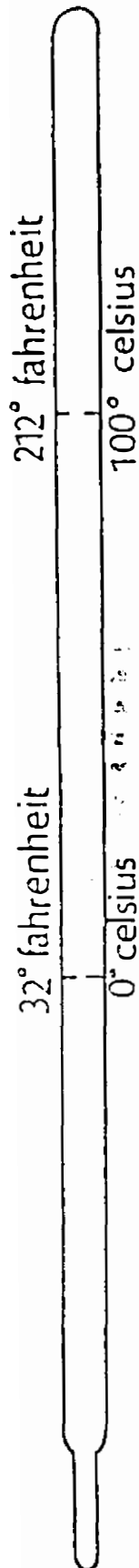
- LIQUID - rain, sleet, drizzle
- SOLID - snow
- GAS - fog

Liquid (water becomes solid (ice) when the temperature of the water is below 32 ° Fahrenheit (0° Celsius). Frozen water becomes strong enough to walk or shake on because the molecules of water are now holding very tightly to one another. Water expands when it freezes. It can break bottles and pipes and cause cracks in rocks and sidewalks. As ice melts, molecular bonds loosen and it becomes a fluid. When water is heated to boiling or beyond, the molecular bonds break and the water becomes a gas (steam). Water boils at 212° Fahrenheit (100° Celsius). Steam exerts a powerful force when constricted and can be used to drive machinery.

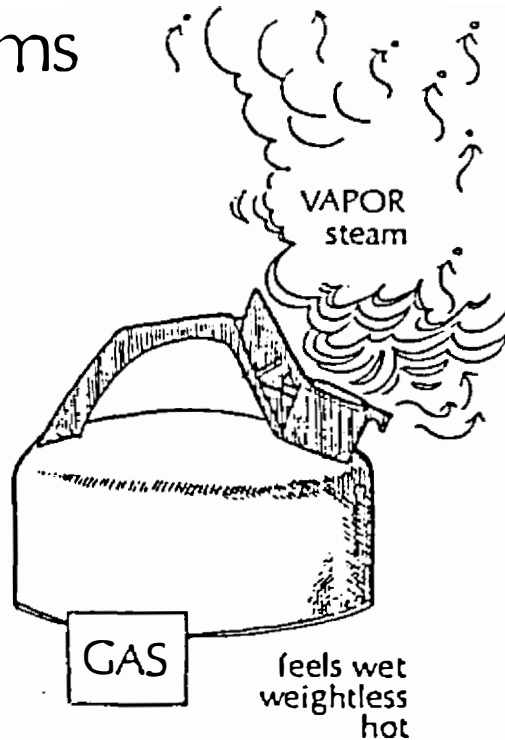
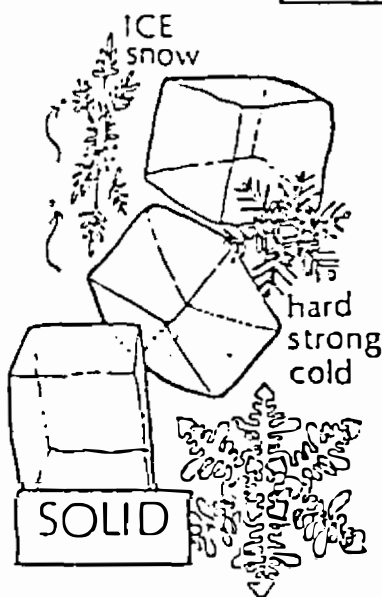
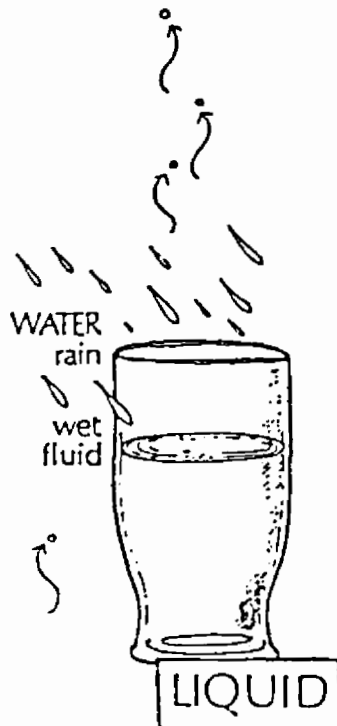
DIRECTIONS : Duplicate copies of Student page for each student. As a group, orally or individually, complete the questions.

Answers 1. : Water is made up of two hydrogen atoms and one oxygen atom. Scientists write it H_2O . 2. The three forms of water are : solid, liquid, and gas. 3. Solid water is called ice. 4. The liquid form is called water. 5. Water as a gas is called vapor. 6. Ice is hard, cold and strong. 7. Liquid water is wet and fluid. 8. Water is always present in air as water vapor. 9. Rain is liquid precipitation. 10. Snow is solid precipitation.

Water Has Three Forms



WATER VAPOR
is present in
the air at all
temperatures



WATER = 2 hydrogen atoms
plus 1 oxygen atom
scientists write it $\text{H} \quad \text{H} \quad \text{O}$ or H_2O

1. Water is made up of ____ hydrogen atoms and ____ oxygen atom.

Scientists write it ____.

2. The three forms of water are _____, _____ and _____.
3. Solid water is called _____.
4. The liquid form is called _____.
5. Water as a ____ is called vapor.
6. Ice is hard, ____ and ____.
7. Liquid water is ____ and ____.
8. Water is always present in the air as water ____.
9. Rain is ____ precipitation.
10. Snow is ____ precipitation.

8.4 SOURCES OF WATER IN THE COMMUNITY

Water goes round in a cycle: it falls as rain, and some soaks into the ground while some runs off as streams; gradually much of it collects into rivers and runs into the sea. From the sea, and also from inland lakes and any wet areas such as forests, water evaporates into the air; there it forms into clouds and travels with the wind; finally it falls again as rain. As water goes round this cycle it picks up a number of substances some of which are helpful and some harmful to man.

Every community is concerned about how much rain it will get to supply its water needs. They should also be concerned about what happens to the rain after it has fallen. How much just runs off down to the sea and how much is caught and stays in the area? Water that runs off quickly does the community little good. What is held in the soil, particularly the root systems of forests, will benefit the community over a long time. Water stored like this underground lasts longer than water in surface dams. So trees (forests) are very important to the community and a health worker should try to see that trees are not thoughtlessly cut down for fuel and that more trees are planted than are being cut down.

FORESTS ARE A COMMUNITY'S BEST WATER STORE

Some of the advantages and disadvantages of different types of water as it goes round the cycle are briefly described below.

1. Rain water

If collected from iron sheets or tile roofs into gutters and led by pipes into clean, closed tanks this is normally the purest natural water available.

Disadvantages

- (a) It is very difficult to collect from thatched roofs.
- (b) Gutters and large tanks are required to store sufficient rain water to last into the dry seasons.
- (c) The water is 'soft' and does not contain any of the essential mineral salts. It may not taste very good.

2. Water that falls on high hills (upland surface water)

The water that collects into streams above where people live is often plentiful and clean and makes very good drinking water. If it can be piped to people living lower down the hills, the water comes by gravity and no pumping is required.

Disadvantages

The source must be protected. If animal grazing or human settlement occurs in the catchment area the water will be polluted. In some places the increasing population has led to shortage of land on the lower slopes of hills and people have moved up into the catchment area, polluting the supply to those living below them.

3. Water in all other areas (such as plains and on the coastal belt). Most villages and towns are not on or near high hills where they can get clean water from above the level where people live. Water in these areas, which are most of the country, is of two main kinds: surface water and underground water.

Surface water

Surface water, whether in ponds, lakes, shallow springs, streams, or rivers or in water holes, shallow wells, or dams, is the commonest source of water for most people. Unfortunately it is also the most frequently polluted. Its advantages are that it is easily accessible; it can be obtained by hand by simple pumps; and the larger lakes and rivers are permanent all the year round.

Disadvantages

This water is easily and frequently polluted as it runs over the ground where humans and animals urinate and defaecate. Also people wash and bathe in it. It may also be polluted by chemicals used in agriculture or industry. Attempts must be made to prevent pollution and also to purify this water as described below.

Underground water

As the water soaks through the ground and travels underground it is filtered, as soil is a good filter. Underground water is therefore usually clean and often plentiful and permanent. It may come from a long way away and is not so dependent on local rain. Many rural areas and small towns use this type of water.

Disadvantages

- (a) Water from deep wells and deep springs usually dissolves a lot of salts and other minerals and so the water becomes salty, sometimes too salty or 'hard' for any use unless the salts are removed, which is expensive to do.
- (b) This water generally needs pumping from great depths, often to tanks or reservoirs before reaching the user.

4. Sea water

By the time that water reaches the sea it always contains some salts. These become further concentrated by evaporation and thus over millions of years sea water has become too salty to be drunk without very expensive purification to remove the salt.

SOURCE

Community Health by Ch. Wood., J.P. Vaughan, H. de Glanville, AMRF. 1981.

8.5 SOURCES OF WATER CONTAMINATION AND THEIR PROTECTION

A. Sources of Water Contamination

It is easier to prevent water getting dirty than it is to clean it. It is important therefore to consider again all the possible sources of contamination between the time that water falls as rain and the time it is used.

1. The collecting surfaces for rain water may have leaves, insects, or bird and animal faeces on them.
2. When water runs over the earth it may become contaminated with human or animal excreta, refuse, fertilizers, or industrial waste. This contamination is less high up on mountains and greater nearer towns.
3. Shallow wells may be contaminated by excreta and refuse being washed into them, especially if latrines are nearby.
4. Wells may also be contaminated by the use of dirty containers for drawing water, or by oil from a pump.
5. Rivers, lakes, or dams may be contaminated by bathing, or urinating or defaecating in the water.
6. Even piped water may become contaminated from leaks in the pipes, especially when these pass near foul water or dirty drains.
7. Water may go bad if it is stored for too long in a pot or cistern.
8. Water from any source may become contaminated if it is drunk from dirty or communal drinking vessels.

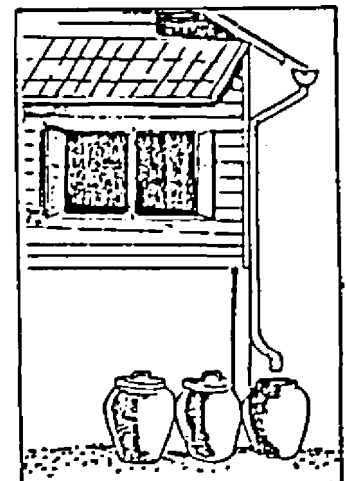
IT IS EASIER TO PROTECT WATER SOURCES THAN TO CLEAN WATER AFTERWARDS

B. Protection of Water Sources

Protection of water means keeping germs out. For this we have to make sure that humans (and animals) cannot have contact with the ground above the supply or with the supply itself.

(i) Rainwater collection

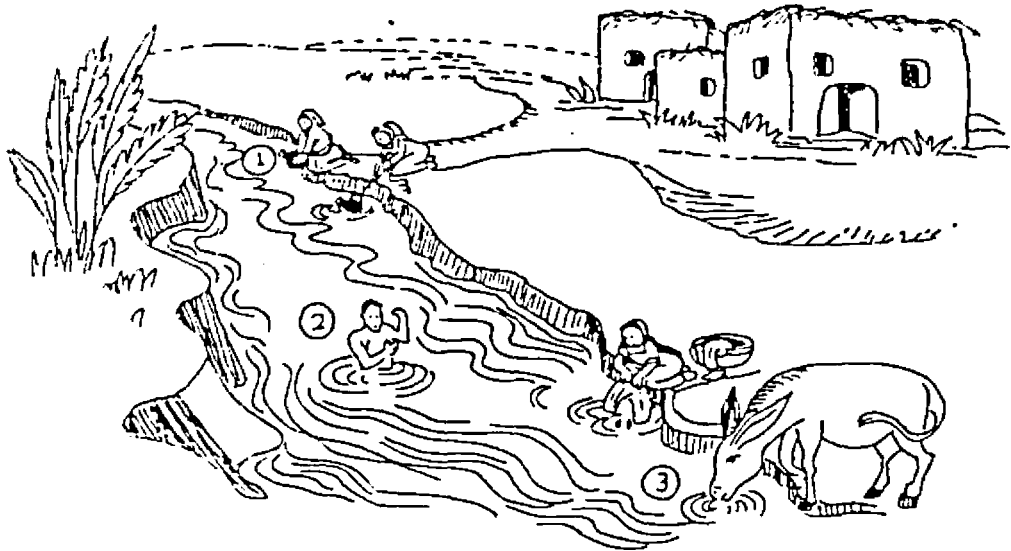
"Rain water should be collected from a clean roof and drained into a clean receptacle with a tight lid so that the water can be used throughout the year. The receptacle might be, for example, an earthenware jug, a metal or concrete tank."



(ii) Water from a River

If there is no other place to get water from, you should:

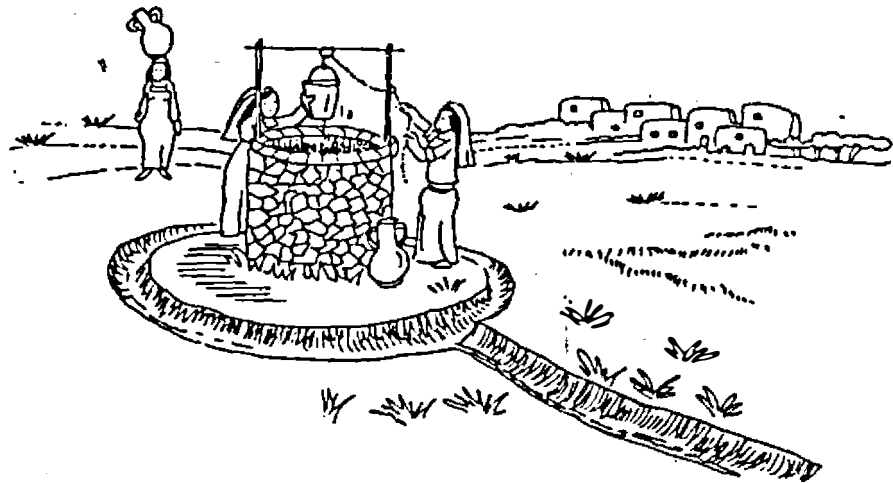
- Draw water from the river before it reaches your village (see drawing below, identify spot 1). Tell the pupils to boil the water before the drink it.
- Let people bathe in the river only where it leaves the village; let the animals drink the water only further down the river (see drawing and identify spot 2 and 3).



(iii) Water from a well

- Get the well cleaned and disinfected. If possible, get the well covered and install a pump for drawing the water.
- If the well is not covered, see that no dirt or rubbish is thrown into it.
- See that there is no pit latrine or cess pit within 25 feet of the well.
- Drain away the water spilt near the well and do not allow surface water to flow into it.
- Keep the buckets on a clean surface. Do not place buckets used for drawing water from the well on ground which is walked on.
- Do not wash clothes or bathe near the well; otherwise, impure water will get into it.

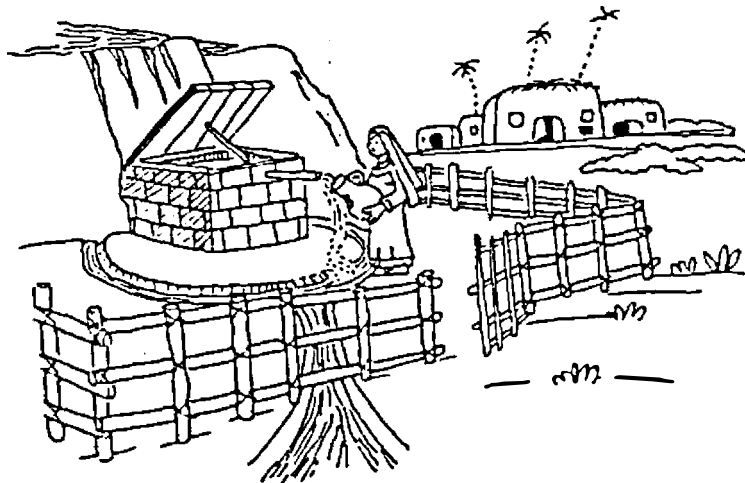
- Keep clean the vessels and rope you use to take water out of the well."



(iv) Water from a spring

The spring is properly protected if: (see drawing)

- There is a fence all the way round it about 20 metres away from the spring, and the gate is kept closed.
- There is a ditch around the spring to let the rainwater drain away.
- There is a 50 cm high cemented stone wall round the spring.
- There is a pipe coming out of this wall and the water is taken from this pipe.



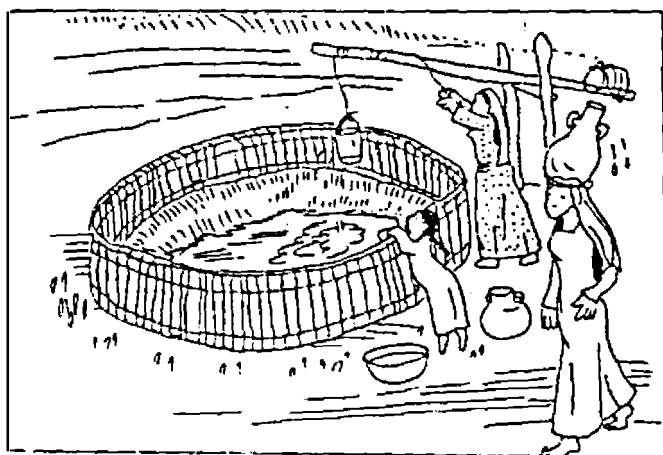
A. There is no other place to get water from:

- Tell the people to boil the water before they drink it.
- Advise the people not to bathe in this water.

- B. There is another place to get water from (river, spring or well)
- Advise the people not to use water from the pond if the other place to get water from is not too far away and to leave the pond for the cattle.



Women using an infected pond as a water source.



Women using improved water hole.

SOURCES

1. Thailand. MOH (1981) Community Health Volunteer's Nutr. & Health Workers Manual.
2. India, MC Information and Broadcasting (1966). How to get safe drinking water.
3. WHO (1980) The Primary Health Worker.
4. AMRF. Community Health by C.H. Wood et al.

8,6 SAFE DRINKING WATER

Water purification - simple methods

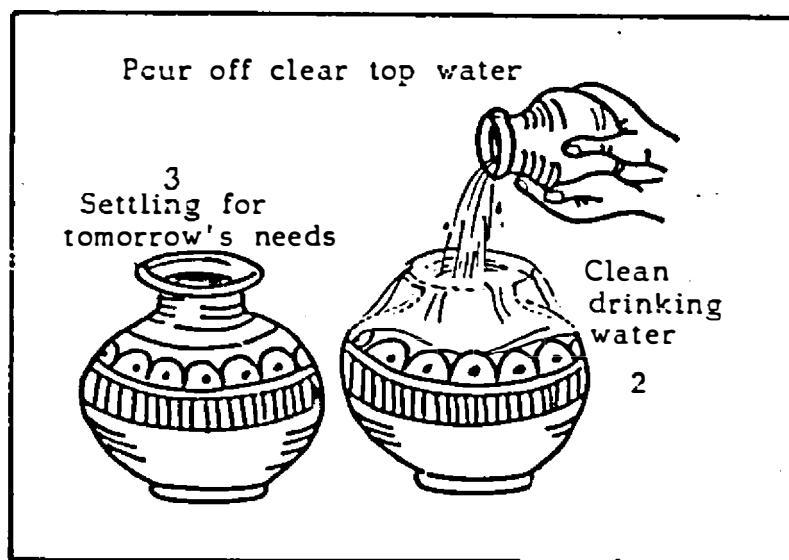
It should be said again that it is generally easier to prevent water getting dirty than it is to make it clean afterwards. However, there are many occasions when relatively dirty water has to be used, so it is important to know the simple ways of cleansing it.

The main methods used for cleansing water are:

- storage
- filtration
- sterilization

Storage - the 3-pot system

If water is allowed to stand, many of the harmful organisms which may have got into it die because they cannot survive in water for a long time. Also a lot of the suspended matter settles to the bottom. If the water was cloudy (turbid) to start with, the difference can easily be seen; if it was clear, standing will still reduce the number of living organisms although the improvement cannot be seen with the naked eye. Water improvement by storage can be simply done in the home by using three pots for water. Two big pots are used for fetching water on alternate days. The first pot is allowed to stand for 24 hours. Then the clear top water is carefully poured into another smaller pot for drinking and the remaining water used for washing. When the first pot is empty it is cleaned and refilled and allowed to stand for 24 hours again while the second big pot is used in the same way as the first. In this way each day's water has been standing for 24 hours before it is used.

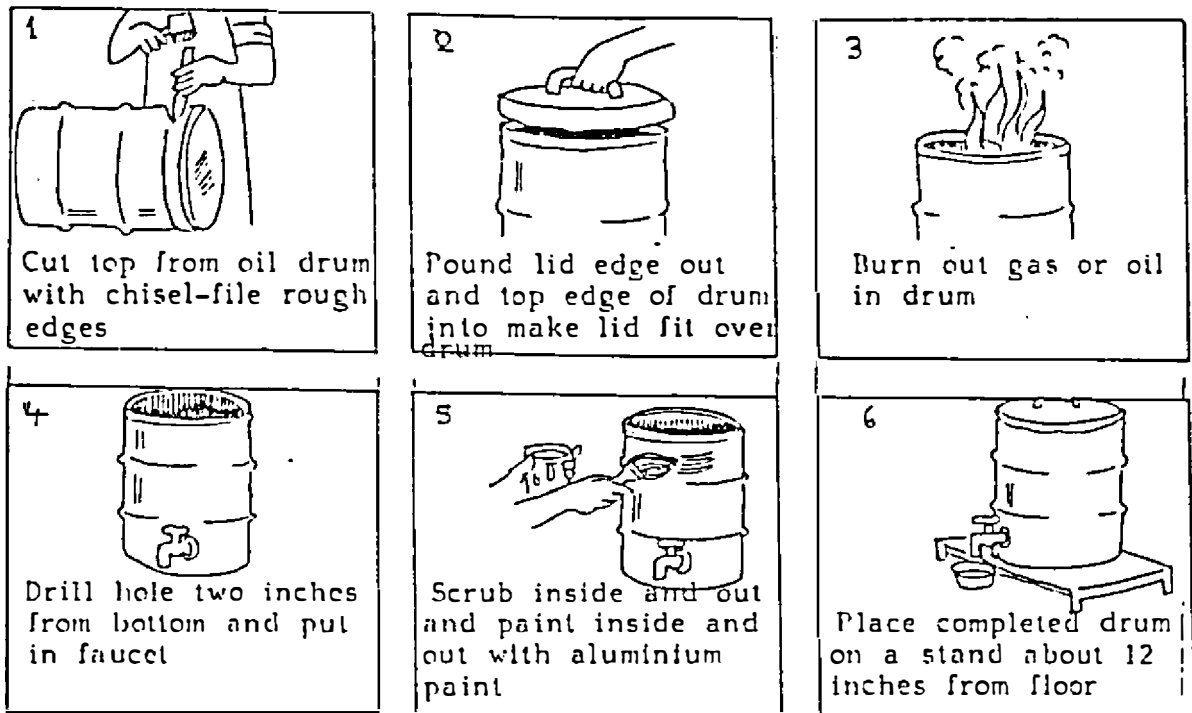


THE 3-POT SYSTEM OF WATER STORAGE

This method of storage may be done on a larger scale in tanks or on a very large scale in reservoirs. In these cases the water should stand for 3 to 7 days before use.

EXAMPLE OF STORING WATER IN A DRUM

STORE WATER IN A CLEAN WAY

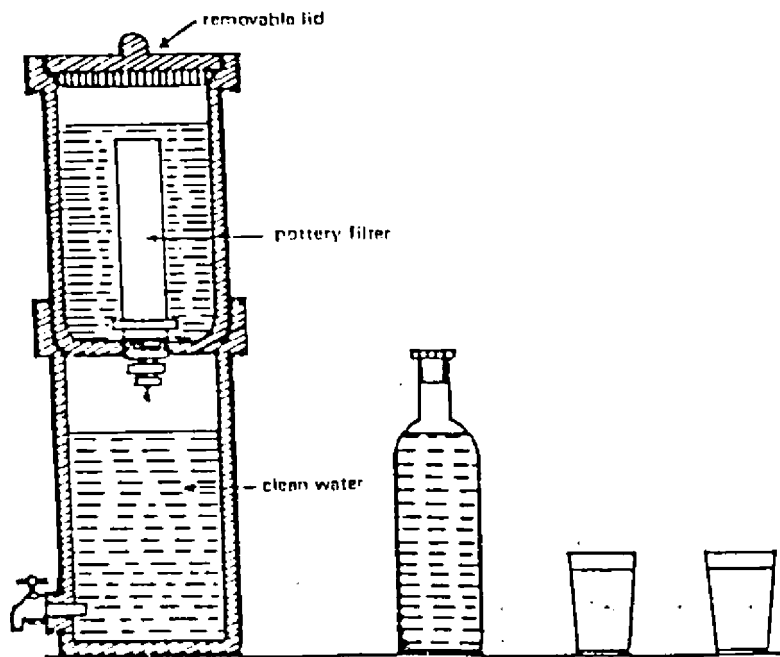


Keep cover on drum except when filling

Filtration

Filtration is the next stage of purifying water. This too can be done on a small scale for a household or on a large scale for a village or town.

The best simple household filter is a candle filter. It is, however, rather expensive. The filter is made of pottery in the shape of a big candle. It also has two containers (see diagram opposite). Water is put into the top one, filters through the pottery candle, and is stored in the bottom one. From time to time the candle is brushed to clean it.



A candle filter

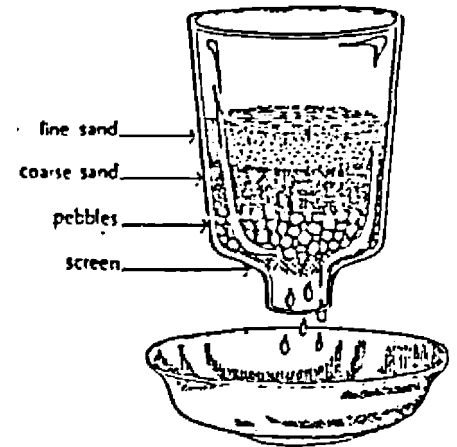
The commonest filter for use on a larger scale is one made of sand. This is made in layers with stones at the bottom, then coarse sand (sand with large grains), and fine sand (sand with small grains) on the top. Sand filters for a public water supply are usually built in concrete containers. For a few houses smaller sand filters in special metal containers may be used.

To build and use a simple water filter.

TEACHER NOTES

as a demonstration or an extra assignment this project shows how filters work to cleanse water of large particulate matter. However, caution your students not to drink this water. Although it will appear clean, it is not clean enough to drink. There are still impurities that must be removed by other means.

DIRECTIONS: You will need a one quart (one litre) plastic bottle, a piece of wire screen, pebbles, coarse sand and fine sand. Collect rain water, puddle water or some other "dirty" water from a natural source. If necessary, you can mix some dirt into tap water yourself. Cut the bottom out of the bottle invert the bottle and place the piece of screen in the neck. First place a layer of pebbles, then a layer of coarse sand, then the fine sand. Pour some tap water through to remove any dust. Then slowly pour the dirty water through the filter. Water that goes through the filter should be cleaner than what was poured in.



Sterilization

Sterilization is the final stage of water purification necessary for wholesome drinking water. On a large scale, for big towns, this is done in the waterworks by adding chlorine automatically to water that has been filtered. On a small scale water may be sterilized either by boiling or by adding disinfectants such as chlorine or iodine.

- (a) Boiling water is the simplest and safest method of sterilization but very few people are prepared to do this regularly. They can, however, sometimes be persuaded to do it if there is an outbreak of water-borne disease. (Because tea is made with boiling water weak tea is an excellent safe drink for small children).
- (b) Chlorination: Milton and Jik are two trade names of 1% solutions of chlorine for household use. Two drops to a litre of water will provide reasonable sterilization. Halazone is chlorine in tablet form which may be used as directed by the manufacturers. For more complicated treatment of larger quantities of water you should check with your district health officer for technique.
- (c) Iodine is an excellent disinfecting agent which may be purchased as 2% tincture of iodine. Two drops are sufficient to disinfect 1 litre of water and iodine tablets such as Globaline and Potable Aqua (commercial names) are also used in the sterilization of small amounts of water as directed by the manufacturer.

Summary

The provision of adequate quantities of safe water near people's homes is one of the most important aspects of primary prevention. Health workers should assist in achieving this aim as well as treating people suffering from water diseases. It is not enough to wait until piped water is provided and just to tell people to boil their water - because very few will do so. Instead encourage the simple ways of protecting water sources and of cleansing water.

Testing water

When new supplies of water are being developed on a large scale it is very desirable to test the quality of the water. The two principal methods of testing are:

- bacteriological analysis
- chemical analysis

For bacteriological analysis water is collected in a sterile 1 litre flask. It has to be refrigerated and analysed within a few hours. For chemical analysis 4 or 5 litres are collected in any clean container and there is no great hurry. New methods of sampling and field analysis using smaller quantities of water are being developed.

For chemical analysis 4 or 5 litres are collected in any clean container and there is no great hurry. New methods of sampling and field analysis using smaller quantities of water are being developed.

Bacteriological analysis

It is very difficult to find the actual organisms that cause diseases, e.g. typhoid bacilli or poliomyelitis viruses. Instead the most important test is for an organism *E. coli* (*Escherichia coli*); this is a normal inhabitant of human and animal intestines and it cannot live elsewhere for very long. If there are many *E. coli* in a sample of water (ideally there should not be more than 10 per 100 ml) this shows the water is being contaminated by excreta. This is a clear danger signal.

E. COLI - FAECES - DANGER

Chemical analysis

This involves testing for a number of different substances. Some, such as ammonia, are also indicative of contamination with organic matter, often excreta. Other tests can be done for hardness or softness, or for other salts or minerals, which may affect the taste or suitability of water for drinking.

SOURCES

- (1) Community Health by C.H. Wood et al.
- (2) Alaska, Dept. of Health (1965). Health and First Aid Guide for Home and Village.
- (3) American Water works Association, 6666 W. Quiney Ave., Denver, Colorado 80235.

8.7. THE ROLE OF WATER IN PREVENTING AND TREATING COMMON SICKNESS

WATER

Water is essential to life. It is a part of every cell and is necessary for most basic functions like respiration and digestion. Water is also a good solvent and many substances, some useful and some harmful to life, may be dissolved in it.

Water can affect health in a number of different ways. Lack of water for personal hygiene may result in the increased transmission of some diseases, called water-washed diseases. Water may carry the organisms of specific diseases, called water-borne diseases. Or it may be necessary in the life cycle of a disease vector – such diseases are called water-related diseases. The important diseases affected by water in these ways are:

Water-washed diseases	- diarrhoea and dysentery - skin diseases (including scabies) - eye diseases (including trachoma)
Water-borne diseases	- typhoid - cholera - poliomyelitis - amoebiasis - hepatitis A
Water-related diseases	- malaria - schistosomiasis - onchocerciasis

When trying to control these diseases we should consider carefully the role that water plays. The water-washed diseases are transmitted by (1) the faecal-oral route due to lack of washing of hands, of eating utensils, and of vegetables, and (2) by lack of personal hygiene – washing the face, eyes and body. The main cause of this is lack of water, which is generally because either there is very little water available or because it has to be carried a long way, requiring time and energy. The water-borne diseases, in contrast, are due to dirty water containing the disease organisms themselves.

In preventing the water-washed diseases increasing, the quantity of water is important. To prevent water-borne diseases it is necessary to improve the quality. As the water-washed diseases are generally more common than the water-borne diseases we can do a lot to improve health if we can make more water easily available. Of course, the cleaner and purer the water the better, but we should not delay increasing the quantity of water just because we cannot obtain the best quality.

Everyone requires about 2 litres of water a day for basic physiological needs; if water has to be fetched $\frac{1}{2}$ mile people will manage with a total of about 6 litres a day; if they can get water from a tap in the compound, they will use up to 25 litres; and where a house is provided with many taps and there are flushing latrines they will use 100 litres or more each a day.

It is the long-term aim of the government to provide piped water for all, but before this happens there are many simple improvements that can be made in village supplies to ensure that both a larger quantity and a better quality of water are increasingly available.

GET ENOUGH WATER FIRST; THEN IMPROVE
THE QUALITY

HEALING WITH WATER

Most of us could live without medicines. But no one can live without water. In fact, over half (57%) of the human body is water. If everyone living in farms and villages made the best use of water, the amount of sickness and death - especially of children - could probably be cut in half.

For example, correct use of water is basic both in the prevention and treatment of diarrhoea. In many areas diarrhoea is the most common cause of sickness and death in small children. Contaminated (unclean) water is often part of the cause.

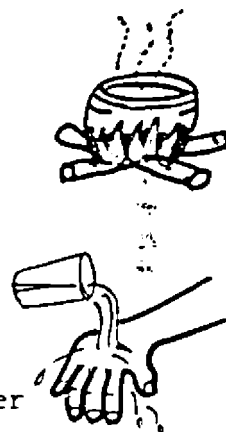
Giving lots of liquids to a child with diarrhoea is more important than any medicine. In fact, if enough liquid is given, no medicine is usually needed in the treatment of diarrhoea.

In the next section are a number of other situations in which it is often more important to use water correctly than to use medicines.

Times When the Right Use of Water May Do More Good than Medicines

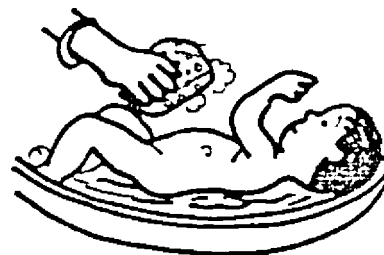
PREVENTION

To prevent	Use water
1. Diarrhoea, worms, gut infections	Boil drinking water, wash hands, etc.
2. Skin infections	Bathe often
3. Wounds becoming infected; tetanus	Wash wounds well with soap and water

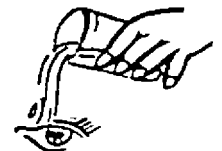


TREATMENT

To treat	Use water
1. Diarrhoea, dehydration	Drink plenty of liquids
2. Illnesses with fever	Drink plenty of liquids
3. High fever	Soak body with cool water
4. Minor urinary infections (common in women)	Drink plenty of water
5. Cough, asthma, bronchitis, pneumonia, whooping cough	Drink a lot of water and breathe hot water vapors (to loosen mucus)



To treat	Use water
6. Sores, impetigo, ringworm of skin or scalp, cradle cap, pimples	Scrub with soap and water
7. Infected wounds, abscesses, boils	Hot soaks or compresses
8. Stiff, sore muscles and joints	Hot compresses
9. Itching, burning, or weeping irritations of the skin	Cold compresses
10. Minor burns	Hold in cold water
11. Sore throat or tonsillitis	Gargle hot salt water
12. Acid, lye, dirt, or irritating substance in eye	Flood eye with cool water at once
13. Stuffed up nose	sniff salt water
14. Constipation, hard stools	Drink lots of water (also enemas are safer than laxatives, but do not overuse)



In each of the above cases (except pneumonia) when water is used correctly, often medicines are not needed. In this book you will find many suggestions for ways of healing without need for medicine. Use medicines only when absolutely necessary.

• SOURCES

- (1) Helping Health Workers Learn by David Werner.
- (2) Community Health by C.H. Wood et al AMRF (1981).

UNIT 9: SOCIAL AND MENTAL HEALTH

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
9.1 <u>Topic:</u> Communication		
<u>Learning activities:-</u> Define communication.	Language/Religion	1-3
- <u>List</u> at least five examples of skills which are necessary for good communication.	"	"
- <u>Practice</u> rules for effective communication in the class and at home.	"	"
- <u>State</u> two communication rules for saying thing clearly.	"	"
- <u>Describe</u> three ways which will help them to improve their listening skills.	"	"
- <u>Explain</u> what is feedback.	"	"
- <u>Practice</u> rules for improving their listening skills in the class and at home.	"	"
- <u>Distinguish</u> the difference between bragging and sharing good feeling with examples.	"	"
- <u>Describe</u> ways by which we express our loving feelings to our parents, sisters or friends with examples.	"	"
<u>Resource material:</u> Communication (9.1).		
9.2 <u>Topic:</u> Emotions		
<u>Learning activities:-</u> Describe with examples different kinds of physical feelings.	"	2-4
- <u>Define</u> emotion and <u>describe</u> with examples different kinds of emotions.	"	"
- <u>Differentiate</u> between physical feelings and emotion.	"	"
- <u>Collect and label</u> pictures or magazine photo showing different kind of emotion.	"	"
- <u>Enact</u> in the class different kinds of emotions which are common to them.	"	"

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIALS	SUBJECT	GRADE
- List four questions to ask when an emotion is experienced. - <u>Identify</u> and <u>list</u> persons who can help someone who has unhappy feelings. - <u>Participate</u> with other pupils, teachers and family members in activities related to the practice of good emotional health.	Language/Religion " "	2-4 " "

Resource material: - Emotions (9.2.¹⁾
 - Understanding children's feelings (9.2.2)²

9.3 Topic: Understanding children with special problems

<u>Learning activities:-</u> - <u>Participate</u> in collecting information on "handicap" children in their communities, according to guidelines provided by the teachers. - <u>Participate</u> in a group discussion about children who have some special problem or "handicap". - <u>Play</u> a game in which one child pretends to have a handicap and then <u>present</u> their experience in the class. - <u>Identify and list</u> activities which handicapped children do well. - <u>Identify and list</u> activities which they can perform together with children who are "handicapped". - <u>Assist</u> in developing simple aids for the disabled with teachers, parents and older children.	Physical Education " " " " "	2-4 " " " " "
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Resource material: Understanding children with special problems (9.3).

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIALS	SUBJECT	GRADE
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9.4 Topic: stress

Learning

activities:- Explain what is stress.

Science/Physical Education 5-6

- Provide some examples of stress.
- Describe the changes in the body when stress occurs.
- Differentiate between stress and distress.
- List specific actions which he or she can do to avoid distress.
- Demonstrate an exercise that will reduce stress.

"
"
"
"

Resource

material: Stress (9.4).

9.1 COMMUNICATION

The sharing of what a person thinks and feels with another person is called communication. Learning to communicate with others is very important. When a person communicates clearly they are able to share and relate well with their friends and family.

In order to communicate effectively there are many skills which a person must acquire. Some examples of skills for good communication are listed below :

- . Speaking loud enough so that others can hear clearly.
- . Choosing words carefully so that others will understand what we are trying to express.
- . Being able to express one's feelings.
- . Being careful to say things in ways that do not hurt the feelings of others.
- . Listening carefully when others are talking
- . Watching the actions of others when they are speaking
- . Making sure that the others know that we are listening carefully.
- . Remembering things that were said.
- . Being careful to repeat things correctly.
- . Not repeating things that were told in confidence.

SAYING THINGS CLEARLY

There are two things that a person can do to make sure that he is speaking clearly.

- . Always speak loud enough for others to hear you. If you are speaking to a group of people, you might ask if your voice is loud enough.

Look at the person or persons to whom you are talking. When you talking. When you talk, move your eyes to look at each one. Eye contact improves communication.

Besides listening to what is being said, it is important that others understand what is being said. It is important to choose words carefully and saying exactly what you meant. People should not be left to guess because they may guess wrong. Here is an example :

Amir and his parents are eating dinner. Amir's mother asks him how school had been today. Amir mumbles, "School was awful". His mother does not gain much information from Amir's answer. "What do you mean?" she asks. "I just couldn't take it today," Amir answers.

Amir's mother is still puzzled. What is Amir telling her about school ? Amir might have given his mother clear information.

Amir's mother asks about his day at school. Amir says "Awful. I lost one of my library books. I need the book to write a report that is due tomorrow. I have to find the book and then write the report."

Providing information clearly makes it easier to understand what is being said.

LISTENING

When communicating if someone talks all the time and do not listen, there is a feeling of being left out. Under such circumstances sharing is not possible. Listed below are six ways to help a person become a better listener:

1. PAYING ATTENTION TO WHAT IS BEING SAID :

A person cannot think about something else and at the same time listen carefully. For instance, it is difficult to listen to what someone is saying to you while you are watching T.V.

2. PAYING ATTENTION TO THE WORDS THAT ARE USED

Asma asks Zahra: if she is going to the movie with her. Asma might say "I don't know" or "I don't know enough about the movie to decide". The words she chooses are important. Each statement says something different.

3. LISTENING WITH YOUR EYES

Many have heard the saying "actions speak louder than words". When people are talking, it is important to watch their actions. Some of the common actions are smiling, frowning or or clenching their fists. A teacher questioning a student if he understood a math. problem may be answered yes by the pupil while shrugging his shoulders. Here the words said yes but the action said no.

4. LISTENING FOR FEELINGS :

Trying to decide how people feel about what they are saying is important. Here is an example. Suppose you asked Amir to come over to your house after school and he answers cheerfully, "I have soccer practice". Here one gets the feeling that Amir really liked to go to soccer practice.

5. LISTENING FOR TONE OF VOICE

A person may be saying the same words but because they change the tone of their voice they have different meanings. An example is provided below

In case case, one word is said more strongly :

I don't care what YOU do !

I DON'T care what you do !

I don't CARE what you do !

6. PROVIDING FEEDBACK

One method of showing that you are listening is by telling back what a person have heard. For example, Amir tells Eisa "The school bus will be an hour late because of the snow". Eisa uses feedback to show he is listening. Eisa says "It must be very slippery for the bus to be so late."

Sometimes only body movements are used. For example, someone tells a funny story. Feedback is provided by laughing or smiling. Nodding ones head is also a way of providing feedback.

BRAGGING

It is important that a distinction be made between sharing good feelings and bragging. Bragging is talking about himself or herself too much. Sharing good feelings will improve communication with others; bragging will not. Here is an example of each.

Lanra worked during the weekend on her science project. She was proud of her work when it was selected for the state fair. She told her parents, "I feel great. I had the best science project in my class."

Amir scored 12 points in the basketball game last week. Since the game, his score is all Amir talks about. He keeps telling everyone "I'm the best. No one can stop me when I dribble the ball toward the basket".

Lanra's parents were happy to share her good feelings because she shared her feelings clearly. When Amir shared his good feelings the first time his friends listened. But soon they became tired of Amir's bragging. A person's communication can improve greatly if he or she recognizes the difference between sharing good feelings and bragging.

EXPRESSING LOVE

This is another kind of communication involving feelings. Loving feelings can be shared with parents, brothers, sisters or friends.

Hamid loves his parents but he does not share his feelings. Hamid's birthday card from his sister is signed, "I love you! Sis." Hamid feels good.

Hamid and Iman are friends. Iman and her family move away. Hamid calls Iman and says "I miss the happy times we had together."

Hamid did not have to guess about his sister's feelings towards him. Iman learned that Hazim missed her. It's important to realize that everyone needs to know that others care. Therefore it is essential that one should share their loving feelings with parents and other members of the family and friends.

Source : Health : Focus on You (1984) by LIWA BROWER MEEKS and Philip Heit
Ed.D. Charles, E. Merrill Publishing Co.

9.2 A. EMOTIONS AND UNDERSTANDING CHILDREN'S FEELINGS

People have different kinds of feelings. If a person falls from a bicycle and cuts his leg, he will feel pain. If someone pets his kitten the kitten's fur will feel soft. If a hot pan on the stove or a point of a knife is touched one would feel hot or will feel sharp on the tip of his fingers. All these feelings are known as physical feelings. In addition to this type of feelings there are other type of feelings that are important. These feelings are inside a person. Often these are difficult to understand because we cannot see and hear them.

KINDS OF EMOTIONS

Emotions are a type of feelings that occur inside a person. People have different kinds of emotions. Here are some examples :

- Maria is afraid because she must give a speech before her classmates. When a person is AFRAID, he or she has a feeling of danger. These feelings sometimes can keep a person away from doing something special.
- Amin is angry because Zafir tells a lie about him. When someone is ANGRY he has a strong unfriendly feelings that result from being harmed or hurt.
- Fatima feels guilty when she watches TV and does not do her homework. When a person feels GUILTY, they know that they have done something wrong.
- Hamid is happy when he receives a good grade on his health test. When people are HAPPY they have a feeling of pleasure or joy.
- Hazim hates cigarettes because the smoke from them makes her cough. When someone HATES something a person has a strong dislike for it.
- Iman is jealous because her brother gets a ten speed bicycle for his birthday. When a person is JEALOUS, he or she feels that they should have what someone else has.
- Eisa collects model cars because he likes them. When a person likes something or somebody, there is a feeling of JOY.
- Sonia loves her grandparents even though they live out of town. When a person feels LOVING they have a strong liking for someone or something.
- Hamid is sad because his dog died yesterday. When someone is SAD he or she feels unhappy.
- Manal is sorry because she made a remark that hurt Maria's feelings. When a person feels SORRY they regret for saying or doing something. They wish that the incident did not take place.

SHOWING EMOTIONS

There are many ways of expressing feelings towards others. Sometimes words are used to express emotions while other times emotions are expressed through the movements of face and body.

Here are three examples of how some people show their emotions :

- Maria's brother won the school essay contest. Maria gives her brother a big hug and says she is happy for him.
- Amin is sitting at his desk waiting to give his report. He is tapping his foot rapidly.
- Hamid flashes a big smile when he is picked first for the baseball team.
- Maria showed her happy feelings by hugging her brother. Amin expressed his nervous feelings by tapping his foot. Hamid showed his happy feelings by smiling.

It is said that a person's face and body movements express 65 percent of what they feel or mean. Therefore in order to understand the feelings and emotions of others it is important that one learns how their own face and body show feelings.

DEALING WITH EMOTIONS

It is important that people learn to deal with their emotions or feelings in a healthy way. No one should try to hide their feelings. At the same time people should not let their feelings control them either. There are ways to deal with one's feelings. When someone experiences an emotion they should answer these four questions :

- What is it that I am feeling ?
- Why do I feel this way ?
- How can I deal with this feeling ?
- What is the best action to take ?

Here is an example of dealing with emotions. Fatima said something unkind to Maria. Maria's feelings were hurt, but she did not share her hurt feelings with Fatima. She wanted to hide her hurt feelings, yet she really felt bad.

1. What was Maria feeling ? Maria felt hurt
2. Why did Maria feel this way ? Maria felt that Fatima said something unkind.
3. How could Maria deal with her feeling ? Maria could say to Fatima "Your comment hurt my feelings". Maria could hide her hurt feelings. Maria could say something unkind to Fatima.
4. What is the best action to take ?

Maria should share her hurt feelings. It would not be helpful to say something unkind to Fatima.

It is important to remember that emotional health is gained by learning to deal with one's feelings. Hiding one's feelings or letting them to be in control, results in having poor emotional health.

Most of the time people should be happy with their friends and families. Being happy is a sign that indicates good emotional health. But there are times when a person can have unhappy feelings. If they cannot deal with unhappy feelings alone it is best to get help soon. Parents, teachers or other members of family are good sources for seeking help.



Source : Health : Focus on You (1984) by LIWA BROWER MEEKS and Philip Heit ED.D.
Charles, E. Merill Publishing Co.

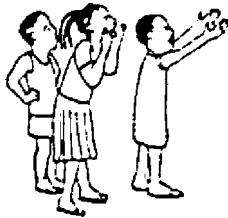
9.2 B UNDERSTANDING CHILDREN'S FEELINGS

THE IDEA

Children need a healthy body BUT they have other DIFFERENT needs. Their OTHER NEEDS are to do with their FEELINGS. Often these are difficult to understand because we cannot see and hear them. If children can begin to understand some of these feelings, they can grow up well and help others to do the same.



John woke up one morning crying. Mary heard him, woke up and ran to him. She picked him up. He had wet himself. She changed his clothes and hugged him. He laughed and began to sing and make happy noises. After helping her mother, Mary went to school.



After their lessons, she went out to play. One girl had a ball and they all played with it. But Anne, one of their classmates, refused to play. She stood in a corner, caught the ball and would not give it back. Some children started to punch and kick her, she began to cry. The teacher came out. She sent the other children away and explained to Anne that she must give back the ball. Mary took Anne's hand and after some time Anne also played with the others.



As the children were walking home, they saw a dirty boy with uncut hair. The children called him names and laughed at him. An older boy came along and saw that the little boy was hurt and was crying. He took the little boy's hand and asked him where he came from. The poor boy said he had no parents. The people he lived with were cruel to him. The older boy said he would help him. The other children were ashamed.



Mary wanted to tell her mother about the dirty child when she got home. Her mother was tired and told her to go away. Mary began to cry. Her baby brother John came up and put his arms around her. He began to cry too, so Mary picked him up and went outside. They were playing when Mary's mother called her. She left John and he ran after a butterfly.



Suddenly he saw that he was alone. He began to cry and call for his sister. Mary came back. She picked him up and showed him some chickens. Then John chased the chickens from the food pot.



This story shows the feelings of children IN NATURAL SITUATIONS. A story like this can be used in many ways:

- a) To show the feelings themselves, e.g. happiness, love.
- b) To show the signs of feelings, laughing, crying.
- c) To show the causes of these feelings, e.g. cruelty, love.
- d) To show how children can understand and help.

a) Feelings

All children experience feelings. Even when they are very young, children have many different feelings. Of course these feelings grow as the child grows. At first a child feels secure close to his mother. She feeds him, keeps him warm and protects him. Sometimes he is happy, contented and trusting. Sometimes he is unhappy, afraid or angry. As he grows older, his feelings are shared with more people. His world becomes wider. He can learn to recognize and understand feelings that he and other children experience in a natural situation.

Sometimes children experience feelings along (for example, when a child is alone in a strange place he could be afraid or curious). at other times they experience feelings with other people (for example, a mother is annoyed with her children for breaking something she has told them not to touch, they can be afraid, unhappy, guilty or resentful).

Children can have DIFFERENT feelings. The same happening or the same thing can make each child show different feelings (emotions). For example, when they see animals some children want to play with them (love and affection), some children run away and scream, (fear, dislike), others simply take no notice (indifference).

b) Signs of Feelings

Often children cannot tell us what they feel. But, we must try to understand the feelings by the signs children show. The way a child behaves can show us what he is feeling. For example, a child who seems selfish, angry, unfriendly, may be unhappy because he does not get enough attention or because he needs affection.

Sometimes one sign can mean many things. For example, a child who laughs may be happy. Or he can be embarrassed or nervous or surprised.

Children must be helped to notice signs in themselves and in others so that they can begin to understand feelings.

c) What causes these feelings

Everything in every day life causes some feeling. Sometimes children can tell what causes their feelings. For example, a child can say he is happy because he has been given something nice to eat.

Very often children do not know what makes them have their feelings. The reasons or causes of feelings can be many and not very clear. For example, if you ask a child why he is crying, sometimes he will tell you it is because his toy has been taken by another child or because his mother has scolded him. But often



children are destructive, they break plants, throw stones, kill small animals: if you ask them why, they do not know. Perhaps it is because they are unhappy, or worried or angry.

It may be useful for an older person to try to explain to older children what some of the possible causes are. In this way, children may begin to understand feelings in themselves and other people.

d) How children can understand and help

If children can begin to notice feelings and take an interest in them, they may learn about them in themselves and in other people.

This will help them to develop as individuals (in themselves) and as members of society.

Children learn to understand themselves and other people through living in THEIR OWN HOMES. They imitate and copy people before they even know what they are doing. For example, a child is more likely to shout at his brother if his parents often shout at him or at each other.

COMFORT

In some situations CHILDREN CAN HELP ONE ANOTHER BETTER THAN GROWN-UPS. If a child understands that another child who seems "naughty" or "bad" may have many feelings (for example, fear, pain, need for affection or company) he may sympathise or understand his feelings and give him comfort and companionship. A child often picks up his brother, or comes close to him and puts his arms around him and carries him and talks to him. There are different ways of comforting him, of showing understanding and of helping. Comfort can also be given with words of kindness, praise, affection.

Another way to comfort is to make the younger child forget his anxiety (unhappiness, worry) by showing him something different. In this way the younger child thinks of something else. If a child is crying, the older child can say "Look at that bird over there", or "come with me and I'll show you a new game".

DIFFERENCES

Children must also try to understand DIFFERENCES. People and children are not all the same and do not all have the same feelings.

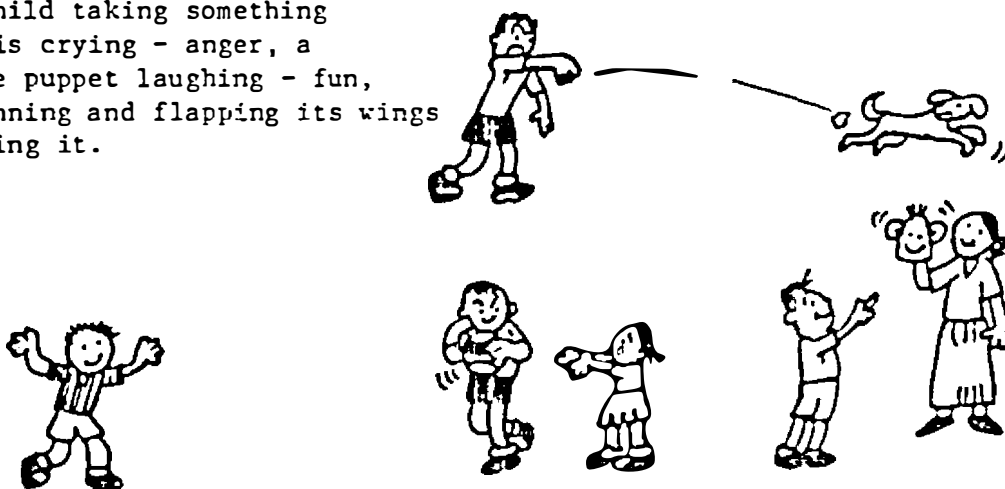
If a child has a different feeling it does not mean that he is wrong or bad, but that he is different. Children should be encouraged to understand and accept differences. For example, one child is afraid of the dark, another older one who is not, must not laugh at the other or tease him or make him more frightened, he must understand and help him.

ACTIVITIES

1. Use a story like the one on the first page to explain feelings, possible causes and signs, and the help given in each case. Ask children to find other feelings within their own experience at school and at home.
2. Take a sentence like, "what are you doing?" The teacher or group leader can say it in different ways: the pupils or members of the group have to guess the different feelings (anger, fear, surprise).
3. Children can be asked to mime a simple situation and show feeling (for example a boy has lost his way, how does he feel? or a little girl has torn her dress, what does she do? or a child snatches something from another, how does the loser react?) the other children can watch and guess the feelings. They can also say how they can help.
4. Ask questions like, "What makes you laugh, cry, sing, shake your fist...." compare the responses.

A picture game

Have pictures of situations where children can say what feelings there are (e.g. a dog running away from a stone - fear, a child taking something from another who is crying - anger, a child with a glove puppet laughing - fun, joy, a chicken running and flapping its wings with a child chasing it).



WHO CAN USE THIS ACTIVITY SHEET ?

Although teachers, group leaders, scouts or play groups can practice activities, the children learn the most important things about feelings at HOME. Women's clubs,

groups and institutes can show how much children model themselves on members of their family. Mothers can help children to help one another even better than teachers if they understand their children's behaviour.

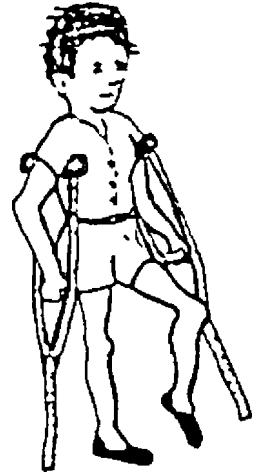
SOURCE: Child-to-child programme. Institute of child health, 30 Guilford Street,
London, WC1N 1EH, England

9.3 UNDERSTANDING CHILDREN WITH SPECIAL PROBLEMS

GROUP DISCUSSION

Encourage a class or group of children to talk about children who have some special problem or 'handicap'. Ask questions like:

- Do you know any child who cannot walk or run or play like other children?
- Why can't this child do everything the same as you can?
- Is the child to blame?
- How do other children treat this child? Are they kind to him? Are they mean? Do they make fun of him? Do they include him in their games?
- How would you feel if you had a problem similar to this child's? How would you want other children to treat you? Would you like them to laugh at you? To pay no attention to you? To feel sorry for you? To do things with you and become your friend?



GAMES AND ROLE PLAYING

Children will better understand the child with a special problem if they can 'put themselves in his shoes'. They can play a game in which one child pretends to have a handicap.

The other children act out different ways of behaving toward the 'handicapped' child. Some are friendly. Some ignore him. Some make fun of him. Some help him. Some include him in their games. Let the children come up with their own ideas and act them out.

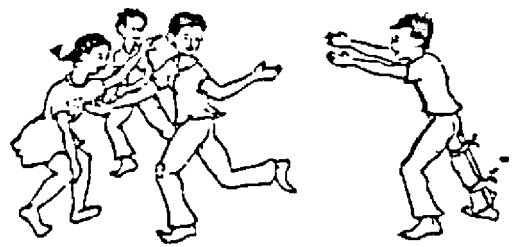
After several minutes, another child can pretend to have the handicap. Let several children have a turn with a handicap. Try to make the pretend handicap seem real.



For example, to pretend one child is lame, the others can tie a pole or board to one leg so the child cannot bend it.

Then have the children run a race or play tag. How well does the child with the 'bad leg' do?

After several children have played different handicapped roles, have each of them discuss his experience with the others: what it was like, what he felt, and why.



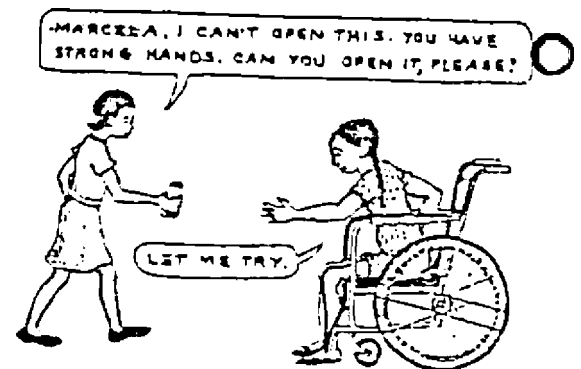
REMEMBER

Children are usually kind to a child with a very severe handicap. They are often more cruel to a child with a less severe problem, such as a limp.

THINGS THAT HANDICAPPED CHILDREN DO WELL

A handicapped child cannot do everything as well as other children. But often there are some things she can do as well, or even better. Try to have the children think of examples.

A child with crippled legs, who has to walk with crutches, often develops very strong arms and hands. Or a blind child may develop unusually keen hearing.



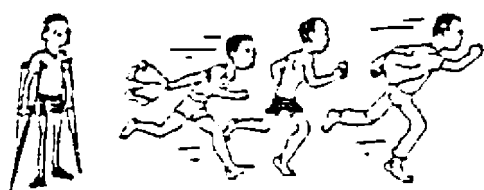
Rather than feel sorry for the handicapped child and look only at her weakness, it is better to recognize and encourage her strengths. For example:

Play with a handicapped child

Children, try to include the handicapped child in your games and adventures. Let him do as much for himself as he can, and help him only when he needs it. But remember, he cannot do everything you can. Protect him from danger ... but do not protect him too much! Too much protection is dangerous to any child's health. Children need adventure for their minds to grow, just as they need food for their bodies to grow.

Swimming

Many children with crippled legs can learn to swim well. Their arms become unusually strong from using crutches, and in the water they easily keep up with other children. But sometimes they have trouble getting to the water, or the other children forget to invite them ...



A friendly word of welcome to include the child with a special problem, or a little extra time or attention given to him, can make a big difference and can make everyone feel good.

To help children see how much it matters to the handicapped child to be included in their fun, perhaps they can act out the pictures above.



CHILDREN WITH VERY BAD HANDICAPS

Some children have very bad handicaps. They cannot swim or play many games. But sometimes these children can learn to play marbles, cards, or guessing games.

It is especially difficult for a child who cannot speak or think as easily as other children. This child may be very lonely. Sometimes a child who cannot speak, understands a lot more than people think he does. If there is such a child in your neighbourhood, perhaps children could take turns visiting him, to talk or play with him. Let him know you care.

BABIES WITH PROBLEMS

Sometimes a baby has problems that make it very hard for him to learn to sit or crawl or walk. The muscles in his back or legs may be too weak, or may make jerky movements the child cannot control.

A child like this needs special help. Often there are things that older brothers and sisters can do to help the child learn to use both his mind and his body better.

For example: If a child has trouble learning to crawl, perhaps his older brothers and sisters, or other children, can play 'crawling games' with him.



Two children can hold up part of the baby's weight as he tries to crawl. Another child encourages the baby to crawl by holding out a fruit or toy.

HOW CHILDREN CAN HELP A HANDICAPPED CHILD

There are many ways that children can help a baby or young child with a special problem to learn to do new things. Here are some ideas:

- Make it fun! If exercises can be turned into games, the child will learn faster and everyone will enjoy it more.
- Self-help. Help the handicapped child only as much as he needs. Encourage him to do as much as he can for himself and by himself.



A simple bar held by forked sticks can increase the self-reliance of a child who has difficulty squatting to shit.



A rope swing like this can help a child who is lame to help herself learn to walk in a way that is fun.



REMEMBER—
ALWAYS BE FRIENDLY!

- Little by little. But remember, some things are especially difficult for the handicapped child. Encourage her to do a little more than she already does - and then a little more. If you have her try to do too much, she may get discouraged and stop trying.
- Show you care. Show the child how glad you are when she learns to do new things.
- Mind over body. Play often with the child, in ways that help her develop not only her body but also her mind. Talk with her and tell her stories. Carry her about. Become her friend.

Are there any babies or young children in your village who are handicapped or have special problems? Perhaps the other children can take turns playing with these children and helping their families.

Sometimes handicapped children are not given a chance to go to school because their parents are afraid they will find things too difficult. Perhaps a group of school children can visit the child's family. They can offer to take her to school, help in whatever way they can, and be her friend. This could make a big difference in that child's life. CHILD-to-Child!

SOURCE

Helping Health Workers Learn by David Werner and Bill Bower.



Aids for the disabled

"Children learn through play. Handicapped children can learn to do many things for themselves and be important members of the community. The playground can be part of the village. The aids should be put in the shade of the trees.

These aids have been in use for five years. They are simple to make and cost nothing. Both handicapped and normal children can play together. All you need to make the aids is a knife, a hammer and string".

SOURCE

Low Cost Physiotherapy Aids by Caston, D. (1982).

9.4 STRESS

Stress is a strain or tension on a person's body or mind. Stress may also be defined as the body's reaction to any demand made upon it. The demand may be physical or mental. Here are some things which may produce stress :

- . giving a speech in front of your classmates
- . being very ill
- . having a disagreement with a friend
- . not eating breakfast or lunch
- . being in a room filled with loud noises
- . doing something for the first time
- . worrying about a test

Each of the stress listed above produce changes in the body. The heart may beat faster and the breathing may increase. The adrenal glands increases the production of a hormone called adrenaline. Adrenaline causes liver to release sugar in the blood stream. This results in having more energy.

Other changes include more blood flow to the muscles but less to the stomach. Mouth becomes dry and the hands become moist. The muscles feel tight or tense.

KINDS OF STRESS

Sometimes the changes in the body that result from stress are healthy. Stress that improves the work of the body is called eustress. But there are stress that harms the body. This type of stress is known as distress. Let us take a close look at the difference between eustress and distress. Here are two examples :

Today Amin is going to be in a bicycle race. He is very excited. His heart beats very fast and he takes many deep breaths. His liver releases sugar into his bloodstream. Blood flows to the muscles in his arms and legs.

The extra energy from the sugar and the increased blood to his muscles will help Amin. Amin will use these during the race. After the race his body will return to normal.

In this case, Amin has eustress. The stress will help him perform at his best.

Now let us look at distress- stress that may harm the body. Amin does not get along well with his family. They have many disagreements. As soon as Amin gets home, he feels the effects of stress. His hands get moist. His mouth becomes dry. His heart beats fast. He takes quicker breaths. Extra sugar goes into his bloodstream. More blood goes to his muscles and less blood goes to his stomach.

At the dinner table, Amin continues to feel this stress. He has difficulty eating. When he eats, stress affects the digestion of food in his stomach. A sore may form in the stomach lining. The sore is called ulcer.

When Amin goes to bed, he has a hard time getting to sleep. Normally Amin's heartbeat rate would have been slow at night. But Amin's heart still beats fast. Amin will most likely be tired in the morning. In this case Amin is experiencing distress.

In summary we can say that Eustress produces body changes that help people to get ready for something. The person takes advantage of the increased blood flow. The body uses the extra sugar and the body then returns to normal. But when a person is in distress the body does not need the extra sugar or the increased blood flow to the muscles. The decreased flow of blood to the stomach and the extra sugar in the blood may harm the body. This is more likely to happen if the distress lasts a long time.

WHAT TO DO ABOUT DISTRESS

Because distress is harmful it is important to prevent or avoid distress.

Here are some suggestions:

- . Do not try to do too many things at one time.
- . When you have too much on your mind, you worry about getting everything done.
- . Plan your day. Decide what things you have to do.
- . Plan a time to relax and to rest.
- . Keep your body healthy. Get plenty of sleep and eat good foods.
Then if you have distress it will do less harm to your body.
- . When you have a problem, think of three or four possible solutions.
Decide which of these would be the best choice. Try it.
- . When you have distress and do not know what to do, talk with someone.

Here is an example of an exercise that will reduce stress. This exercise can be done alone or in groups.

Direction :

Sit crosslegged in a circle on the floor. Put your hands in your lap. Close your eyes. Relax so your muscles do not feel tight. Take some deep breaths and exhale slowly. Slowly, move your head to the right, the back, the left, and forward. Do this five times. Then change the direction. Start by moving your head to the left. Do this five times.



Source : Health : Focus on You (1984) by LINLA BROWER WEEKS and Philip Heit
Ed.D. Charles, E. Merrill Publishing Co.

UNIT 10: EXERCISE AND FITNESS

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
10.1 <u>Topic</u> : Exercise and sleep.	Physical Education	1-3
<u>Learning activities</u> : - <u>Define</u> exercise. - <u>Name</u> two types of exercise, (e.g. physical and mental) - <u>Explain</u> why it is important to do mental exercise every day. - <u>Suggest</u> five ways by which they can perform mental exercise. - <u>List</u> five reasons why physical exercise is important in developing our body and keeping it in good shape. - <u>Demonstrate</u> useful exercises for developing different parts of the body. - <u>Practice</u> different types of exercise at school and at home. - <u>Define</u> sleep. - <u>Explain</u> why sleep is important. - <u>State</u> the number of hours children should sleep each day.	Physical Education " " " " " " " "	1-3 " " " " " " "
<u>Resource material</u> : - Exercise and sleep (10.1.A) - A Place to Play (10.1.B)		

10.1.A EXERCISE AND SLEEP

An exercise is an active way to develop the mind and the body.

MENTAL EXERCISE

A mental exercise is an active way of developing the mind. It helps the mind to work well. People of all ages need to do mental exercises each day. These kinds of exercises assist a person to be alert. They can solve problems more easily. Here are some suggestions for performing mental exercise :

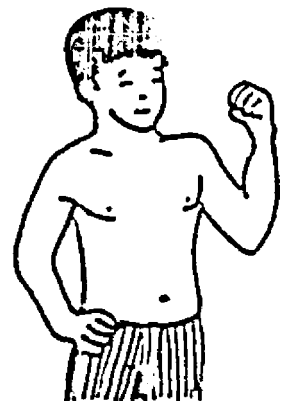
- . Read for thirty minutes each night
- . Use a dictionary to learn three new words each day
- . Write a poem
- . Select a topic that seems interesting. Then go to the library and find out more about the topic.
- . Put together a difficult puzzle
- . Play a game that makes you think with your parents or friends

PHYSICAL EXERCISE

A Physical exercise is an active way to develop the body and keep the body in very good shape.

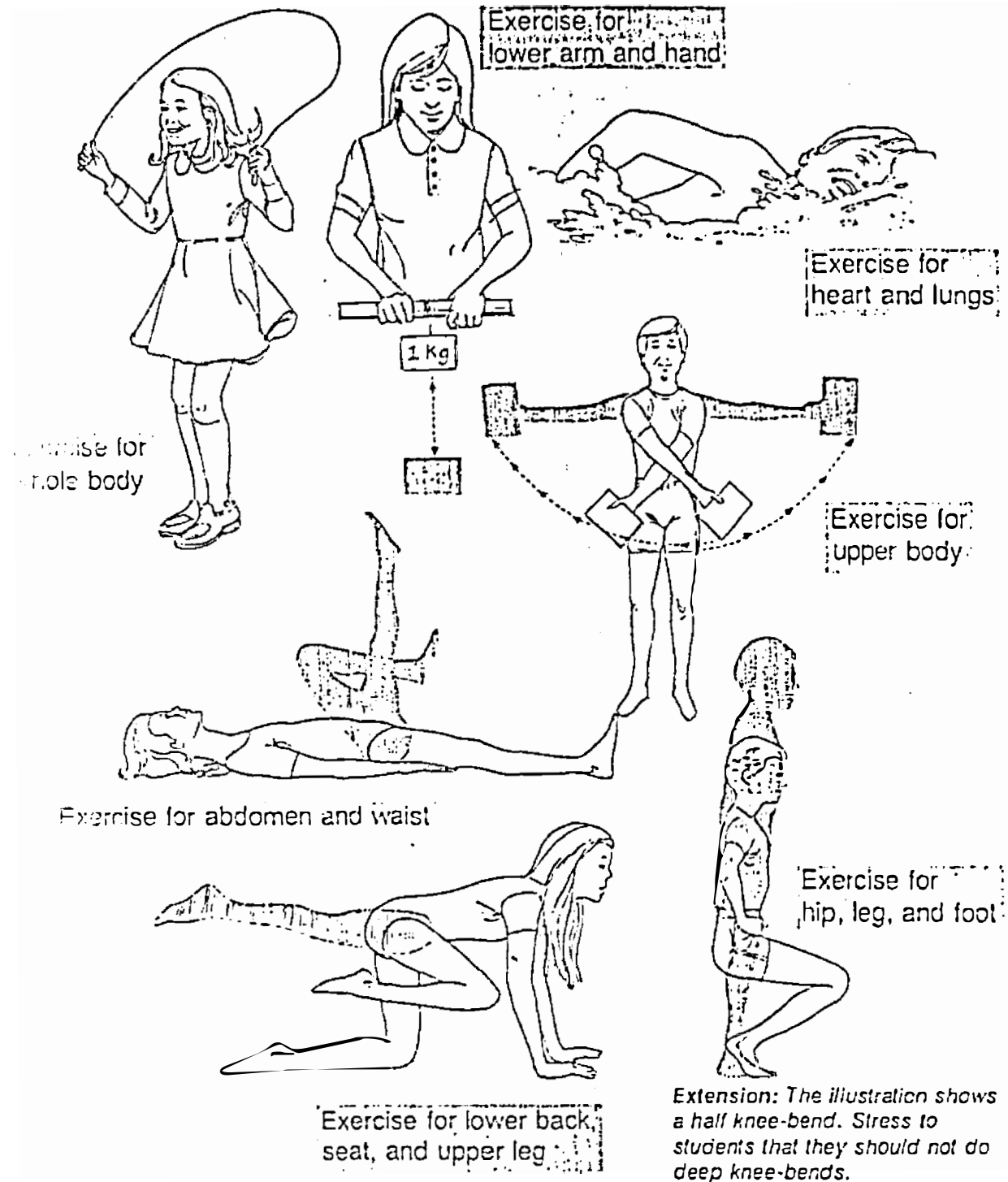
The importance of physical exercise are listed below :

- . Physical exercise makes the muscle firm and strong.
- . Physical exercise helps to control weight.
- . Physical exercise helps to sleep well.
- . Physical exercise helps to tire less easily
- . Physical exercise improves the blood flow
- . Physical exercise helps to have a healthy appearance.



EXERCISES FOR THE BODY

There are many muscles in the body. These muscles help different body areas. It is important that these muscles in the body should stay strong. They can stay strong by doing different kinds of exercises. Some useful exercises for different parts of the body are provided below.



Exercises for all areas of the body.

WHY SLEEP IS IMPORTANT

Sleep is a state of rest. When a person sleeps the muscles relax. The heart does not need to work hard and beats fewer times each minute. Also during sleep a person takes fewer breaths each minute. This gives the lungs a chance to rest.

Most children need 10 to 12 hours of sleep each night. The need for sleep depends on two facts. First, young children are usually very active. Second, they are growing rapidly. During times of rapid growth, the body needs longer period of rest.

How can one find out if a person is getting enough sleep. If within an hour of getting up a person feels refreshed, alert and can think clearly then we can say that the person is getting enough sleep.

10.1.B. A PLACE TO PLAY

THE IDEA

Special places can be developed for groups of children. Older children can help to do this. Sometimes they can find new places. More often they can improve a place where the children play already, they can look after it and make it more interesting and safe.

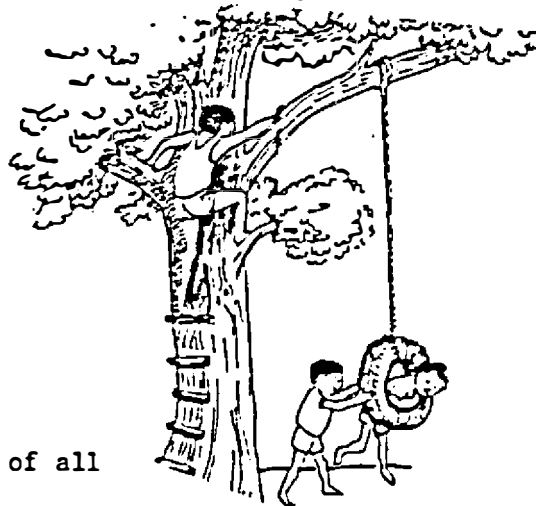
When they play children learn to USE their BODIES and their MIND. They learn to SHRE and COOPERATE, they learn to DEVELOP their IMAGINATION and their LANGUAGE.

TIME SPENT IN PLAY IS NOT TIME WASTED

Many children need better places and opportunities to play, especially in crowded towns but often also in country areas.

Many people can give these opportunities

Community leaders (e.g. local councillors, religious leaders, elders, landowners) can provide resources, help secure land, finance. Teachers and health workers can organize older children, encourage them and be concerned with safety. Parents can provide labour, contribute skills, assist in supervision.



Older children can help most of all

They can:

- Provide ideas on how to start and organise play spaces.
- Collect materials
- Make equipment and places to store play material.
- Supervise, play with and help younger children.

1. Provide a place to play: find a site, look for places where children play; are they suitable or should new ones be found? What support is necessary? It is important to find what can be used in an environment and what is lacking (for example an area might have trees and a stream but lack small trees for creative play. Or a flat treeless area in a crowded city may need climbing apparatus).

A Story:

Many children play under the two big trees near Sunil's village in Northern India So the children of a local youth group have taken on the task of improving the play space there. They have cut the dead branches and hung roopes with tyres on them from good ones. They have made steps in difficult places to help children climb the trees. They have cleared the high grass. Every few days they go round to pick up rubbish and make sure that there is not glass or sharp metal which could cut the younger children who play there. The place is safer now and even more fun to play in.

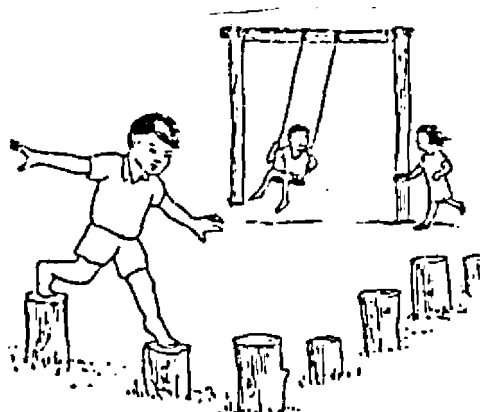
2. Make equipment and places to store materials

- Whatever play area is used, material must be collected. Anything readily available can be used, e.g. woods, wires, old tyres.

- Parents and community members who are interested in the project may help provide materials such as nails, concrete and balls. Shops and small industries often have materials such as old boxes, they can give away.

- The oil itself can be used for making banks, tunnels and slides.

- A shed or lockable box is useful for storing equipment.



A Story :

Our school is in central Java in Indonesia. Many people live in the area. Our school has three shifts and there are nearly always children in the playground behind it, waiting to go in or waiting for their brothers and sisters to come out. Last year students on Youth Service came and built a swing and a bridge and stepping poles. We like them but they got broken.

My friend Bambany and I went to see our head teacher Mr Hardono "Why don't we build a playground outside the school?", we asked, "with swings and poles and a play place for the little ones." So, Mr Hardono helped us and so did Bambany's father. They showed us how to build the apparatus and make it safe.

We built the play area for the little ones and collected things to play with. We take turns to look after the little ones after school. We organized a special play time for them on Saturday when school ends early. We have taught the little ones to clear up and put things away in a box. Many children use our playground now.

3. Supervise, play with and help younger children.

Older children can help younger ones with activities, e.g. organizing some of their games; keeping an eye on the children and the play area; giving out equipment and collecting it; organizing the repair of equipment and teaching younger children to notice and report weaknesses; supplying first aid and getting help when accidents occur.

Schools and Youth Groups can help older children by teaching them useful skills like refereeing games - first aid - making equipment - what kind of play younger children will enjoy which will make them develop.

A Story:

In Kenya there is a tradition of SELF-HELP in the community, HARAMBEE. In one community called a BARAZA (meeting). The baraza decided they must buy land to use as a playground. One man, too old to farm, offered to sell his. "Harambee", shouted the member and within minutes the money had been collected with enough to spare to clear the ground, wire it off, and make it SAFE.

Today one corner of the one acre is used as a play space for the little children. On the rest of it, a football field and a volley-ball pitch have been marked out by the children of the Harambee Secondary School. They have also made nets and posts. They organize football and volley-ball leagues for the younger children and referee them. Younger children are also taught traditional dances such as "ndumo" and traditional games like "Guithi". a kind of chess.

Has the activity been a success ?

Some simple ways of finding out if the children are benefiting from the play area.

- Count how many children use it during a fixed time and compare with the use a few months later.
- Ask children about the playground: how much they use it and what else they would like in it.
- Survey the use of the play area: which children use it and what for.
- Check to see whether equipment is cared for and how far new ideas and activities are introduced.

Who can use this sheet ?

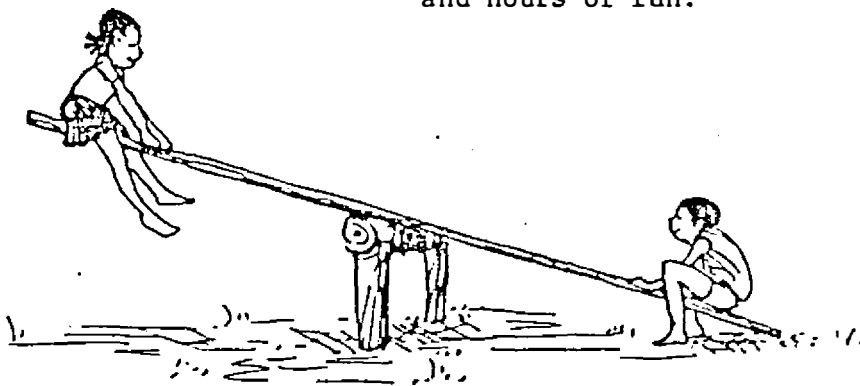
Community leaders, voluntary group leaders (e.g. scouts, youth leaders), can discuss the ideas and what they can do with groups in the community. Teachers in training can start a play area near their own college or teaching practice schools; they can survey community needs. Local media (e.g. press, radio) can explain the ideas and report progress and successes.

4. Collect materials and make apparatus.

Some suggestions:

Use a bank, tree, safe waste material, e.g. wood, containers. Build a climbing frame, see-saw, swing, play-house, stepping blocks marked with numbers or letters of the alphabet. Make a net, tunnel, bridge, stilts, space for bigger games (e.g. football, volley-ball); a creative play area which may include: sandpit, water buckets, a collection of empty cans, polystyrene, matchboxes, plastic containers, offcuts of material and wood, bottle tops, coconuts, gourds, stabs of stone with charcoal or chalk etc ...

The simple "see-saw" gave hours and hours of fun.



UNIT 11: COMMON SICKNESS

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
<u>11.1 Topic:</u> Different kinds of sickness and their causes		
<u>Learning activities:</u> - <u>Define</u> non infectious disease and infectious disease.	Science/Hygiene	5-6
- <u>Provide</u> examples of infections and non infectious disease.	"	"
- <u>Describe</u> bacteria, virus and fungus.	"	"
- <u>Explain</u> what parasites are and <u>give</u> examples of parasites that are harmful to human beings.	"	"
<u>Resource material:</u> - Different kinds of sickness and their causes (11.1.1).		
- How to "show" people things that are too small to see (11.1.2).		
<u>11.2 Topic:</u> Survey of common sickness prevalent in the community		
<u>Learning activities:</u> - <u>Participate</u> in conducting a survey on common sickness prevalent in at least 10 families according to guidelines provided by the teachers.	Mathematics	5-6
- <u>Present</u> their findings in the class.	"	"
- <u>Compile</u> a list of ten most common diseases (based on survey) prevalent in the community.	"	"
- <u>Communicate</u> to parents the results of the survey.	"	"
<u>Resource material:</u> - Survey of common sickness prevalent in the community and determining priorities for teaching (11.2).		

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
11.3 <u>Topic</u> : How disease agents enter the body and how we can defend ourselves.		
<u>Learning activities</u> : - Describe five ways by which disease agents enter the body.	Science/Hygiene	3-5
- Draw pictures showing how disease agents enter the body.	"	"
- List six ways by which body can defend against disease agents.	"	"
- Explain what is vaccine.	"	"
- List three conditions which cause a disease to develop in the body.	"	"
<u>Resource material</u> : How disease agents enter the body and how we can defend ourselves. (11.3).		"
11.4 <u>Topic</u> : Early signs of illness		
<u>Learning activities</u> : - Describe the behaviour and appearance of a healthy baby.	"	"
- List the signs of illness of a child that you can find out by using your eyes.	"	"
- List the signs of illness of a child that you can find out by using your ears.	"	"
- List the signs of illness of a child that you can find out by using your nose.	"	"
- Demonstrate the signs of illness using your hand.	"	"
- List signs that are dangerous and need immediate attention from their parents or elders.	"	"
- Communicate to parents the signs of illness including the dangerous ones to their parents at home.	"	"
- Identify young children in communities with signs of illness and bring to the attention of their parents.	"	"

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL

SUBJECT

GRADE

Resource material: Early signs of illness.(11.4).

11.5 Topic: Caring for children who are sick

Learning

activities:

- Describe how they felt when they were sick.
- Demonstrate how to feel for temperature of the body of someone who is sick.
- List the things an older child can do for a sick child.
- Demonstrate the correct way of sponging and washing a sick child.
- Demonstrate the correct way of feeding and providing liquid to a sick child.
- Demonstrate the correct way of keeping a sick child clean.
- Communicate to parents the steps for caring a sick child.
- Describe how alone or with the help of parents care for a sick brother or sister.

Science/Hygiene

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Resource

material: Caring for children who are sick (11.5).

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
11.6 <u>Topic</u> : The six vaccine preventable diseases and immunizations		
<u>Learning activities</u> : - <u>List</u> the six vaccine preventable diseases. For each of these six diseases the pupils will be able to: - <u>Provide</u> local names. - <u>Describe</u> the major signs and symptoms. - <u>Explain</u> how we can prevent them. - <u>Prepare</u> and <u>explain</u> an immunization schedule. - <u>Name</u> the different vaccines and the diseases which are protected by them. - <u>Communicate</u> to parents the need to immunize children and <u>provide</u> them with an immunization schedule. - <u>Demonstrate</u> the vaccination sites. - <u>Participate</u> in having their younger brothers and sisters immunized against the six vaccine preventable diseases. - <u>Read</u> the story of the unhappy king.	Science/Hygiene	4-6
<u>Resource material</u> : Immunizations and the six vaccine preventable diseases (11.6. A). The Unhappy King (11.6. B)		
11.7 <u>Topic</u> : Finding out the community's health needs and the health needs and the health services available to the community.		
<u>Learning activities</u> : - <u>Participate</u> in conducting a health survey related to immunization status of children in the community.	Mathematics	"
- <u>Present</u> their findings in the class.	"	"
- <u>Participate</u> in conducting a health survey related to health services available in their community.	Geography	"
- <u>Present</u> their findings in the class.	"	"
- <u>Draw</u> and label a map showing health service facilities of their villages.	"	"
- <u>Communicate</u> their findings to their parents.	"	"

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
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Resource material: Health Scouts (11.7)

11.8 DIARRHOEA

11.8.1 Topic: Diarrhoea and Dehydration

<u>Learning activities:</u>	- Define diarrhoea	Science/Hygiene, Home Economics	4-6
	- State the age bracket when diarrhoea is common	"	"
	- Explain why diarrhoea is dangerous.	"	"
	- Describe the signs of dehydration in children.	"	"
	- Draw and label a picture of a dehydrated child.	Art	"
	- Explain why dehydration is dangerous.	"	"
	- Participate in conducting a diarrhoea survey of children below two years according to directions provided by the teachers.	Mathematics	"
	- Present the results in the class.	Mathematics	"
	- Demonstrate from the results of survey that diarrhoea is more common in bottle fed babies.	"	"
	- Make a "gourd baby" or a baby using tin can or plastic bottle.	Art	"
	- Demonstrate the signs of dehydration using model made by them.	Art	"
	- Explain the end result of dehydration.	Art	"
	- Communicate to the parents the signs of dehydration and its consequence.	Art	"

Resource material: Understanding diarrhoea and dehydration (11.8 (A)).

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT		GRADE
11.8.2 <u>Topic:</u> Managing diarrhoea at home			
<u>Learning activities:</u> - Explain how dehydration from diarrhoea can be prevented or controlled. - Demonstrate how dehydration from diarrhoea can be prevented using a model. - Describe how the nutritional needs of a child with diarrhoea can be met. - List the name of foods locally available which should be given to persons with diarrhoea. - List the names of foods which should be avoided when a person is having diarrhoea. - Identify five conditions related to diarrhoea when medical help should be sought. - <u>Communicate</u> to parents on how to prevent or control dehydration and meet nutritional needs of children with diarrhoea. - <u>Communicate</u> to parents when to seek medical help.	Science/Hygiene, Home Economics		4-6
<u>Resource material:</u> Management of diarrhoea at home (11.8.(b)			
11.8.3 <u>Topic:</u> Preparing rehydration drink or oral rehydration solutions			
<u>Learning activities:</u> - Name the items necessary for preparing oral rehydration solutions (ORS). - Demonstrate in the class at least two methods of preparing ORS. - State four rules which should be followed when giving ORS to children. - Draw and label health education posters on how to make ORS using locally available ingredients. - Bring measuring vessels from home and have them calibrated to one liter.			

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
- <u>Bring</u> teaspoon from home and identify the spoon which holds only 5 ml of water. - <u>Read</u> the story of Hamid and Zahra. - <u>Communicate</u> to parents at least two methods of preparing ORS at home.	Science/Hygiene, Home Economics " "	4-6 " "
<u>Resource material:</u> How to make salt and sugar solution at home (11.8(C)).		
11.8.4 <u>Topic:</u> Preventing diarrhoea		
<u>Learning activities:</u> - <u>List</u> at least five guidelines related to feeding of children which if followed would prevent diarrhoea. - <u>State</u> three ways of using water which will prevent diarrhoea. - <u>Suggest</u> five rules related to hygiene which if followed will prevent diarrhoea. - <u>Prepare</u> health education posters with simple messages related to treating and preventing diarrhoea.	Science/Hygiene, Home Economics " " " Art	4-6 " " " "
<u>Resource material:</u> Preventing diarrhoea (11.8.(D)).		
11.9 IDENTIFYING AND MANAGING COMMON SKIN INFECTIONS AND INFECTED WOUNDS		
11.9.1 <u>Topic:</u> Scabies		
<u>Learning activities:</u> - <u>Demonstrate</u> the areas of the body where lesions occur.	Science/Hygiene, Home Economics	

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT		GRADE
- <u>List</u> the preventive measures to be taken to control and stop the spread of this infection.	Science/Hygiene, Home Economics		3-5
- Name the medicine that is used to treat the infection and <u>Describe</u> the steps to be followed when using this medicine.	"	"	"
- <u>Communicate</u> to parents informations related to identifying, preventing and managing infections due to scabies.	"	"	"
- <u>Participate</u> in activities related to control and management of scabies infection in the family/community.	"	"	"
- <u>Identify</u> a child with scabies and <u>draw</u> the attention of parents/teachers.	"	"	"

Resource material: Scabies

11.9.2 Topic: Ringworm

Learning

<u>activities</u> : - <u>Demonstrate</u> the areas of the body where the infection occur.	"	"	"
- <u>List</u> the preventive measures to be taken to control and stop the spread of this infection.	"	"	"
- <u>Communicate</u> to parens information related to identifying, preventing and managing infection due to ringworm.	"	"	"
- <u>Identify</u> and <u>draw</u> the attention of parents to children who have ringworm.	"	"	"

Resource material: Ringworm (11.9.2).

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
11.9.3 <u>Topic:</u> White spots on the face and body		
<u>Learning activities:</u> - <u>Demonstrate</u> the areas of the body where the spots occur. - <u>List</u> the preventive measures to be taken to control and stop the spread of this infection. - <u>Identify</u> a child with this infection and draw the attention of parents. - <u>Communicate</u> to parents information related to identifying, preventing and managing white spots on the face and body.	Science/Hygiene, Home Economics " " "	3-5 " " "
<u>Resource material:</u> White spots on the face and body (11.9.3).		
11.9.4 <u>Topic:</u> Impetigo		
<u>Learning activities:</u> - <u>Demonstrate</u> the areas of the body where the infection commonly occur. - <u>List</u> the preventive measures to be taken to control and stop the spread of this infection. - <u>Communicate</u> to parents information related to identifying, preventing and managing impetigo. - <u>Identify</u> and <u>draw</u> the attention of parents to children who have impetigo.	" " " "	" " " "
<u>Resource material:</u> Impetigo (11.9.4).		

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
11.9.5 <u>Topic:</u> Boils and Abscesses		
<u>Learning activities:</u> - <u>Define</u> an abscess or a boil.	Science/Hygiene, Home Economics	5-6
- <u>Demonstrate</u> how to apply hot compress on the affected part.	" "	"
- <u>Communicate</u> to parents of a child who is suffering from abscessor boil and	" "	"
- <u>Draw</u> the attention of parents to children who have boils or abscess.	" "	"
<u>Resource material:</u> Boils and Abscesses (11.9.5).		
11.9.6 <u>Topic:</u> Small sores with pus		
<u>Learning activities:</u> - <u>List</u> the cause of small sores with pus.	" "	"
- <u>List</u> the preventive measures to be taken to control small sores with pus and <u>describe</u> the steps to be followed.	" "	"
- <u>Communicate</u> to parents information related to identifying, preventing and managing small sores with pus.	" "	"
- <u>Identify</u> and <u>draw</u> the attention of parents to children who have small sores with pus.	" "	"
<u>Resource material:</u> Small sores with pus (11.9.6).		

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT		GRADE
11.9.7 <u>Topic:</u> Chickenpox			
<u>Learning activities:</u>	Science/Hygiene, Home Economics	Economics	5-6
- <u>List</u> the signs and symptoms of chickenpox.	"	"	"
- <u>State</u> the preventive measures to be taken to manage a child with chickenpox.	"	"	"
- <u>Communicate</u> to parents informations related to identifying, preventing and managing a child with chickenpox.	"	"	"
11.9.8 <u>Topic:</u> Identifying and Managing infected wounds			
<u>Learning activities:</u>	"	"	"
- <u>Describe</u> an infected wound.	"	"	"
- <u>List</u> examples of wounds that are likely to become dangerously infected.	"	"	"
- <u>Identify</u> such wounds and bring to the attention of parents or teachers.	"	"	"
<u>Resource material:</u>	Infected wounds - how to recognize and treat them (11.9.8)		
11.9.9 <u>Topic:</u> General rules for treating skin problems			
<u>Learning activities:</u>	"	"	2-3
- <u>List</u> the four general rules for treating skin problems.	"	"	"
- <u>Demonstrate</u> the procedure for using hot compresses and cold compress.	"	"	"
- <u>List</u> situations when hot or cold compresses should be applied.	"	"	"
- <u>Communicate</u> to parents the four general rules for treating skin problems.	"	"	"
- <u>Participate</u> in providing hot or cold compress to members of family if the situation arises.	"	"	"

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
<u>Resource material:</u> General rules for treating skin problems (11.9.9).		
11.10 IDENTIFYING AND MANAGING SOME COMMON INFECTION DUE TO WORM AND PARASITES		
11.10.1 <u>Topic:</u> Roundworm (Ascaris)		
<u>Learning activities:</u> - Describe how people are infected with round worms. - <u>List</u> the effects of roundworm on health. - <u>State</u> 3 rules which if followed will prevent a person from being infected with roundworms and - <u>Apply</u> the rules themselves. - <u>Communicate</u> to parents the harmful effects of roundworms and preventive measures to be followed to avoid infection.	Science/Hygiene, Home Economics " " " " "	4-6 " " " " "
<u>Resource material:</u> Roundworm (11.10.1).		
11.10.2 <u>Topic:</u> Threadworm (Pinworm)		
<u>Learning activities:</u> - Describe how people are infected with threadworm. - <u>List</u> the effects of threadworm on health. - <u>State</u> three rules which if followed will prevent a person from being infected and - <u>Apply</u> the rules themselves . - <u>Communicate</u> to parents the harmful effects of threadworm and preventive measures to be followed to avoid infection.	" " " " "	" " " " "
<u>Resource material:</u> Threadworm (11.10.2).		

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
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11.10.3 Topic: Hookworm

<u>Learning activities:</u>	- Describe how hookworm are spread.	Science/Hygiene, Home Economics	4-6
	- List the effects of hookworm on health.	" "	"
	- State two rules which will prevent a person from being infected with hookworm and	" "	"
	- Follow the rules.	" "	"
	- Communicate to parents the harmful effects of hookworm and preventive measures to be followed to avoid infection.	" "	"
	- Persuade parents to provide footwear.	" "	"

Resource material: Hookworm (11.10.3).

11.10.4 Topic: Tapeworm

<u>Learning activities:</u>	- Describe how tapeworms are spread.	" "	"
	- List the effects of tapeworm on health.	" "	"
	- State two rules which if followed will prevent a person from being infected with tapeworm.	" "	"
	- Follow rules that will prevent them from being infected with tapeworms.	" "	"
	- Communicate to parents the harmful effects of tapeworm and preventive measures to be followed to avoid infection.	" "	"

Resource material: Tapeworm (11.10.4).

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
11.10.5 <u>Topic:</u> Amebas		
<u>Learning activities:</u> - <u>Describe</u> how amebas are transmitted.	Science/Hygiene, Home Economics	4-6
- <u>List</u> the signs of infection with amebas.	" "	"
- <u>State</u> two rules which if followed will prevent a person from being infected with amebas.	" "	"
- <u>Apply</u> rules which will prevent them from getting amoebic infections.	" "	"
- <u>Communicate</u> to parents the harmful effects of amoebic dysentery and preventive measures to be followed to avoid infections.	" "	"
<u>Resource material:</u> Amebas (11.10.5).		

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
11.10.6 <u>Topic:</u> Blood flukes (Schistosomiasis, Bilharzia)		
<u>Learning activities:</u> - <u>Describe</u> the most important sign of a person suffering from schistosomiasis.	Science/Hygiene, Home Economics	4-6
- <u>State</u> the rules to be followed for preventing bilharzia infection.	" "	"
- <u>Communicate</u> to parents the harmful effects of bilharzia infection.	" "	"
- <u>Identify</u> children with bilharzia infection and bring them to the notice of parents or school teachers.	" "	"
- <u>Participate</u> in activities related to control of bilharzia.	" "	"
<u>Resource material:</u> Blood flukes (schistosomiasis, bilharzia) (11.10.7(A) The life cycle of schistosomiasis 11.10.7(B)	" "	2-4
11.10.7 <u>Topic:</u> malaria		
<u>Learning activities:</u> - <u>Describe</u> the signs/symptoms of a person suffering from malaria.	" "	"
- <u>State</u> rules to be followed to avoid malaria infection.	" "	"
- <u>Name</u> the drug commonly used for treating malaria.	" "	"
- <u>Participate</u> in activities related to malaria control at home or community.	" "	"
<u>Resource material:</u> Malaria (11.10.8).		

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
11.10.8. <u>Topic:</u> River blindness (Onchocerciasis)		
<u>Learning activities:</u> - Describe the signs/symptoms of a person suffering from river blindness.	Science/Hygiene, Home Economics	3-4
- State rules to be followed to reduce spread of the disease.	" "	"
- Communicate to parents the sign/symptoms of river blindness and the importance of seeking treatment at an early stage of the disease.	" "	"
- Participate in activities related to control of river blindness.	" "	"
<u>Resource material:</u> River blindness (onchocerciasis)(11.10.9).		
11.11 COMMON RESPIRATORY INFECTIONS		"
11.11.1 <u>Topic:</u> Cough		
<u>Learning activities:</u> Name some common sickness which causes cough.	" "	4 -6
Describe four ways of managing cough.	" "	"
Demonstrate how to breathe hot water vapours.	" "	"
Demonstrate how to drain mucus from the lungs (postural drainage).	" "	"
Communicate to parents the methods for managing cough at home.	" "	"
<u>Resource material:</u> Cough (11.11.1).		

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
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Resource material: Colds and the flu (11.11.5).

11.12 Topic: hepatitis

<u>Learning activities:</u>	- Describe hepatitis.	Science/Hygiene, Home Economics	5-6
	- <u>List the</u> signs and symptoms.	" "	"
	- <u>Identify</u> children with yellow eyes and altered colour of the urine (dark brown) and <u>draw</u> the attention of parents and teachers.	" "	"
	- <u>Describe</u> the preventive measures to be followed.	" "	"

Resource material: Hepatitis (11.12.).

11.13. Topic: Allergic Reactions

<u>Learning activities:</u>	- Describe an allergic reaction.	" "	5-6
	- <u>List the</u> signs and symptoms of an allergic reaction.	" "	"
	- <u>Describe</u> the preventive measures to be followed.	" "	"
	- <u>Communicate</u> to parents the importance of not taking or being injected with medicine that has caused allergic reaction in the past.	" "	"

Resource material: Allergic Reactions (11.13).

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
11.11.2 Topic: Sore throat, tonsillitis and rheumatic fever	Science/Hygiene, Home Economics	5-6
<u>Learning activities:</u> - <u>State</u> the signs and symptoms of sore throat, tonsillitis and rheumatic fever. - <u>Demonstrate</u> the tonsil of their classmates. - <u>Describe the</u> rules to be followed which will reduce sorethroat, tonsillitis and rheumatic fever. - <u>Identify</u> children with inflamed tonsils or rheumatic fever and <u>draw</u> the attention of teachers and/or parents. - <u>Demonstrate</u> procedure for gargling with warm salt water. - <u>Communicate</u> to parents the signs, symptoms of sore throat and tonsillitis and their complication - Rheumatic fever.	" " " " " " "	" " " " " " "
<u>Resource material:</u> Sore throat, tonsillitis and rheumatic fever (11.11.2).		
11.11.3 Topic: Pneumonia		
<u>Learning activities:</u> - Define pneumonia and - <u>List</u> the signs and symptoms of the disease. - <u>List</u> the most important sign of a child with pneumonia. - <u>Identify</u> children with pneumonia and draw the attention of parents. - <u>Communicate</u> to parents the signs and symptoms of pneumonia and the rules to be followed which will reduce the disease in children.	" " " " "	4-6 " " " "
<u>Resource material:</u> Pneumonia (11.11.3).		

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
11.11.4 <u>Topic:</u> asthma		
<u>Learning activities:</u> - Describe asthma and - <u>List</u> the signs and symptoms of asthma. - <u>Identify</u> children with asthma and <u>draw</u> the attention of parents. - Describe the preventive measures to be followed. - <u>Communicate</u> to parents the signs and symptoms of asthma and the rules to be followed which will reduce asthma.	Science/Hygiene, Home Economics " " " " " " " "	4-6 " " " "
<u>Resource material:</u> Asthma (11.11.4).		
11.11.5 <u>Topic:</u> cold and the flu		
<u>Learning activities:</u> - Describe colds and flu, and - <u>List</u> the signs and symptoms. - <u>Identify</u> children with colds and flu and <u>draw</u> the attention of parents and teachers. - Describe the preventive measures to be followed. - <u>List</u> guidelines to be followed by person who has cold or flu. - <u>Communicate</u> to parents the importance of not treating colds or flu with medicines other than Aspirin or Paracetamol. - <u>Participate</u> in role play on sensible treatment of the common colds.	" " " " " " " " " " " " " "	" " " " " " "

11.1 DIFFERENT KINDS OF SICKNESSES AND THEIR CAUSES

When considering how to prevent or treat different sicknesses, it helps to think of them in two groups: infectious and non-infectious.

Infectious diseases are those that spread from one person to another. Healthy persons must be protected from people with these sicknesses.

Non-infectious diseases do not spread from person to person. They have other causes. Therefore, it is important to know which sicknesses are infectious and which are not.

INFECTIOUS DISEASE

This group of disease is also known as communicable disease. They are called so because are able to spread from one living animal to another. For example, disease can spread from person to person or from animal to people.

Most of the sickness and death that occur in the developing world are due to infectious disease. But we can change this situation if we learn the control measures and apply them in large scale. These measures are cheap, simple and effective.

Infectious diseases are all caused by bacteria and other organisms. They are of various size and shape and are spread in many ways. While organisms like bacteria are so small that you cannot see them without a microscope there are other organisms which visible to the naked eye. These include the tapeworms and the filariae. Viruses are even smaller than bacteria and cannot be seen under an ordinary microscope. Lastly we have the fungi, which are plant like agents which have no roots, stems or leaves.

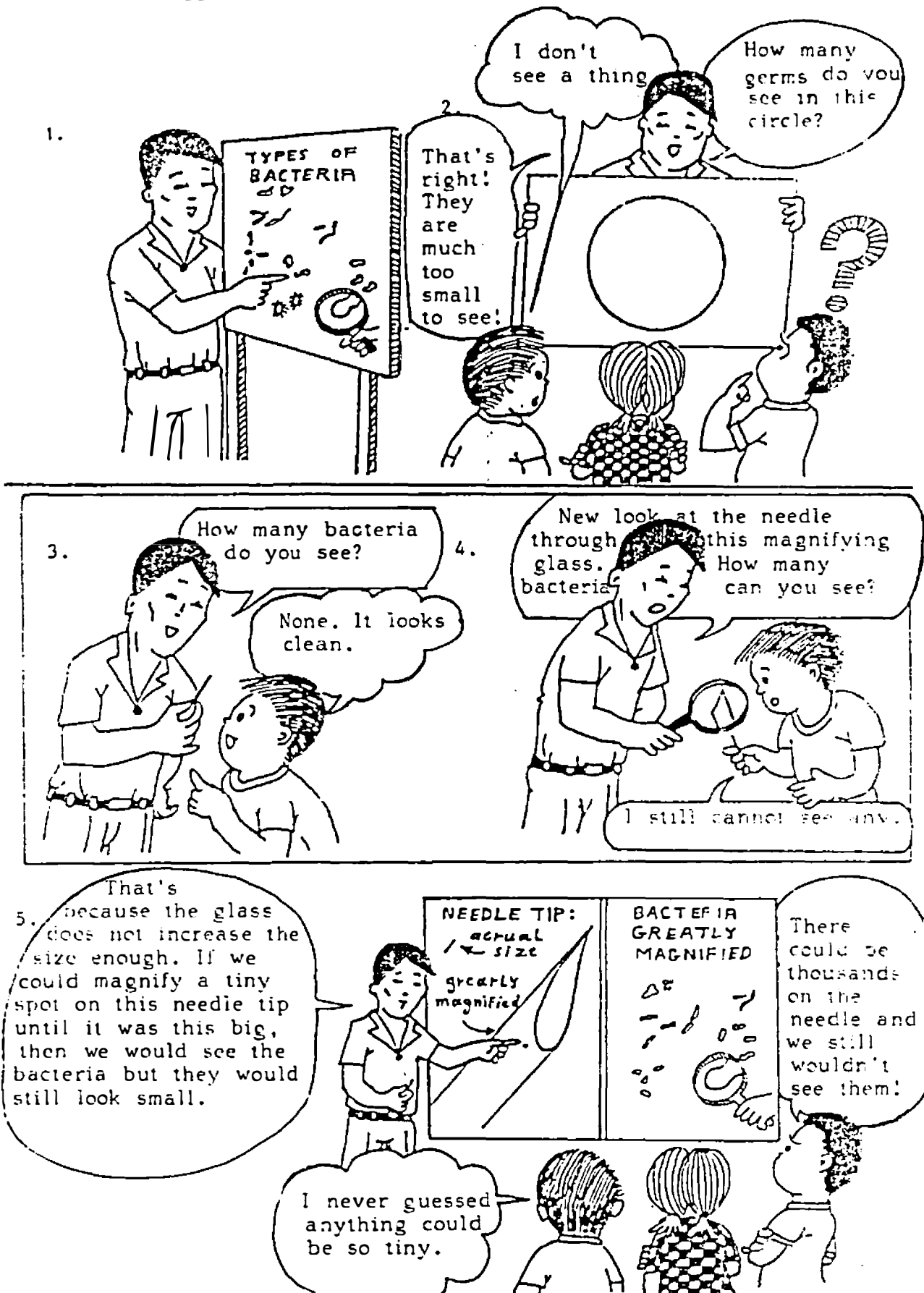
How to 'show' things that are too small to see

One especially difficult idea to teach is the extreme smallness of things like bacteria and amebas, which can only be seen with a microscope. If a microscope is available, it helps to have students use it to look at bacteria, worm eggs, and amebas, even if they will not have microscopes in their villages.



Many people confuse amebas with small worms because they cannot imagine that amebas are too small to see.

Here is one way to help pupils understand how small bacteria, amebas, and worm eggs are:



Antibiotics (penicillin, tetracycline, etc.) are medicines that help cure certain illnesses caused by bacteria. Antibiotics have no effect on illnesses caused by viruses, such as colds, flu, mumps, chickenpox, etc. Do not treat virus infections with antibiotics. They will not help and may be harmful.

EXAMPLES OF INFECTIOUS DISEASES

Organism that causes the sickness	Name of the sickness	How it is spread or enters the body	Principal medicine
Bacteria (microbes or germs)	Tuberculosis	Through the air (coughing)	Antibiotics
	Tetanus	Dirty wounds	
	Some diarrhoea	Dirty fingers, water, flies	
	Pneumonia (some kinds)	Through the air (coughing)	
	Gonorrhea and syphilis	Sexual contact	
	Earache	With a cold	
	Infected wounds	Contact with dirty things	
	Sores with pus	Direct contact (by touch)	
Virus (germs smaller than bacteria)	Colds, flu, measles, mumps, chickenpox, infantile paralysis, virus diarrhoea	From someone who is sick, through the air, by coughing, flies, etc.	Aspirin and other pain-killers (There are no medicines that fight viruses effectively. Antibiotics do not help) Vaccinations help prevent some virus infections.
	Rabies	Animal bites	
	Warts	Touch	
Fungus	Ringworm Athlete's foot jock itch	By touch or from clothing	Sulfur and vinegar ointments: undecylenic, benzoic, salicylic acid, griseofulvin

Organism that causes the sickness	Name of the sickness	How it is spread or enters the body	Principal medicine
Internal parasites (harmful animals living in the body)	In the gut: worms amebas (dysentery)	Faeces-to-mouth lack of cleanliness	Different specific medicines
Internal parasites	In the blood: Malaria	Mosquito bite	Chloroquine
External parasites (harmful animals living on the body)	Lice Fleas Bedbugs Scabies	By contact with infected people or their clothes	Insecticides lindane

Non-infectious Diseases

Non-infectious diseases have many different causes. But they are never caused by germs, bacteria, or other living organisms that attack the body. They never spread from one person to another. It is important to realize that antibiotics, or medicines that fight germs do not help cure non-infectious diseases.

Remember: Antibiotics are of no use for non-infectious diseases.

In this group malnutrition is the most important disease which are to-day the major cause of illness and death in Africa. They occur at all ages but are most serious in childhood and they are to a great extent preventable. In countries where they have been prevented, other conditions such as accidents and malignant diseases (cancer), which occur mainly at an old age, have taken their place and become the commonest.

EXAMPLES OF NON-INFECTIOUS DISEASES

Problems caused by something that wears out or goes wrong within the body: rheumatism heart attack epileptic fits stroke migraines cataract cancer	Problems caused by something from outside that harms or troubles the body: allergies asthma poisons snakebite cough from smoking stomach ulcer alcoholism	Problems caused by a lack of something the body needs: malnutrition pellagra anemia goitre cirrhosis of the liver (part of the cause)
Problems people are born with: harelip epilepsy (some kinds) crossed or retarded (backward) wall-eyes children other birthmarks deformities		Problems that begin in the mind (mental 'illnesses'): fear that something is harmful when it is not (paranoia) nervous worry (anxiety) belief in hexes (witchcraft) uncontrolled fear

SOURCE

- Where there is no Doctor by David Werner.
- Helping Health Workers Learn.
- Communicable Diseases by Ian Eshuis et al (AMRF).

11.2 SURVEY OF COMMON SICKNESS PREVALENT IN THE COMMUNITY AND DETERMINING PRIORITIES FOR TEACHING

Each pupil may be given the following form for conducting the survey. Parents should be encouraged to assist their sons/daughters in conducting the survey. On the day of the feedback, a chart similar to that of the survey form should be made on the blackboard or a large piece of paper. The group's findings then can be totalled and entered into appropriate columns. Based on the number of pupil suffering from different sickness it can be found which sickness are common. A mark from 1 plus (+) to 5 pluses (+++++) can be placed under the column: how common.

Common Sickness	Number of individuals with sickness in families										No. of total people with sickness	How common
	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10		
Diarrhoea												
Malnutrition												
Cough												
Worms												
Common cold												
Skin disease												
Fever												
Bottle feeding												
Tetanus												
Headache												
Measles												
Whooping cough												
etc.												

+ not very common
 +++ common
 +++++ extremely common

++ somewhat common
 ++++ very common

By considering how common a sickness is the pupils can get an idea of its relative importance in the community. The group should be asked which problem appears to be the most important and then the next in importance and so on.

DETERMINING PRIORITIES FOR WHAT TO COVER IN THE COURSE

After looking at the relative importance, or priority, of the different sickness found in the students' communities, the instructors need to consider how much emphasis, or priority, should be given to each of these problems in the course.

To do this, you can again make a chart. But this time ask some additional questions about each problem. For example:

- Are local people concerned about the problem?
- How much does it affect other health problems?
- What is the possibility for teaching effectively about the problem?
- How much would pupils and communities be likely to do to correct the problem, if taught?

Mark your answers with plus (+++++) on a sheet of paper.

Problem	How Common	How Serious	People's Concern	How much it affects Other Health Problems	Possibility For Teaching Prevention Or Treatment	How much Pupil Could Or Would Do About if Taught	Importance To Be Given In Course
Diarrhoea	++++	++++	+++	++	++++	++++	21
Malnutrition	++++	+++	++	++++	++++	++++	21
Worms	++++	++	++++	++	++++	++++	20
Cough							
Common							
Cold	++++	+	++++	+	++	++	14
Pneumonia	++	+++	++	++	+++	++++	16
Tuber- culosis	++	++++	+++	+++	++++	++++	20
Skin	+++	+	+++	+	+++	++++	15
Diseases							
Stomach- ache	+++	++	+++	+	++	+++	14
Tooth	+++	+	+	+++	+++	++++	15
problems							
Fever	+++	++	+++	+++	++++	++++	19
Heart Attack	+	++	++	+	++	+	9
Epilepsy	+	++	+	+	++	+	8
Bottle	+++	+++	+	++++	++++	+++	18
Feeding							
Tetanus	+	++++	+++	+	++++	++	15
Headache	+++	+	+	+	++	+	9
Accidents	++	+++	+++	++	+++	+++	16
Measles	++	++++	++	+++	+++	+++	17
Whooping	++	+++	+++	++	+++	+++	16

Add up the plus marks for each problem to judge its relative importance for inclusion or emphasis in the course.

SOURCE

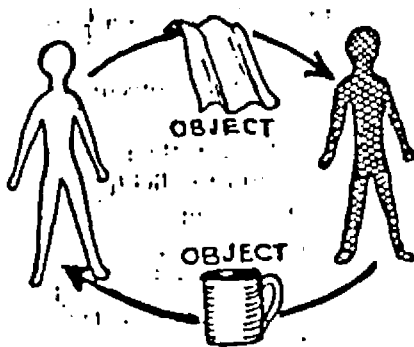
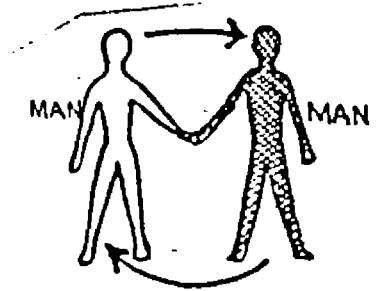
Helping Health Workers Learn by David Werner and Bill Bower.

11.3 HOW DISEASE AGENTS ENTER THE BODY AND HOW WE CAN DEFEND OURSELVES

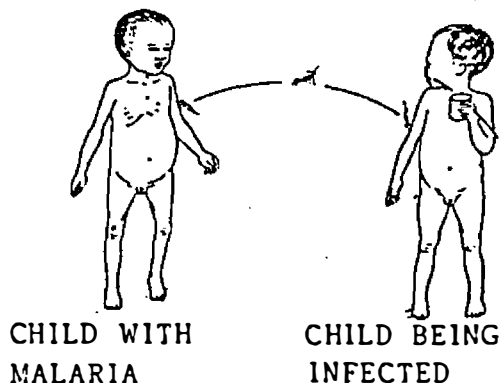
Disease agents enter the body in many different ways. A good way of preventing disease agents entering our body is to know how these agents are transmitted. Below are examples of how disease agents are transmitted.

1. Disease agents entering body by direct and indirect contact

Direct contact is by skin-to-skin contact, for example by touching an infected person, e.g. scabies.

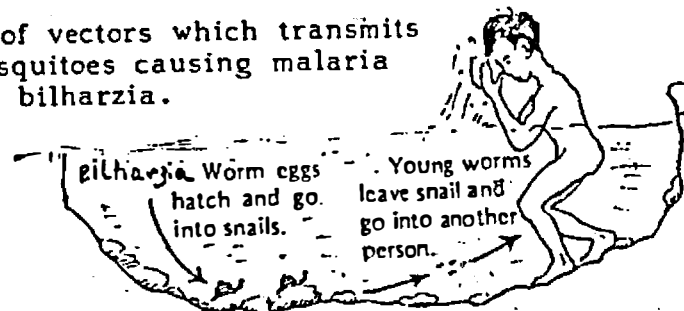


Indirect contact is through the handling of contaminated objects, such as clothing, bedding, dressings, eating utensils, but always by close contact, e.g. trachoma.

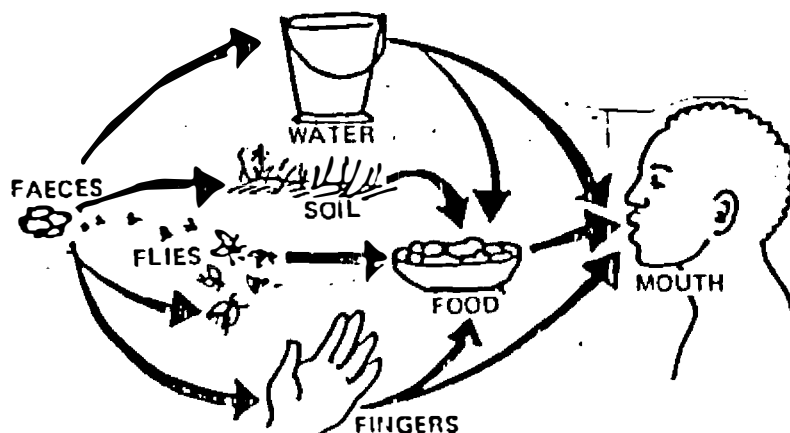


2. Disease agents introduced by vectors

The best examples of vectors which transmit disease are the mosquitoes causing malaria and snails causing bilharzia.



3. Disease agents entering the body through the soil, food, water and hand. Diseases that are transmitted by this route are diarrhoea, polio, hepatitis, typhoid, worms and amoebiasis.



4. Disease agents entering the body through the contact with animals and their products.

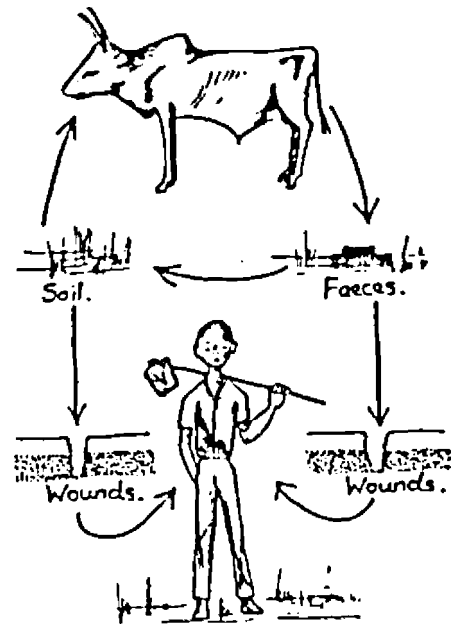
CONTACT WITH ANIMAL (RABIES)

Man becomes infected when he is bitten by an infected (rabid) animal, usually a dog. The saliva left behind in the wound contains the disease agent.

CONTACT WITH ANIMAL PRODUCTS (TETANUS)

Disease agents enter man only through a contaminated wound. Wounds which favour tetanus are:

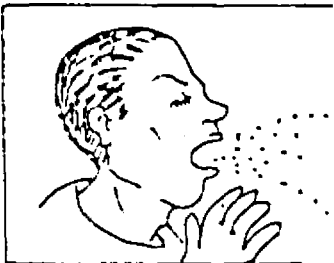
- Umbilical stump in new born.
- Stab wounds.
- Wounds with thorns, splinters or nails.
- Burns.
- Wounds due to bites by animals.



5. Disease agents entering the body through air.

The disease agents which enter the body through the respiratory tract are known as airborne diseases. When a person with airborne disease agents talks, coughs, laughs or sneezes he discharges fluid droplets. The smallest of these remain up in the air for some time and may be inhaled. The most common examples of diseases which are transmitted by this way are common cold, measles, chickenpox, influenza, whooping cough and tuberculosis.

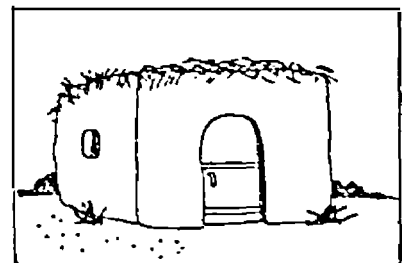
Airborne diseases spread more easily when there is:



Coughing
and spitting



Over-crowding



Bad ventilation

DEFENCE AGAINST DISEASE AGENTS

Disease agents are all around us - in air, in food, water, in excreta, on our body, clothes, in animals and in the soil. There are three ways by which we can prevent ourselves from getting infected.

I. ATTACKING THE SOURCE

- Mass Treatment

By providing treatment to everybody. We can reduce the source of disease agents ;
providing mass treatment to all schoolchildren for bilharzia and deworming schoolchildren are good examples.

Isolation of cases

By isolating those who are likely to spread the disease. We prevent the disease agents to spread. Isolating children with measles and scabies from the school and allowing them to stay at home is a good way of preventing the disease agents to infect others.

II. INTERRUPTING TRANSMISSION

Environmental Sanitation

In adequate housing, leading to overcrowding, lack of ventilation, and dampness favours the transmission of disease agents. Poor siting of houses, too close to where animals are kept, and inadequate disposal of rubbish encourages mosquitoes, flies, and rats also favours the transmission of disease agents. Other factors are unsatisfactory disposal of excreta and unavailability of water in sufficient quantity and quality for drinking, cooking and washing.

The control of the above factors in the physical environment will prevent disease agents from getting into our body.

- Personal Hygiene

Careless or dirty personal habits help to spread many disease agents particularly those that are due to dirty hands.

- Vector Control

Mosquito and snail are two good examples who carry disease agents that are harmful to man. Controlling the spread of mosquitoes and snails are a good way of preventing the spread of disease agents.

- Disinfection and Sterilization

Chlorination of wells and boiling water of poor quality before drinking prevents disease agents from getting into our body.

III. PROTECTING THE HOST

- Immunization

We can protect ourselves by immunizing against six infectious diseases at an early age (0 - 1 year). These diseases are: tuberculosis, diphtheria, whooping cough, tetanus, poliomyelitis and measles. Adults particularly women of child bearing age can also be protected against tetanus.

But to be effective it is important that at least 80% of the children should be immunized.

- Personal Protection

To prevent disease agents entering our body we can use shoes to prevent getting hook worms from the soil or sleep under mosquito nets to prevent mosquitoes transfer disease agents by biting.

- Better Nutrition

Malnourished children get infections more easily and therefore suffer more. Promotion of better nutrition will help to control the spread of infectious disease.

11.4 EARLY SIGNS OF ILLNESS

THE IDEA

Young children often fall ill suddenly and cannot tell older people what they feel.

Older children often notice early signs of illness while they are in charge of babies and young children. If they can learn which SIGNS are more dangerous, they can tell the RIGHT PERSON and prevent unnecessary suffering and even death.

THE HEALTHY CHILD

If a child knows how a healthy baby behaves and looks, he will know more easily when a child is ill.

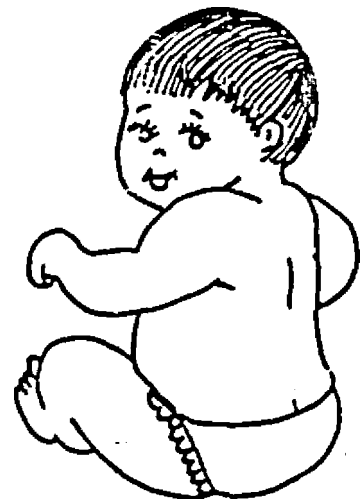
1. BEHAVIOUR: a healthy baby is active, playful, sucks at the breast or eats well and is interested in what goes on around.

2. APPEARANCE: the healthy baby has strong arms and legs, bright eyes and firm smooth skin.

ACTIVITIES: 1. Older children can observe healthy babies, notice what they do when they see a bright object or hear a loud noise.

2. Older children can observe the young child's arms, legs, eyes, ears, nose, belly and see how they look, feel and smell.

3. Observe how often a baby sucks at the breast or eats.



THE SICK CHILD

Signs of illness

Children can use all their senses to observe SIGNS OF ILLNESS.

A. EYES

WITH THEIR EYES CHILDREN CAN SEE

- Loss of interest, child does not want to play.
- Not eating or sucking well.
- Rashes, lumps and swellings.
- Red and sore eyes.
- Shaking, fits or sudden strange movements.
- Diarrhoea and/or vomiting.
- Rapid breathing.
- Changes of skin colour.
- Unusual drowsiness or delirium.
- Stiffness in neck and limbs.
- Pain when a particular part is moved.

B. EARS

WITH THEIR EARS CHILDREN CAN HEAR

- An altered cry.
- Difficult breathing.
- Coughing and wheezing.

C. NOSE

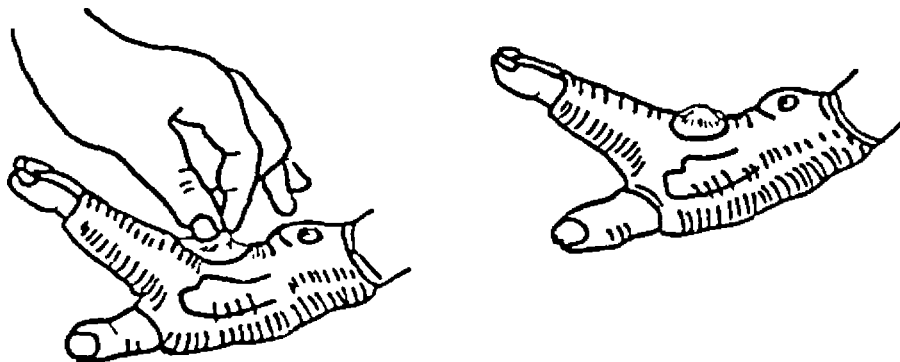
WITH THEIR NOSE CHILDREN CAN SMELL

- Smelly sores.
- Smelly ears.
- Watery stools that smell bad.

D. HANDS

WITH THEIR HANDS CHILDREN CAN FEEL

- Fever.
- Very thin arms.
- Skin that remains wrinkled after it has been pinched.



WHO CAN USE THIS SHEET?

This sheet is of particular importance to the older child. The older child often looks after the younger ones. He may be the first to notice signs of illness. By taking quick action he may prevent serious consequences.

WHO TO TELL

Children can be helpful if they can tell an older person about these signs. For instance: parent or grandparent; another adult or neighbour, a teacher, health, community or religious worker.

OTHER PEOPLE WHO CAN USE THIS SHEET

Teachers in health or science lessons, health workers, mobile clinics, helpers in rural clubs and youth groups, leaders of youth associations can demonstrate and teach these signs.

Women's associations can be encouraged to use the information to pass on to older children. Then the older child can warn them of dangers in little ones.

Particular danger signs

Sometimes signs of illness are very common, children should learn which ones are most dangerous and when immediate action needs to be taken.

Examples:

1. very rapid or noisy breathing ;
 2. fever which lasts more than 3 days;
 3. blood in urine, stools or sputum;
 4. delirium, high fever.
- Sometimes there are several signs together

Examples:

1. vomiting, many loose stools and wrinkled skin (dehydration diarrhoea or cholera);
2. fever, rash and runny eyes (measles);
3. vomiting, crying, fever and stiff neck (meningitis);
4. vomiting and cough ending in whoop (whooping cough).

REMEMBER

If a child is very thin and malnourished he is more likely to fall ill. Any of these signs would be more dangerous in his cases.

IMMUNIZATION

An important way to protect children from some diseases is to immunize them.

At the health centre children can be immunized against:
Tuberculosis (B.C.G. vaccine)
Measles
Polio
Diphtheria, tetanus and whooping cough

ALL THESE ILLNESSES CAN KILL OR CRIPPLE SMALL CHILDREN

ACTIVITIES

It is important for children to recognize different types of BREATHING.
Example: PNEUMONIA, causes young children to have fast, shallow breathing. The child takes small breaths.
In other illnesses the kind of breathing can be: fast, noisy, gasping, coughing, whooping, wheezing.



Health workers should demonstrate these different types:

1. Children can imitate them.
2. They can learn to tell which are more serious.
3. Compare a child breathing normally and a child with breathing difficulties.
4. Several children run a fast race. Some children don't take part in the race. The children can observe the difference between the breathing of the children who ran the race and those who did not ...
 - quick breathing
 - movement of the soft side of the nose
 - quick additional movement of the lower chest.
5. The children and teacher or group leader prepare plays showing these signs or others. The health worker or another visitor could judge these short plays and perhaps give a prize to the best.

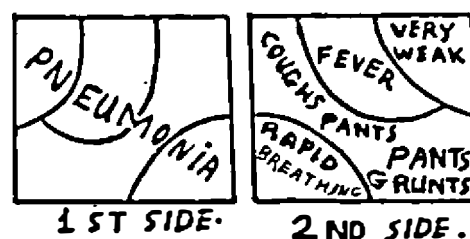
If the older child notices these signs in babies or young children who have not been running about, they should get help quickly.

Children can make games, for instance:

They can make a jigsaw like this:

Have the name of a serious illness on one side on the other side have the different signs of that illness.

Visits for older children to health centres or hospitals can be arranged.



OTHER ACTIVITIES

One child can mime several signs of an illness. The other children guess the illness.

Children can tell or write stories about what happened when a younger child was ill at home.

Ask children whether they have seen a sick or dying animal. What did they notice? How did the animal look? What did it do? Were there any different signs?

Find out from the health worker the common illnesses in your area. Which could have been prevented by immunization?

Make lists or charts to recognize SIGNS OF ILLNESS.

Have a poster competition for immunization or for serious signs of illness.

Some of these could be used in the health centre, on trees, in markets, in other public places or even in a shop. The poster could be called:

LOOK OUT FOR

HOW DID THE ACTIVITY WORK?

Quiz to test whether the children can recognize signs of illness.

Keep diaries or records of illness in the family or among neighbours. Ask the children to write down the signs they saw, heard, felt and smelt.

These records could be used to count the number of illnesses in a given time.

Children say if they had been able to recognize an illness and tell the right person. How many times have they done it?

SOURCE

Child-to-Child Programme. Institute of Child Health, 30 Guilford Street, London WC1N 1EH, England.

11.5 CARING FOR CHILDREN WHO ARE SICK

THE IDEA

When a young child is sick, the family may be worried. An older child can help to comfort and care for the sick child until it gets better. The children also help the mother if she is working or very tired.

WHAT CAN THE OLDER CHILD DO FOR THE SICK CHILD ?

LIQUIDS : The sick child needs to drink a lot. The older child can give him **CLEAN DRINKS** such as weak tea juices or soups. If he is passing a lot of stools and vomiting, he may need the special drink for diarrhoea.

FOOD : Although the sick child may not seem to be hungry, he should be helped to try to eat. It is very important that sick children are given some food to help their bodies fight the illness. A sick child who has no food becomes weaker and will take longer to get better.

The older child can help to prepare soft mashed foods such as banana, , paw-paw or beans with a little oil added. It is often better to give **MANY SMALL MEALS**. Help feed the sick child but be careful that he **DOES NOT CHOKE**.

COMFORT AND CARE : The sick child needs to rest in a **QUIET, CLEAN** place. Where possible, let light and fresh air in, but keep away flies, insects and animals. If it is very hot, fan the child or bathe with a cool, damp cloth.

If the child is **VOMITING** help him to lie **ON HIS SIDE**. Then he will not choke on his vomit which can be dangerous. Children who are very sick and **DO NOT MOVE** much, need to be turned regularly. The older child can rub the **ELBOWS, HEELS** and **BUTTOCKS** from time to time to prevent them from getting sore.

If the child is having **GREAT** difficulty in **BREATHING** he may feel more comfortable if he is raised up rather than lying flat.

IT IS VERY IMPORTANT TO COMFORT the sick child with words, stories and songs. It may even help if the older child holds him. He needs to have someone with him.



If the sick child has a VERY HIGH FEVER it might help to BATHE the body with a soft cool and damp cloth.

DO NOT WRAP the child's body tightly with many cloths or clothes. This makes him hotter and may increase the possibility of fits and brain damage from very high temperature.



REMEMBER : When the child starts to get BETTER he needs EXTRA foods, liquids, and care. He will go on needing help until he is quite well again. BUT keep babies and small children away from sick children if possible.

CLEANLINESS

Another thing the older child can learn is how to keep the sick child clean :

1. CLOTHES : When a child is sick, he sometimes vomits, passes water and stools where he is lying. The older child can help by taking the dirty cloths and clothes and washing them in a separate place as soon as possible. Keep them away from the rest of the family washing and places where people draw water for drinking.
2. SKIN : It is important to wash the sick child's skin with clean, warm water. This stops it from becoming dirty and infected and making the child more ill. If the child wants to scratch the skin, try to help it not to damage itself.
3. EYES, NOSE AND MOUTH : These should be kept as clean as possible by bathing with CLEAN, COOL WATER. This will prevent more infection. If the mouth is sticky or dirty from vomit it can be rinsed. A little cooking oil can be used to moisten dry and creacked lips.

ACTIVITIES

The teacher or health worker can ask the children questions about how it feels to be sick. For example :

- | | |
|--------------------------------|---|
| - When were you ill ? | - Has any other child in your family been ill ? |
| - How did you feel ? | - Who looked after him ? |
| - What did others do for you ? | - What did your mother say ? |
| - When did you feel better ? | |

Children should be shown the correct way to sponge and wash a sick child. They can be encouraged to practice on a doll or on each other.

Ask children to press their elbows on the table, desk or door for a few minutes then see if the elbows feel sore. This will help to explain pressure sores.

One child can have its temperature felt by placing hands on the forehead. The child can then be wrapped up in clothes tightly for a time. Ask the child how he now feels and see if his forehead feels hotter.

Food can be mashed and passed down a tube of bamboo or through a narrow necked bottle. let the children see how soft food goes down easily whereas hard or lumpy food sticks.

Find out who cares for sick people locally and how they do so.

A play or story can be acted to show how others cared for a sick child. Or one child can show other children what he did when one of the younger children was ill at home. or several children play the part of all the people in the family and show what they do when a little child is ill.

Card games, posters and strip cartoons can be made by the children to show the stages of an illness and what care was given.

HOW DID THE ACTIVITY WORK ?

- How many children have looked after a sick child and what did they do ?
- Children can keep diaries or medical cards to record how they helped.
- One child can be asked to pretend to be sick. other children can act or mime how they can care for him and comfort him : for example, wash his clothes, help him eat, give him many drinks, bathe his head and hands - rub his elbows and so on.
- Quizzes can be used a few months later to see how much the children have remembered.

WHO CAN USE THIS ACTIVITY SHEET ?

- Teachers in school can use the ideas in health lessons for short dramas and mime..
- Health Extension workers can use the ideas with groups of children in the village, in a queue, at the health clinic, in youth groups or in schools.
- Youth leaders, Scouts and Guides may wish to adapt these activities and award badges or a certificate.



Abu has measles

*Abu lying in a dark room,
his brother bathing him*



*Abu better, propped up eating
mashed food*

Abu well again



Source : Child-to-child Programme. Institute of Child Health, 30 Guilford Street, London WC 1N 1EH - ENGLAND.

11.6 A. IMMUNIZATIONS AND THE SIX VACCINE PREVENTABLE DISEASES

1. Measles

This severe virus infection is especially dangerous in children who are poorly nourished or have tuberculosis. Ten days after being near a person with measles, it begins with signs of a cold - fever, runny nose, red sore eyes, and cough. Measles is spread by small invisible droplets which contain the virus. Nearly everybody gets the disease once in life, if he is not vaccinated.

The child becomes increasingly ill. The mouth may become very sore and he may develop diarrhoea, pneumonia, malnutrition, infection of the ear and eyes.



After 2 or 3 days a few tiny white spots like salt grains appear in the mouth. A day or 2 later the rash appears first behind the ears and on the neck, then on the face and body, and last on the arms and legs. After the rash appears, the child usually begins to get better. The rash lasts about 5 days.

Treatment

- The child should stay in bed, drink lots of liquids, and be given nutritious food. If a baby cannot breast feed, give breast milk in a spoon.
- For fever and discomfort, give acetaminophen (or aspirin).
- If earache develops, give an antibiotic.
- If signs of pneumonia, meningitis, or severe pain in the ear or stomach develop, get medical help.

Prevention of measles

Children with measles should keep far away from other children. Especially try to protect children who are poorly nourished or who have tuberculosis or other chronic illnesses. Children from other families should not go into a house where there is measles. If children in a family where there is measles have not yet had measles themselves, they should not go to school or into stores for 10 days.

To prevent measles from killing children, make sure all children are well nourished. Have your children vaccinated against measles when they are 8 to 14 months of age.

German Measles

German measles are not as severe as regular measles. They last 3 or 4 days. The rash is mild. Often the lymph nodes on the back of the head and neck become swollen and tender.

The child should stay in bed and take aspirin if necessary.

Women who get German measles in the first 3 months of pregnancy may give birth to a child who is damaged or deformed. For this reason, pregnant women who have not yet had German measles - or are not sure - should keep far away from children who have this kind of measles.

Whooping Cough

Whooping cough begins a week or two after being exposed to a child who has it. It starts like a cold with fever, a runny nose, and cough. Whooping cough is also spread by droplets.



Two weeks later, the whoop begins. The child coughs rapidly many times without taking a breath, until he coughs up a plug of sticky mucus, and the air rushes back into his lungs with a loud whoop. While he is coughing, his lips and nails may turn blue for lack of air. After the whoop he may vomit. Between coughing spells the child seems fairly healthy. Whooping cough often lasts 3 months or more. Isolate known cases of whooping cough.



Whooping cough is especially dangerous in babies under 1 year of age, so vaccinate children early. Small babies do not develop the typical whoop so it is hard to be sure if they have whooping cough or not. If a baby gets fits of coughing and swollen or puffy eyes when there are cases of whooping cough in your area, treat him for whooping cough at once.

Treatment

- In the early stage of whooping cough before the whoop begins, erythromycin, tetracycline, or ampicillin may help. Chloramphenicol also helps but is more risky. It is especially important to treat babies under 6 months at the first sign.
- In severe cases of whooping cough, phenobarbital may help, especially if the cough does not let the child sleep or causes convulsions.
- To avoid weight loss and malnutrition, the child should get nutritious food and should eat soon after he vomits.

Complications

A bright red haemorrhage in the white of the eyes may be caused by the coughing. No treatment is necessary. If fits or signs of pneumonia or meningitis develop, get medical help.

Protect your children against whooping cough.
See that they are first vaccinated at 2 months
of age.

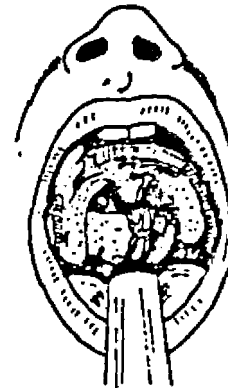
3. Diphtheria

The disease is caused by diphtheria bacteria. The disease begins like a cold with fever, headache, and sore throat. A yellow-gray coating or membrane may form in the back of the throat, and sometimes in the nose and on the lips. The child's neck may become swollen. His breath smells very bad.

ALWAYS EXAMINE THE THROAT AND EARS
OF EVERY SICK CHILD

If you suspect that a child has diphtheria:

- Put him to bed in a room separate from other persons.
- Get medical help quickly. There is a special antitoxin for diphtheria.
- Give penicillin, 1 table of 400,000 units, 3 times a day for older children.
- Have him gargle warm water with a little salt.
- Have him breathe hot water vapors often or continually.
- If the child begins to choke and turn blue remove him to hospital at once.



Diphtheria*causes a membrane
in the throat..

Diphtheria is a dangerous disease that can easily be prevented with the DPT vaccine. Be sure your children are vaccinated.

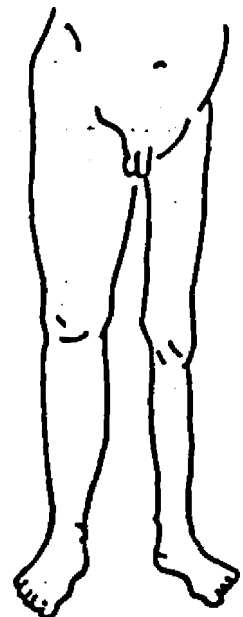
4. Infantile Paralysis (Polio, Polio, Poliomyelitis)

Polio is most common in children under 2 years of age, and is caused by polio virus.

This virus infection begins like a cold with fever, vomiting, and sore muscles. Sometimes that is all there is to it. But sometimes a part of the body becomes weak or paralyzed. Most often this happens to one or both legs. In time, the paralyzed limb becomes thin and does not grow as fast as the other one.

Treatment

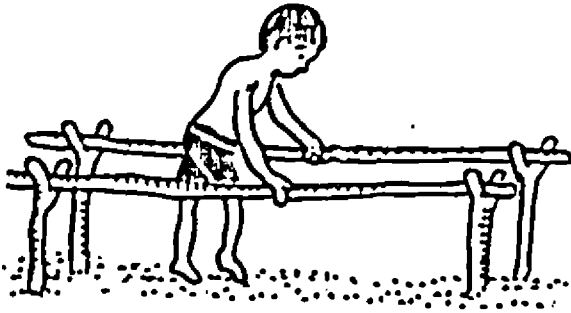
Once the disease has begun, no medicine can take away the paralysis. Antibiotics do not help. Calm the pain with aspirin or acetaminophen and by putting hot soaks on the painful muscles.



Prevention

Keep the sick child in a separate room, away from other children. The mother should wash her hands after each time she touches him. The best protection against polio is the polio vaccine.

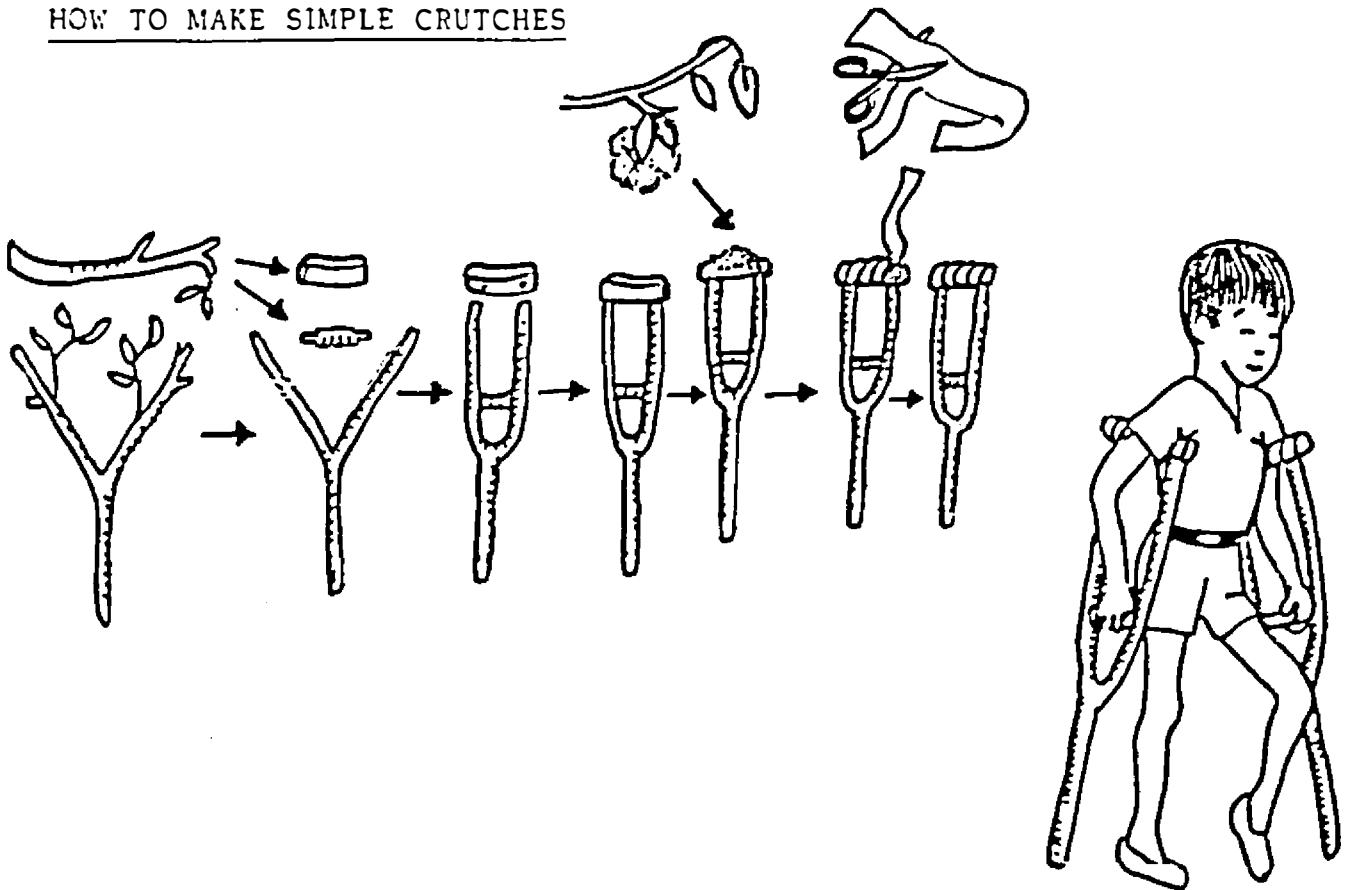
See that children are vaccinated against polio, with 'polio drops' at 2, 3 AND 4 months of age.



A child who has been crippled by polio should eat nutritious food and do exercises to strengthen remaining muscles. During the first year some strength may return.

Help the child learn to walk as best he can. Fix 2 poles for support, like these, and later make him some crutches.

HOW TO MAKE SIMPLE CRUTCHES

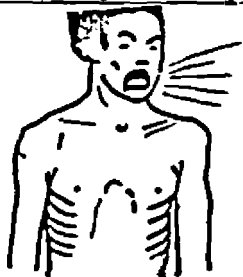


5. TUBERCULOSIS (TB, CONSUMPTION)

Tuberculosis of the lungs is a chronic (long-lasting), contagious (easily spread) disease that anyone can get. But it most often strikes persons between 15 and 35 years of age – especially those who are weak, are poorly nourished, or live with someone who has the disease.

Tuberculosis is curable. Yet thousands die needlessly from this disease every year. Both for prevention and cure, it is very important to treat tuberculosis early. Therefore, you should know the signs of tuberculosis and be on the lookout for them.

Most frequent signs of TB



Cough and cachexia

- Chronic cough, especially just waking up.
- Mild fever in the afternoon and sweating at night.
- There may be pain in the chest or upper back.
- Chronic loss of weight and increasing weakness.



Enlarged glands are felt beneath the skin

In serious or advanced cases

- Coughing up blood (usually a little, but in some cases a lot).
- Pale, waxy skin.
- Voice grows hoarse (very serious).

Tuberculosis is usually only in the lungs. But it can affect any part of the body. In young children it may cause meningitis.

If you think you might have tuberculosis

Seek medical help. At the first sign of tuberculosis, go to a health centre where the workers can give you a skin test, taken an X-ray, and examine the stuff you cough up (phlegm or sputum) to see if you have TB or not. Many governments give the medicines free. Ask at the nearest health centre. You will probably be given 2 or 3 of the following:

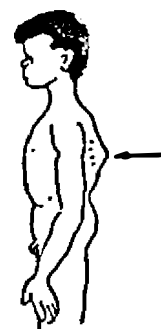
- Streptomycin injections
- Isoniazid (I.N.H.) pills
- P.A.S. (aminosalicylic acid) pills
- Thiazetazone
- Ethambutol pills

It is very important to take the medicines as directed. At least 2 must be taken at the same time.

Continue taking the medicines until the health workers tells you that you are cured. Do not stop taking the medicines just because you feel better. To cure tuberculosis completely usually takes from 1 to 2 years.

Eat as well as possible: plenty of foods rich in proteins and vitamins, as well as energy foods.

Rest is important. You should stop working and take it easy until you begin to get better. From then on, try not to work so hard that you become tired or breathe with difficulty. Try to always get enough rest and sleep.



TB of the backbone

Tuberculosis in any other part of the body is treated the same as TB of the lungs. For children with severe tuberculosis of the backbone, surgery may be needed to prevent paralysis.

Tuberculosis is very contagious. Persons who live in the same house with someone who has TB, especially children, run a great risk of catching the disease.

If someone in the house has TB:

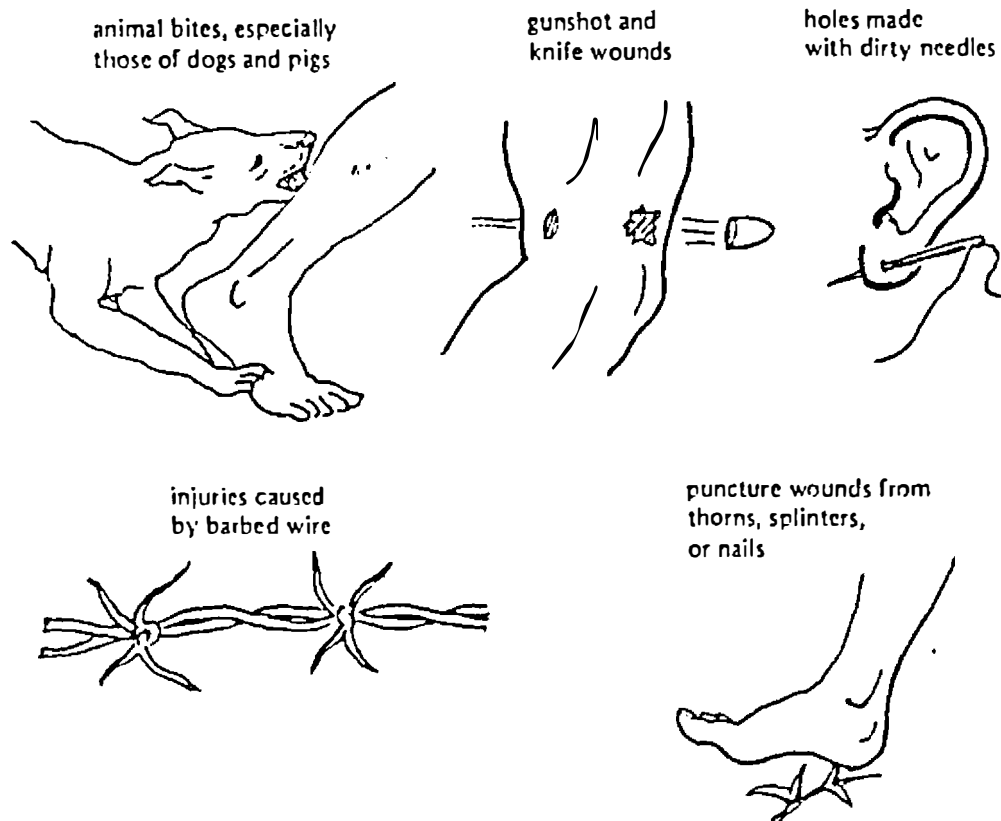
- If possible, see that the whole family is tested for TB.
- Have the children vaccinated against TB.
- Everyone, especially the children, should eat plenty of nutritious food.
- The person who has TB should eat and sleep separately from the children, if possible in a different room, as long as he has any cough at all.
- A person with TB should be careful to cover his mouth when coughing and should never spit on the floor. Spitting should be done in a container with cover.
- Take a child to a health centre at the first suspicion of TB or if he gets a cough that lasts more than 2 weeks.
- Treat TB at once. A person who no longer has TB will not spread it.

Early and full treatment is a key part of prevention

TETANUS (LOCKJAW)

Tetanus results when a germ that lives in the faeces of animals or people enters the body through a wound. Deep or dirty wounds are especially dangerous.

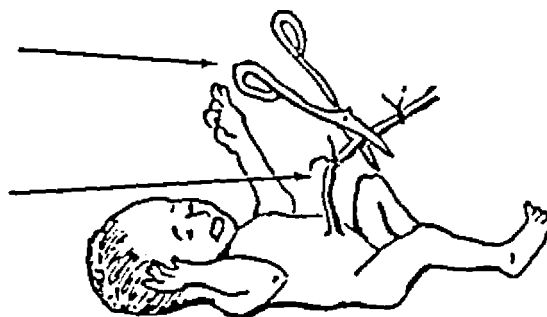
Wounds very likely to cause tetanus:



Tetanus germs enter through the umbilical cord of a newborn baby because of lack of cleanliness or failure to take other simple precautions. The chance of tetanus is greater

- When the cord has been cut with an instrument that has not been boiled and kept completely clean or
- when the cord has not been cut close to the body or
- when the newly cut cord is tightly covered or is not kept dry.

WHEN THE CORD IS CUT A LONG WAY FROM THE BODY, LIKE THIS, THE CHANCE OF TETANUS IS GREATER.



This baby's cord was cut short with blade that was boiled. Kept dry, and left open to the air.



HE STAYED HEALTHY.

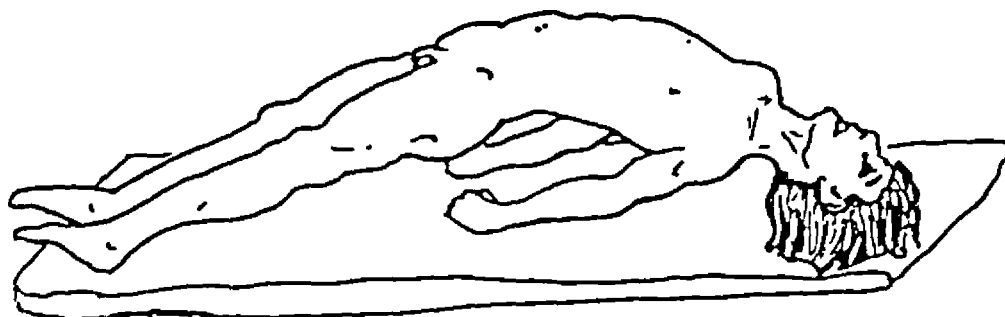
This baby's cord was left long. Was cut with unboiled blade. Kept tightly covered, and not kept dry.



HE DIED OF TETANUS.

Signs of tetanus

- An infected wound (sometimes no wound can be found).
- Discomfort and difficulty in swallowing.
- The jaw gets stiff (lockjaw), then the muscles of the neck and other parts of the body.
- Painful convulsions (sudden tightening) of the jaw and finally of the whole body. Moving or touching the person may trigger sudden spasms like this:



RECOMMENDED IMMUNIZATION SCHEDULE

Mother: Tetanus toxoid: 0.5 ml: 2 doses at least weeks apart, before or during pregnancy. First dose at first antenatal visit - or any other visit.
Second dose at least 2 weeks before expected delivery date. One dose to pregnant women previously immunized. (After 5 doses, do not give any more).

Child: BCG: 0.05 ml: Given at birth or any time after (0.1 ml after 1 year of age). Best to give a second dose at school entry.

DPT: 0.5 ml: Start at 6 weeks, try and complete before 6 months, as babies under 6 months are likely to die from whooping cough. Three doses, at 6, 10 and 14 weeks, with oral polio.

Polio: 3 drops per dose: 3 doses, 4 weeks apart with DPT. Polio vaccine can be given very early in life, even at birth, but start the normal course at 6 weeks.

Measles: 0.5 ml: 1 dose at 9 months.

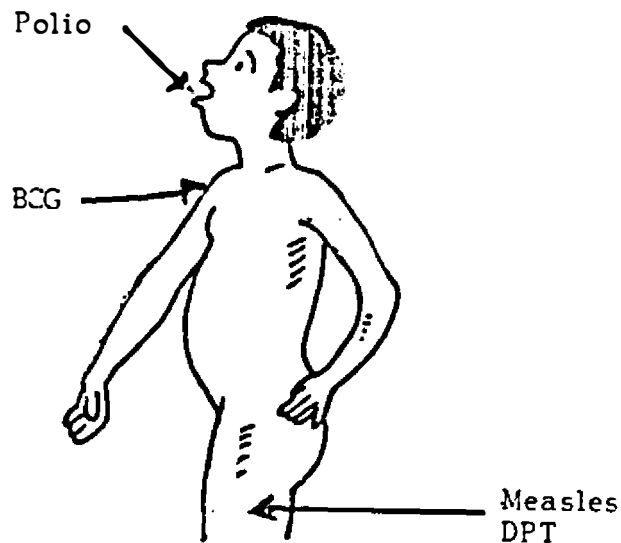
					
Before birth	After birth	1st visit (1-2 months)	2nd visit (2-3 months)	3rd visit (3-6 months)	4th - 6th visit (6-9 months)
Tetanus toxoid (3 injections or 1 booster, to mother during pregnancy)	BCG - below right shoulder	DPT -thigh Polio -oral	DPT -thigh Polio -oral	DPT -thigh Polio -oral	Measles -thigh
		(BCG if not given at birth)			

IMMUNIZATION SCHEDULE FOR CHILDREN

PREVENT THE MOST DANGEROUS INFECTIONS
DISEASES BY VACCINATION

VACCINATION SITES

The diagram below shows where the different vaccines are given. Be sure to give BCG on the right shoulder and DPT and measles in the lateral aspect of the thigh.



BY THE TIME HE WALKS (1 year) A CHILD SHOULD BE PROTECTED AGAINST SIX DISEASES: DIPHTHERIA, PERTUSSIS, TETANUS, POLIO, TUBERCULOSIS, AND MEASLES

CLASSROOM LEAFLET ON VACCINATION

1. A vaccination campaign for small children is now under way:

- (a) at the MCH centre;
- (b) every day;
- (c) free of charge.

Mothers are being asked to bring their young children for vaccination.

(Where is the MCH centre?)
(What do you have to do?)

2. What is a vaccine?

- (a) A vaccine is a product that will give protection against certain diseases.
- (b) If you are vaccinated as a baby you can be prevented from catching six very serious diseases.
- (c) Vaccination is to stop you getting the disease. Once you have caught the disease it is too late for vaccination.

(Why is vaccination necessary?)
(Can vaccination be used to treat disease?)

3. There are six children's diseases that can be prevented by vaccination.

(a) Measles

(Who knows what measles is?)

- (1) Children with measles have a rash and a temperature.
- (2) The measles virus can cause a cough and runny eyes and nose.
- (3) The measles virus can damage the lungs, eyes and ears and can also be fatal.
- (4) Nearly all unvaccinated children can catch measles.
- (5) Measles epidemics often occur in the city.

(What is an epidemic?)

(b) Polio

- (1) Polio is a disease which makes children lame and may be fatal.

(Who knows a person who doesn't walk very well or limps?)

- (2) Polio vaccine can protect you against this serious disease.

(c) Tetanus

- (1) Tetanus is a disease caught as a result of a wound.
- (2) This disease makes the muscles tense up. Often the sick person cannot open his mouth. It can be fatal.

(d) Tuberculosis, diphtheria and whooping cough are three other serious diseases.

- (1) In whooping cough the sick person has a cough with a whoop, which makes him/her vomit.
- (2) Tuberculosis is a disease which makes the sick person cough, grow thin and spit blood.
- (3) Diphtheria stops the muscles of the throat working.

(How can these six serious diseases be prevented?)

4. DPT and polio vaccines

- (a) The vaccines for diphtheria, tetanus and whooping cough are given together in one syringe. The mixture is called DPT vaccine (3 vaccines combined).

- (b) Polio vaccine is given by mouth (3 drops). The DPT and polio vaccines are given at the same time.

- (c) Three doses of DPT + polio vaccine must be given.

- (d) DPT and polio vaccine are given at the age of 1-2 months, 2-3 months and 3-6 months.

(How many doses of DPT + polio vaccine are needed to produce immunity?)

5. Measles vaccine

- (a) A single dose of vaccine is needed for measles.
- (b) Measles vaccine is given at the age of 6-9 months.

(How many doses of measles vaccine have to be given?)
(At what age is measles vaccine given?)

6. BCG vaccine

- (a) BCG is the name of the tuberculosis vaccine.
- (b) BCG vaccine is given at birth in the maternity unit.

You are asked to get all the mothers in your neighbourhood to bring their young children for vaccination:

to the MCH centre;
any day;
there is no charge.

Instructions

This course has two aims:

- (a) to teach school children about vaccination;
- (b) to ask school children to participate actively with their parents and other members of the community to bring all children below one year to be vaccinated at the health centers.

An information leaflet should be given to each school child to show round his/her neighbourhood.

It should be made quite clear that the vaccination campaign is not for the school children themselves.

One or more days after the course has been given, the children should be questioned to find out whether they have been asking mothers to bring their babies to the MCH centre for vaccination. If they have not, then they should be asked again to do so.

SOURCES

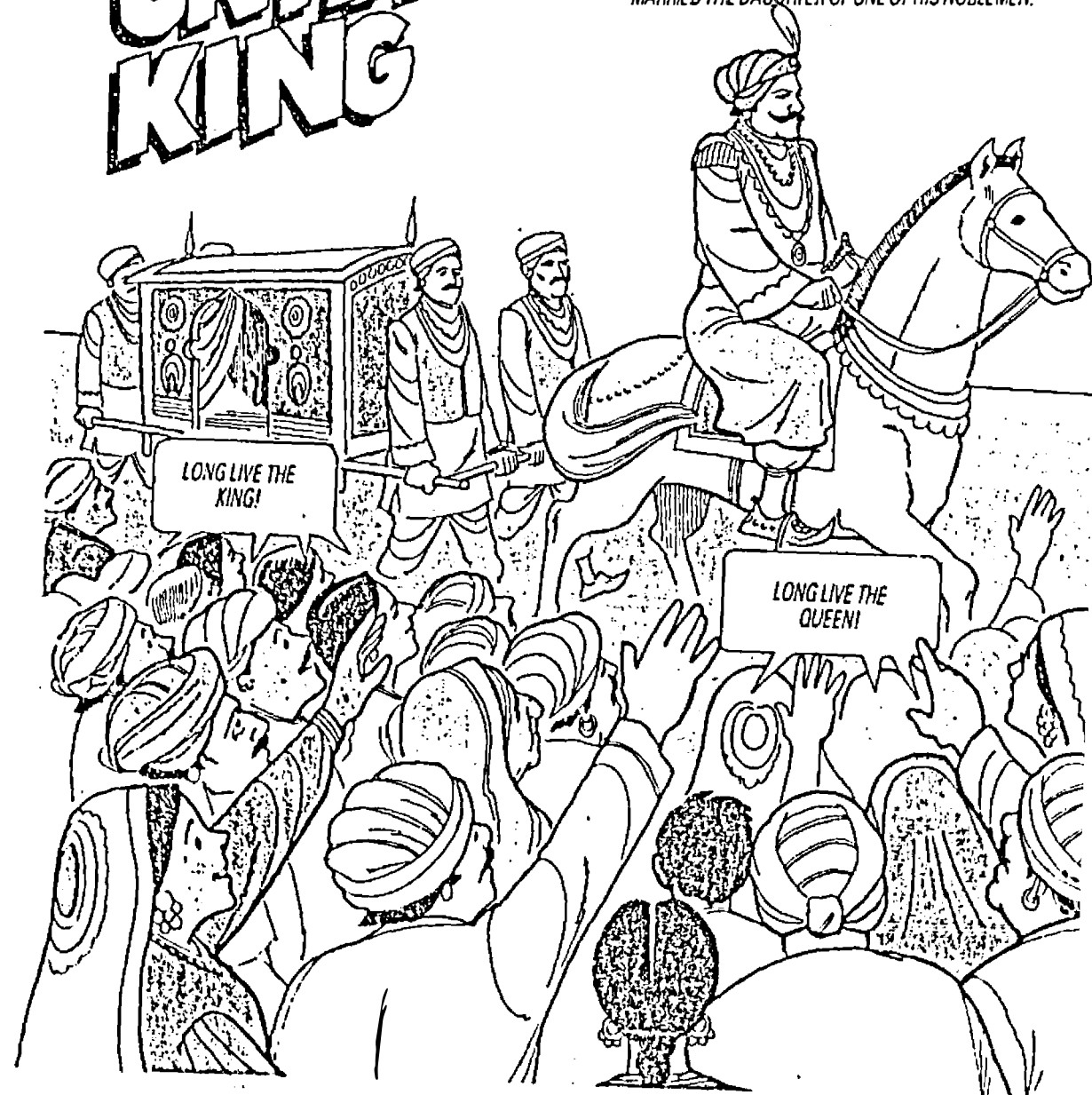
1. Community Health by C.H. Wood et al.
2. Immunization in Practice: A Guide for Health Workers who Give Vaccines. WHO/E19, Geneva 1984.
3. Where There is No Doctor, David Werner.
4. Institute of Hygiene, Ministry of Public Health, Republic of the Ivory Coast, 1980.

11.6.B.

THE UNHAPPY KING

ONCE UPON A TIME FAR AWAY IN THE HEART OF HIGH ROCKY MOUNTAINS, THERE WAS A KINGDOM CALLED SURAJKUND. THE PEOPLE OF THIS KINGDOM HAD NEVER BEEN BEYOND THESE MOUNTAINS. THEIR KINGS HAD NEVER LET THEM. SO THE PEOPLE OF SURAJKUND THOUGHT THAT THEIR KINGDOM WAS THE WHOLE WORLD. BUT NO ONE OUTSIDE THE MOUNTAINS HAD EVEN HEARD OF SURAJKUND.

ONE DAY KING AZIMUDDAULAH OF SURAJKUND MARRIED THE DAUGHTER OF ONE OF HIS NOBLEMEN.



A YEAR LATER A SON WAS BORN. THERE WAS GREAT REJOICING IN THE KINGDOM. THE KING DISTRIBUTE " GIFTS AND THERE WERE GREAT FEASTS. BUT WITHIN 12 MONTHS THE PRINCE FELL SICK. HE HAD A SORE AND SWOLLEN THROAT, AND HE COULDN'T BREATHE. HE DIED OF HEART FAILURE.



THE NEXT YEAR, ANOTHER SON WAS BORN. BUT THIS PRINCE ALSO FELL SICK. HE COULDN'T STOP COUGHING. HE WHOOPED WHEN HE BREATHED, HIS EYES SWELLED UP AND BEGAN TO BLEED. HIS BRAIN WAS DAMAGED SO HE COULDN'T RECOGNIZE. THEY WERE RAZIA AND HER OLDER BROTHER AHMED, PLAYING CRICKET.



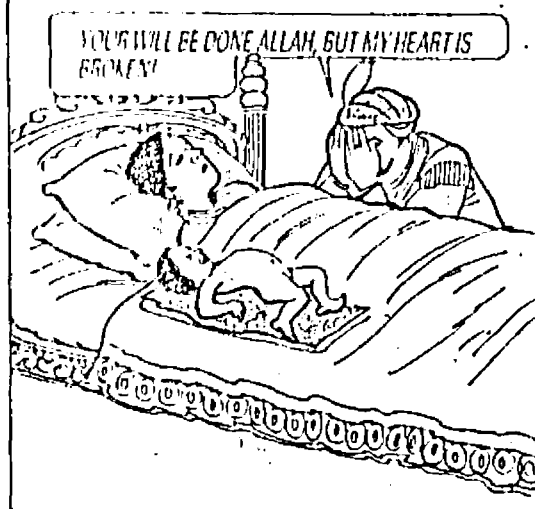
SO RAHMAT ALI SET OFF ON HIS JOURNEY. HE WANDERED AROUND FOR MANY DAYS. THEN ONE DAY HE FOUND HIMSELF OUTSIDE THE MOUNTAINS IN A VERY STRANGE LAND. HE SAW TWO CHILDREN PLAYING A GAME HE DIDN'T RECOGNIZE. THEY WERE RAZIA AND HER OLDER BROTHER AHMED, PLAYING CRICKET.



WEARILY RAHMAT ALI GOT OFF HIS HORSE, TIED ITS REINS TO A TREE, AND SAT DOWN ON A NEARBY ROCK.



THE THIRD YEAR, A DAUGHTER WAS BORN. THE KING AND QUEEN BEGAN TO HOPE THEIR LUCK HAD TURNED. BUT WITHIN A WEEK THE PRINCESS' MOUTH WENT TIGHT. SHE STARTED SHAKING AND JERKING. HER WHOLE BODY BENT BACKWARD. SHE DIED. AND THIS TIME THE QUEEN DIED TOO. HOW THE KING WEPT!



THE FOURTH YEAR, THE KING MARRIED AGAIN. THE QUEEN WAS EXPECTING A BABY. THE KING TOLD HIS COURT PHYSICIAN RAHMAT ALI THAT IF HE DID NOT FIND A CURE FOR THE DISEASES WHICH HAD KILLED HIS CHILDREN BEFORE THEY WERE TWELVE MONTHS OLD, RAHMAT ALI'S HEAD WOULD BE CUT OFF!



WHEN HE HEARD RAZIA, RAHMAT ALI JUMPED UP ANGRILY AND SAID,

EVERYONE KNOWS WHO I AM. I'M RAHMAT ALI, COURT PHYSICIAN TO KING AZIMUDDAULAH!



RAZIA AND AHMED LOOKED AT EACH OTHER IN SURPRISE. THERE WERE NO KINGS THESE DAYS! THERE WAS ONLY A PRIME MINISTER, AND A PRESIDENT.



RAHMAT ALI BECAME EVEN MORE ANGRY, AND BEGAN TO SHOUT.

WHAT DO YOU MEAN YOU'VE NEVER HEARD OF KING AZIMUDDAULAH? THIS IS TREASON! I SHALL TELL THE KING THAT HIS SUBJECTS DO NOT RESPECT HIM.



RAZIA AND AHMED TRIED TO CALM RAHMAT ALI DOWN SO THEY ASKED HIM TO TELL THEM HIS STORY. RAHMAT ALI TOLD THEM ABOUT THE KING AND HOW HIS CHILDREN HAD DIED. RAZIA AND AHMED LISTENED TO RAHMAT ALI'S STORY VERY CAREFULLY.

THE FIRST PRINCE WAS SUFFERING FROM DIPHTHERIA, I THINK. AND THE SECOND PRINCE, FROM PERTUSSIS.

THE PRINCESS AND THE QUEEN DIED OF TETANUS. I'M SURE.



HOW DO CHILDREN KNOW HOW TO PREVENT DISEASES? WHAT KIND OF LAND HAVE I FOUND?



RAZIA TOLD RAHMAT ALI THAT IF CHILDREN WERE GIVEN DPT VACCINE, ALL THREE DISEASES, DIPHTHERIA, PERTUSSIS (OR WHOOPING COUGH) AND TETANUS COULD BE PREVENTED.

VACCINES? WHAT ARE THESE?



RAHMAT ALI LEAPED TO HIS FEET, AMAZED.

WHAT ARE YOU TALKING ABOUT? I HAVE NEVER HEARD OF THESE DISEASES. HOW DO YOU KNOW?



AHMED EXPLAINED THAT THEIR MOTHER WAS A NURSE IN THE PRIMARY HEALTH CENTRE. HE WAS ALSO LEARNING TO BE A HEALTH WORKER.

SO WE KNOW A LOT ABOUT DISEASES AND HOW TO PREVENT THEM.



SO AHMED EXPLAINED THAT DISEASES ARE CAUSED BY VERY TINY INVISIBLE GERMS AND THAT VACCINES ARE MADE OF A WEAKENED FORM OF THE SAME GERMS.

WHEN THE VACCINE IS INJECTED INTO THE BODY, THE BODY MAKES DEFENDERS WHICH PROTECT THE BODY FROM DISEASES FOR MANY YEARS.



RAHMAT ALI DIDN'T UNDERSTAND AND A MOTHER HAD TO EXPLAIN THE IDEA OF GERMS AND DEFENDERS TO HIM. SEVERAL TIMES RAHMAT ALI SAID THAT EVEN IF WEAKENED GERMS WERE INJECTED THE PEOPLE WOULD CERTAINLY ALL SICK.

AFTER VACCINATION SOME CHILDREN DO FEEL A LITTLE FEVERISH WHILE THE BODY MAKES DEFENDERS BUT THIS ISN'T SERIOUS AND IT'S BETTER THAN GETTING SERIOUSLY SICK AND DYING OF THE DISEASE.

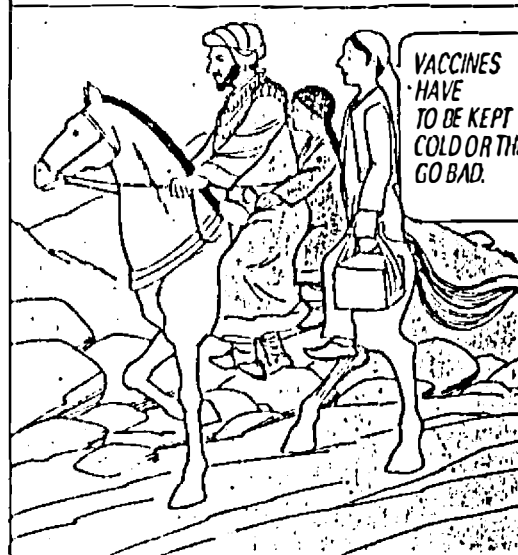


THE RAZIA WHISPERED TO AHMED, "LET'S GO WITH HIM, I WANT TO SEE THIS KING AZIMUDDAULAH."



WE'LL GO WITH YOU SIR RAHMAT, AND SHOW YOU HOW TO VACCINATE CHILDREN.

AHMED RAN TO THE PHARMACY HEALTH CENTRE AND GOT A BOX OF VACCINES AND SYRINGES. THEY GOT ON THE HORSE BEHIND RAHMAT ALI AND OFF THEY WENT ACROSS THE FIELDS.



VACCINES HAVE TO BE KEPT COLD OR THEY GO BAD.

THEY RODE THROUGH THE TOWN AND UP TO THE COURTYARD OF THE PALACE AND DISMOUNTED. THEN THEY WERE LED TO A GREAT DURBAR HALL. AND SEATED ON A MAGNIFICENT THRONE WAS KING AZIMUDDAULAH! RAHMAT ALI AND THE CHILDREN BOWED LOW.



THESE CHILDREN SAY THEY CAN PREVENT DISEASES BEFORE THEY HAPPEN, MY LORD

EXPLAIN YOURSELVES CHILDREN.

AFTER EXPLAINING ABOUT GERMS AND DEFENSES AHMED TOLD THE COURT THAT IF THE MOTHER WAS INJECTED TWICE WITH TETANUS VACCINE THE BABY ALSO WOULD BE IMMUNE TO TETANUS WHEN BORN



THEN THE DPT VACCINE HAS TO BE GIVEN TO THE BABY SOON AFTER IT IS 6 WEEKS OLD, AND TWICE MORE AFTER INTERVALS OF AT LEAST ONE MONTH.

THEY CROSSED THE RIVER AND STARTED TO CLIMB THE MOUNTAINS. THEN WHEN THEY TURNED BEHIND A ROCK A DOOR OPENED IN IT AND TO THEIR AMAZEMENT THE HORSE WENT RIGHT THROUGH!



IN FRONT OF THEM WAS A TOWN AND IN THE MIDDLE OF IT STOOD A PALACE, A GREAT MUGHAL PALACE GLITTERING IN THE SUN.



ALLAH!

JUST LOOK AT THAT! WHY DIDN'T WE KNOW THERE WAS SUCH A KINGDOM HIDDEN BEHIND THE MOUNTAINS?

THE COURT WAS AMAZED TO HEAR THIS.



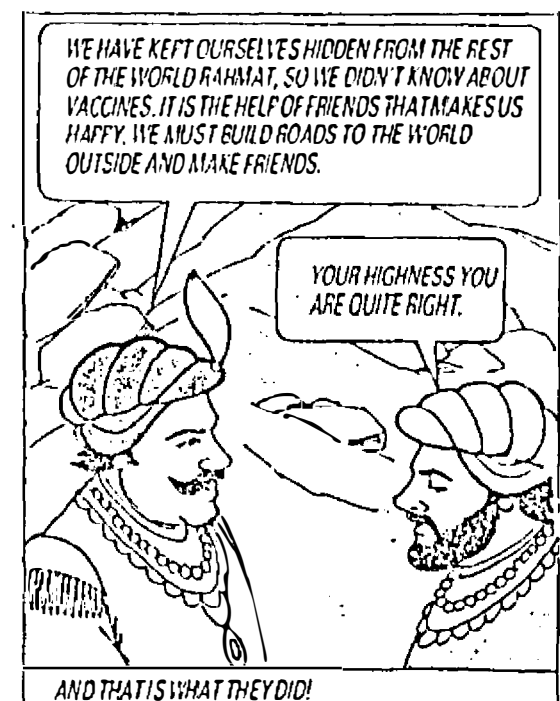
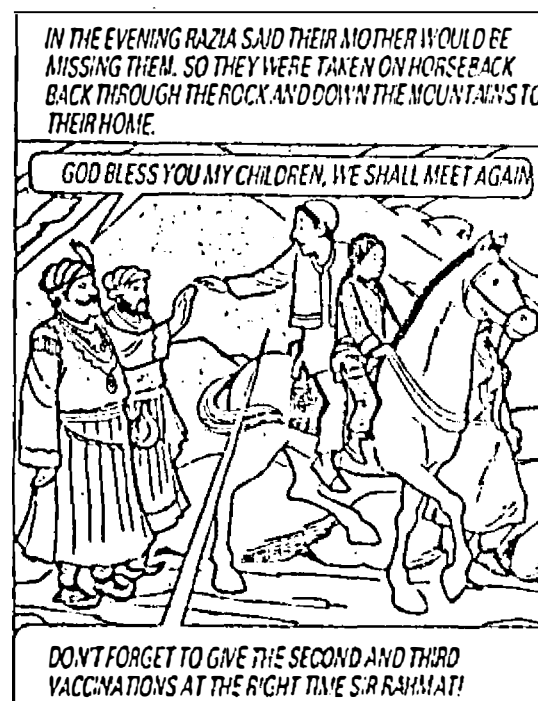
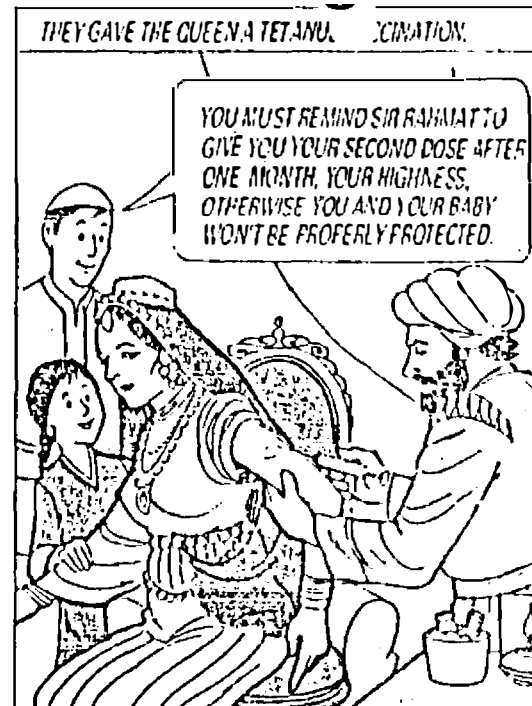
I HAVE NEVER HEARD OF SUCH A THING.

THERE ARE NO SUCH THINGS AS GERMS.

BUT WE'VE NO CHOICE, WE MUST TRY THE VACCINES.

AHMED VACCINATED ALL THE BABIES IN THE COURT WITH DPT, BCG, POLIO AND MEASLES VACCINES HE TAUGHT RAHMAT ALI TO GIVE VACCINATIONS.





11. 7 HEALTH SCOUTS

The Idea

A healthy community is a strong and a happy one. A community is healthy when the people who live in it :

- understand what they need to be healthy;
- know what services are available and how to use them well; and
- care about the health of everyone else.

Children can help in making their community a better place to live in and this activity sheet shows some ways in which children can do this, for instance by :

- finding out about the health care resources in their own community;
- passing on to their families and others important health information;
- caring about the health of others, particularly children who live near them, by helping their families make the best use of available health services.

WHO COULD INTRODUCE THE ACTIVITY TO CHILDREN ?

- teachers of children in the upper classes of primary schools;
- youth leaders, who can also make use of health badges in organizations that have badge schemes, such as the Boy Scouts;
- health workers and others working in community health programmes.

Teachers and health workers can plan this activity together. Parents should be told what their children are doing and why.

THE ACTIVITY

Finding out about the health needs of the Community.

Surveys or "find out" projects give the children practice in collecting health information and making good use of it. Children can find out about the health conditions of babies and young children in their community.

Illness and deaths from diseases like tuberculosis, diphtheria, whooping cough, tetanus, poliomyelitis and measles can be prevented if babies and young children are immunized. An important survey that children can make is to find out which children in their community have been immunized against these diseases.

Before carrying out the survey discuss with the children :

- the reasons for immunization;
- which immunizations are common in your area ?
- who provides them ?

Perhaps a health worker could be invited to discuss this with the children.

To carry out the survey the children could make a record chart for babies and young children near them, with symbols for each of the most commonly given immunizations, e.g.

BCG	- which protects against tuberculosis
DPT	- which protects against diphtheria, whooping cough and tetanus
Polio	- which protects against poliomyelitis
Measles	- which protects against measles.

Children can find out about children in their own families and can be made responsible for several households near them. They will need to ask parents what immunizations the children have had.

From this survey the children will have found out which babies and young children need to be immunized. older children can tell mothers about immunization clinics and they can tell the health worker which babies need to be immunized.

WHO HAS BEEN IMMUNIZED?				
Name				
ALI	SAAD	✓	✓	✓
HASSAN	IBRAHIM		✓	
AMIN	DAUD	✓	✓	
SAMIRA	ESAM	✓	✓	
Notes				
▲ BCG	protects against TUBERCULOSIS			
■ DPT	protects against DIPHTHERIA, WHOOPING COUGH, Tetanus			
● Polio	protects against POLIOMYELITIS			
◆ Measles	protects against MEASLES			

Finding out about the health services available to the community

Often in a community there are many people with different kinds of health knowledge :

- some people know how to make herb teas;
- there are women who help at childbirth;
- often someone knows about first aid;
- the various trained health workers.

Where can we get help quickly and which of these people is the best one to help ? This information is very useful for all of us but often we do not have it.

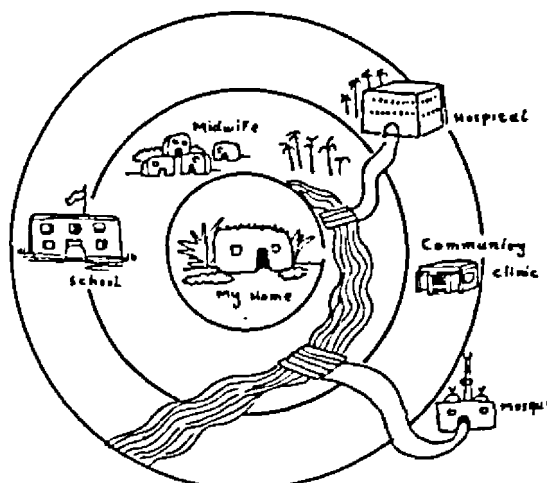
Children can find out about all the people in their community some special health knowledge;

- Where they can be found;
- what their special health knowledge is;
- who is the best person to go to.

Discuss these things with the children and let them make a list of all the people in their community who have some special health knowledge : e.g. clinic sister, midwife, herbalist.

Health Map for our Village

The circles represent each hours walk from School or Home. The children could play games using their maps and asking each other, for instance, "If somebody gets burnt by the cooking fire, who will you get to help and how long will it take ?



Children can pass this information on by making a play about getting help from different people, and show it at a village meeting or on clinic days.

They can discuss their lists with each other, and decide who they should go to for the different sicknesses that occur locally.

The children can make a health service map of their community. On it they can mark where to go for help and work out the travelling time needed to get to each health helper. They can find out when and where special clinics are held.



Telling others about health services

Children can learn to pass on health information to parents, health workers and others. E.g. :

- Children can "adopt" a newborn baby in the family or community, and make a vaccination card to remind the mother when the baby is due to be immunized.
- Health workers can tell the school when they are to hold a clinic in the village, and school-children can visit homes in the area the day before the clinic to tell families the correct time and place. Each child can be responsible for telling several households.
- Each older child can be a health leader for a few households, and tell the health worker where help is needed, or pass on information from the health worker to the household.

Helping to care for the health of others

There are many ways in which children can help in looking after the health of other children. For example, they can become helpers at the health clinic. Teachers and health workers would need to plan this together, but some ways in which children can help are :

- Weighing babies and filling in charts;
- Organizing play groups for children waiting with their mothers. Toys and games could be made and brought along to amuse young children;



- acting as interpreter for mothers and health workers, to pass on instructions for feeding programmes or treatments;
- helping to cook at feeding demonstrations;
- helping to clean up at the clinic.

Other ways for older children to be health helpers might be to :

- run simple first aid clinics at school;
- make toys and games for child minders;
- prepare food for younger children at school;
- bring young children to the clinic;
- adopt a younger child in the school and notice when they are sick or need treatment for sores;
- make health posters and notices.

Other activities for children

Other surveys which children can carry out :

- find out where diseases occur in the area. They pass on the information to health workers, or use it as a basis for a health campaign. Who have been sick or had an accident in the past year ? What sickness did they have ? What time of the year was it ? How often did they have it ?
- find out about local medicines; what plants are used ? who knows how to make up the medicine ? when is it used ?

Source : CHILD-to-child Programme. Institute of Child Health
30 Guilford Street, London WC1N 1EH, ENGLAND.

11.8.(A) UNDERSTANDING DIARRHOEA AND DEHYDRATION

What is diarrhoea?

The number of stools normally passed in a day varies with the diet and the person. The stools of a person with diarrhoea contain more water than normal – they are often called loose or watery stools.

Mothers usually know when their children have diarrhoea. When diarrhoea occurs, a mother may say that the stools smell strongly or pass noisily, as well as being loose or watery. By talking to mothers, you can often find a useful local definition of diarrhoea. In many societies, diarrhoea is defined as 3 or more loose or watery stools in a day.

Diarrhoea is most common in children, especially those between 6 months and 2 years of age. It is also common in babies under 6 months of age who are drinking cow's milk or infant feeding formulas.

Frequent passing of normal stools is not diarrhoea.

Breast-fed babies often have stools that are softer than normal; this is not diarrhoea.

What causes diarrhoea?

Diarrhoea is a disease which is usually caused by small organisms called germs. They may be bacteria, viruses or parasites. The germs that cause diarrhoea mainly live in food, garbage, sewage and stools.

Acute and chronic diarrhoea

Acute diarrhoea starts suddenly and may continue for several days. It is caused by infection of the bowel.

Chronic diarrhoea lasts for more than 3 weeks and may vary from day to day. It can be caused by things such as infection or complications resulting from infection.

Why is diarrhoea dangerous?

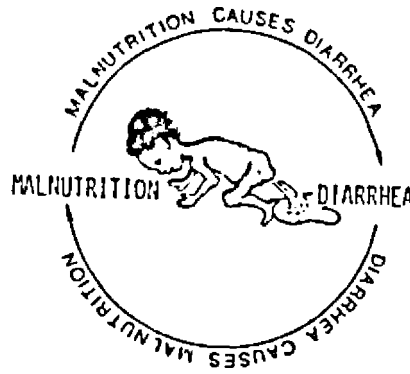
The two main dangers of diarrhoea are death and undernutrition.

Death from acute diarrhoea most often results from loss of a large amount of water and salt from the body. This loss is called dehydration.

Diarrhoea is worse and often more common in persons with undernutrition. Diarrhoea can cause undernutrition and can make existing undernutrition worse, because:

- nutrients are lost from the body in diarrhoea;
- a person with diarrhoea may not be hungry; and
- mothers often make the mistake of not feeding a child while he or she has diarrhoea, or even for some days after the child is better. Food should be given to children with diarrhoea.

Good nutrition is important in both the prevention and treatment of diarrhoea.



THE 'VICIOUS CIRCLE' OF
MALNUTRITION AND DIARRHEA
TAKES MANY CHILDREN'S LIVES.

How does diarrhoea spread?

- Diarrhoea is spread when a person with diarrhoea do not wash his hands well after going to the toilet.
- If diarrhoea stool is not disposed properly flies can sit on it and carry the germs to food and water we drink.
- Diarrhoea germs can also be transferred by clothes or other utensils which are used by person with diarrhoea and not washed properly.

How does diarrhoea cause dehydration?

DEHYDRATION

Most children who die from diarrhoea die because they do not have enough water left in their bodies. This lack of water is called dehydration.

Dehydration results when the body loses more liquid than it takes in. This can happen with severe diarrhoea, especially when there is vomiting as well. It can also happen in very serious illness, when a person is too sick to take much food or liquid.

People of any age can become dehydrated, but dehydration develops more quickly and is most dangerous in small children.

Any child with watery diarrhoea is in danger of dehydration.

It is important that everyone - especially mothers - know the signs of dehydration and how to prevent and treat it.

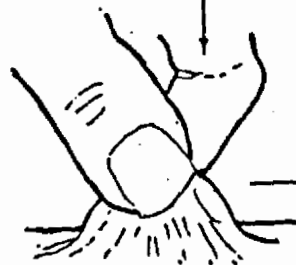
Signs of dehydration:

It is important that everyone—especially mothers—know the signs of dehydration and how to prevent and treat it.

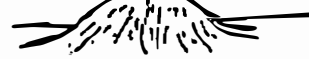
Signs of dehydration:

- little or no urine; the urine is dark yellow
- sudden weight loss
- dry mouth
- sunken, tearless eyes
- sagging in of the 'soft spot' in infants
- loss of elasticity or stretchiness of the skin

Lift the skin between two fingers, like this. . . .



If the skin fold does not fall right back to normal, the child is dehydrated.



Very severe dehydration may cause rapid, weak pulse, fast, deep breathing or fits.

SOURCES

- (1) Treatment and Prevention of Acute Diarrhoea - WHO (1985), Geneva.
- (2) Where There is no Doctor. David Werner (1978).

HELPING CHILDREN UNDERSTAND DIARRHOEA AND DEHYDRATION

Background Information

Diarrhoea means frequent, watery stools (shit). Often children with diarrhoea also have vomiting and a swollen belly with cramps. The stools may smell worse than usual.

In many areas, diarrhoea is the most common cause of death in small children. It is most frequent in babies between 6 months and 2 years. It is more common and more dangerous in children who are malnourished. Bottle-fed babies have diarrhoea 5 to 6 times more often than breast-fed babies. Diarrhoea is less common where there is piped water in the houses.

A lot of diarrhoea can be prevented if we ...

- breast feed babies for as long as possible;
- see that children get enough good food;
- take care with cleanliness and use piped water wherever possible.



Children who die from diarrhoea usually die because their bodies lose too much water. This loss of water is called dehydration. Therefore, the most important part of treatment is to replace the water lost through diarrhoea and vomiting. For most diarrhoeas, medicines are not very effective. What do help are drinks that put liquid back into the child: water, breast milk, soups, herbal teas, etc. Also, children with diarrhoea should be given food as soon as they can take it. Food gives their bodies strength to fight the sickness.

Even better than plain water or herbal teas is 'Special Drink' (often called 'Rehydration Drink'). This is water with some sugar and salt dissolved in it. Children can easily learn how to make the drink and give it to their baby brothers and sisters when they have diarrhoea.

To sum up, children with diarrhoea ...

- must be given lots to drink, and
- must be encouraged to eat as soon as they are able.

In treating diarrhoea, liquids and food are more important than medicines.
--

Who can introduce this activity?

Teachers, health workers, or anyone who is interested.

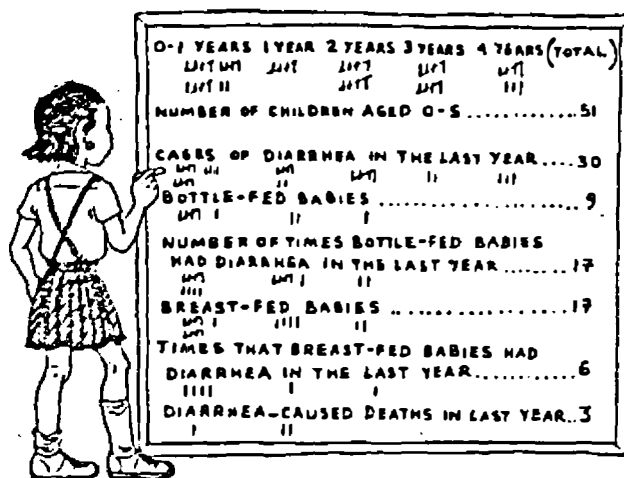
Helping Children Understand the Problem

How common and how dangerous is diarrhoea?

To discover this, the children can make a simple survey. They can ask their mothers how many times during the last year their younger brothers and sisters had diarrhoea. For each pre-school child they can find out:

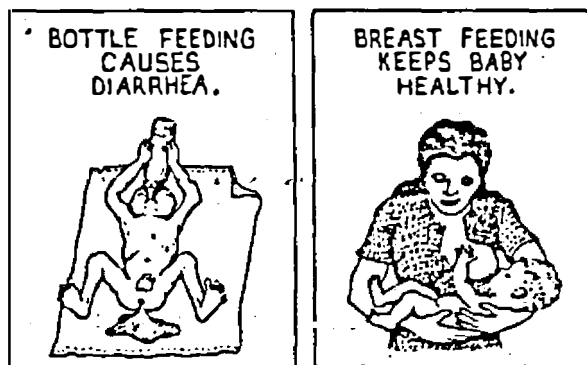
- his age;
- how he is fed (breast or bottle);
- how many times he had diarrhoea in the last year (or during the last rainy season, or since some big fiesta, if people do not think in terms of years);
- how many children died because of diarrhoea in the last year.

When the children return to school, they write their findings on the blackboard.



In this way, the children can see at what ages diarrhoea is most common. Probably they will also discover that the breast-fed babies do not get diarrhoea as often as the babies who are bottle-fed.

The children may want to make posters like these to help everyone know the importance of breast-feeding.



The information the children gather not only helps them to learn about the situation in their village. They can also use it later to find out if their health activities have made a difference.

What is dehydration?

What is dehydration?



It is the loss of
too much water!

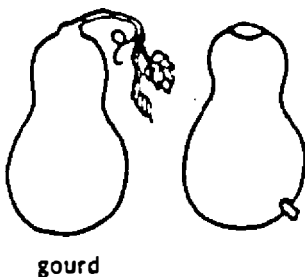


To look at the problem of dehydration, start by talking about something familiar to the children.

For example, in Latin America and parts of Africa, people associate diarrhoea with sinking in of the soft spot (fontanel) on the top of a baby's head. People believe the brains have slipped down and this has caused the baby's diarrhoea. Help the children see for themselves that the sinking of the soft spot results from the loss of water in the baby's body (dehydration)

To learn about dehydration, the children can conduct their own experiment by making a 'gourd baby' like this one:

1. Cut off the top,
like this.



2. Fill the gourd to the
brim with
water.

Make a
small
hole with
a plug.



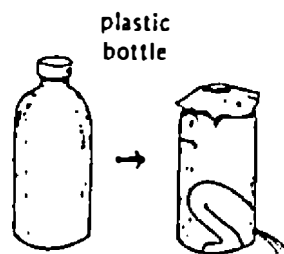
3. And cover it with a
thin wet cloth.



4. Then have the
children pull the plug
and watch the cloth
(soft spot) sink in!



If you do not have gourds, a plastic
bottle or tin can will do.



Ask the children: "WHY did the cloth sink in? What does the baby need to make the soft spot rise again?" In this way the children find out for themselves that a sunken soft spot in a baby is a sign of dehydration.

The children may want to make drawings or posters like this one so that other persons can learn, too.

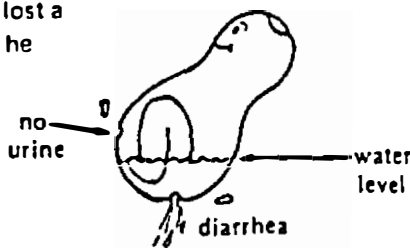
The children may want to make drawings or posters like this one so that other persons can learn, too.



Learning the different signs of dehydration

The children have already discovered that a sunken soft spot is a sign of dehydration. By putting additional holes in the 'gourd baby', they can experiment to learn other signs of dehydration.

When he has lost a lot of liquid, he no longer passes urine (although the diarrhea continues).



When a baby has enough water, he pces well.



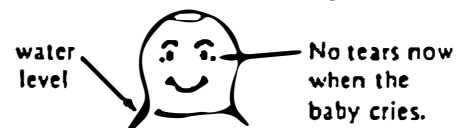
In this way, the children discover that a child who passes little or no urine is probably dehydrated.

By putting a small hole at the corner of each eye, the children can notice that tears no longer form when a baby is dehydrated.

When the gourd is full of water, it forms tears.

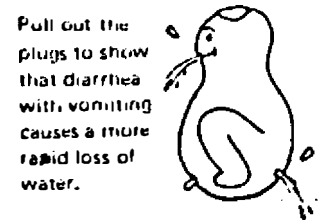
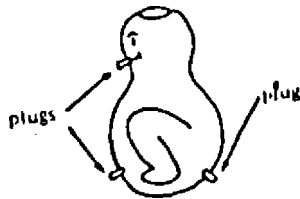


When water is lost, tears no longer form.



So the children learn that if a baby does not form tears when he cries, he is probably dehydrated.

To find out what happens when a child has vomiting as well as diarrhoea, the children can do the following:



In this way, the children find that dehydration comes more quickly and is more dangerous when a child with diarrhoea also has vomiting.

What happens when a child loses too much water?

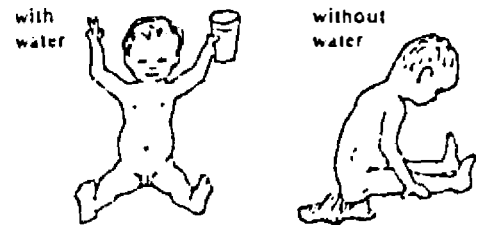
The children can experiment to see how dangerous dehydration is to a baby.

For example: They can pick 2 flowers, put one in water, and keep the other without water. They will see that one lives while the other wilts and dies. Ask them why this happens.



Let the children compare this to a child with diarrhoea.

Ask the children, "What does a baby with diarrhoea need so it will not wilt and die?"



Or the children can put a fruit like a plum or guava in the hot sun to see what happens to it.



Ask the children what they think happens to a baby when he dries out. Right! He loses weight and can even become wrinkled.

Often you will not see the wrinkles of a dehydrated child at once. But children can learn to do the following 'belly wrinkle test':

Lift the skin of the belly between two fingers, like this.



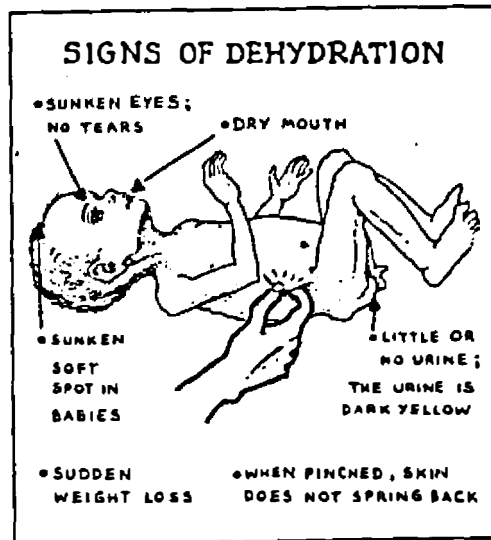
Then let go. If the skin does not spring right back to normal, the child is dehydrated.



Children can practice this test by pinching the skin on the back of an adult's hand. To make it seem more real, the children can make a simple doll baby like this from an old sock.



After the children find out the different signs of dehydration from their experiments, they can write the list of signs on the blackboard or on a poster.



SOURCE

Child-to-Child Programme. Institute of Child Health, 30 Guilford Street, London WC1N 1EH.

11.8.(B) MANAGEMENT OF DIARRHOEA AT HOME

For most cases of diarrhoea no medicine is needed. If the diarrhoea is severe, the biggest danger is dehydration. If the diarrhoea lasts a long time, the biggest danger is malnutrition. So the most important part of treatment has to do with giving enough liquids and good food. No matter what the cause of diarrhoea, always take care with the following:

Rule 1 - PREVENT OR CONTROL DEHYDRATION

Give the child more fluids than usual.

- If the child is breast-fed, try to give breast milk more often. If the child is not breast-fed, increase the amount of normal milk feed and dilute the feed with an equal volume of water.
- Give the child locally available drinks or liquids, such as rice water, soups, weak tea, or fruit juices, and/or carefully prepared sugar and salt solutions. These solutions can be made in several ways.
- Children under 2 years old receive approximately 50-100 ml (1/4-1/2 cup) of fluid after each loose stool, and older children should receive twice this amount. Adults should take as much as they want to drink.



Rule 2 - MEET NUTRITIONAL NEEDS

A person with diarrhoea needs food as soon as he will eat. This is especially important in small children or persons who are already poorly nourished.

- A baby with diarrhoea should go on breast-feeding.
- A small or underweight child, or anyone who is thin and weak, should get plenty of body-building foods (proteins) and energy foods all the time he has diarrhoea - and also when he gets well. If he stops eating because he is too sick or is vomiting, he should eat again as soon as he can. Although giving food may cause more frequent stools at first, it can save his life.
- If a child who is underweight has diarrhoea that lasts for many days or keeps coming back, give him more food rich in protein. Often no other treatment is needed.
- When an older child or adult who is well nourished has a severe case of acute diarrhoea, he may recover more quickly on a liquid diet of teas, broths, or Rehydration Drink. But if the diarrhoea lasts more than 1 day, he should begin taking food.

FOODS FOR A PERSON WITH DIARRHOEA

When the person is vomiting or feels too sick to eat, he should drink:

teas
rice water
chicken, meat, egg, or bean broth
Kool-Aid or similar sweetened drinks
REHYDRATION DRINK
Breast milk

As soon as the person is able to eat, in addition to giving the drinks listed at the left, he should eat a balanced selection of the following foods or similar ones:

<u>energy foods</u>	<u>body-building foods</u>
ripe or cooked bananas	milk (sometimes this causes problems, see the next page)
crackers	chicken (boiled or roasted)
rice	eggs (boiled)
oatmeal or other well-cooked grain	meat, well cooked, without fat or grease
fresh maize (well cooked and mashed)	beans, lentils, or peas (well cooked and mashed)
potatoes	fish (well cooked)
applesauce (cooked)	
papaya	

DO NOT EAT OR DRINK

Fatty or greasy foods
most raw fruits

Beans cooked in fat
highly seasoned food

Alcoholic drinks
any kind of laxative or
purge

Rule 3 - SEEK MEDICAL HELP

- If diarrhoea lasts more than 4 days and is not getting better - or more than 1 day in a small child with severe diarrhoea.
- If the person is dehydrated and getting worse.
- If the child vomits everything he drinks, or drinks nothing.
- If the child begins to have fits, or if the feet and face swell.
- If the person was very sick, weak, or malnourished before the diarrhoea began (expecially a little child or a very old person).
- If there is much blood in the stools, this can be dangerous even if there is little diarrhoea.

Medicines for diarrhoea

For most cases of diarrhoea no medicines are needed. But in certain cases, using the right medicine can be important. However, many of the medicines commonly used for diarrhoea do little or no good. Some are actually harmful:

These include medicines like Kaolin and pectin commonly found in pharmacy as KAOPECTATE. Although this drug may make the diarrhoea less frequent it does not correct dehydration. So a baby can still die from dehydration even when the frequency of the stool has been reduced.

Other drugs like ampicillin are useful only in some specific cases of diarrhoea , while chloramphenicol should never be used.

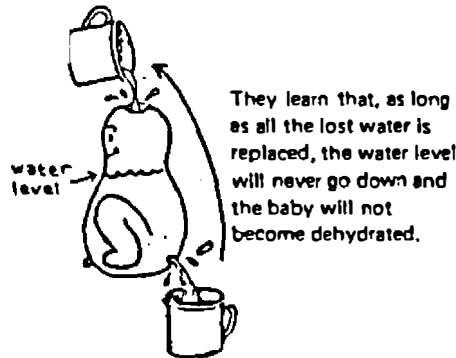
SOURCES

- (1) Treatment and Prevention of Acute Diarrhoea - WHO (1985).
- (2) Where There is No Doctor - David Werner (1978).

TEACHING CHILDREN ON HOW TO MANAGE DIARRHOEA AT HOME

How can dehydration from diarrhoea be prevented?

The children can find the answer by playing a game with the gourd baby. They pull the plug, then try to put back as much water as the baby is losing, like this:



A child with diarrhoea needs to drink at least 1 glass of liquid each time he has a watery stool.

Giving lots of liquid to a baby with diarrhoea may at first increase the amount of diarrhoea. But this is all right. Usually the diarrhoea will soon get better. The important thing is to be sure that the child drinks as much liquid as he loses.

The children have now found out that:

A child with diarrhoea needs a lot of liquid.

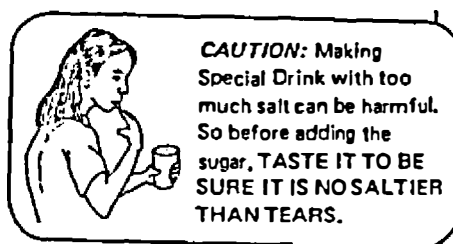
A 'Special Drink' to help prevent dehydration.

Many of the herbal teas and soups that mothers give to children with diarrhoea do a lot of good, because they help to get water back into the child.

Breast feeding provides both water and food, and should always be continued when a baby has diarrhoea.

A 'Special Drink' can be made from SUGAR, SALT, AND WATER, and is especially good for persons with diarrhoea.

The children can learn to prepare Special Drink in any of several ways.



Special Drink

How to give the Special Drink

Start giving the drink as soon as diarrhoea begins.

An adult should drink at least 2 glasses of Special Drink after each watery stool.

A child should drink at least 1 glass of Special Drink after each watery stool.

If the child vomits the drink, give him more. A little will stay in him. Give sips every 2 or 3 minutes. If the child does not want to drink, gently insist that he do so.

Keep giving the drink every 2 or 3 minutes, day and night, until the child pees normally (every 2 or 3 hours). Older children and their parents can take turns giving the drink all through the night.

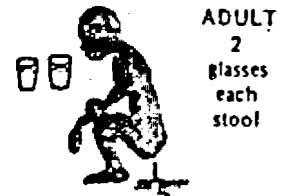
A child with diarrhoea should eat as soon as he can.

Many people still believe that persons with diarrhoea should not eat. This is a big mistake. A sick person must eat well in order to overcome the sickness. A child with diarrhoea should eat as soon as he is able.

To help children why this is important, ask if any of the children has ever missed a meal or spent a day without food. How did they feel? Weak? This way, the children can realize that a child with diarrhoea needs food in order to be strong enough to fight off the illness.



When a breast-feeding baby gets diarrhea, KEEP GIVING BREAST MILK, BUT GIVE SPECIAL DRINK, TOO.



Helping to make learning more real

A game: Give the children the plastic spoon, salt, sugar, and water. Do not tell them how much to use. See if they can mix the drink correctly by following the instructions on the spoon. It is important that they learn to make the drink correctly.

Another game: Ask children to invent ways to make their own measuring spoons out of old bottle caps, juice cans, or whatever. Make sure the finished spoons hold about the correct amounts. You can give prizes for the most accurate spoon, the simplest spoon, etc.

Skits, puppets, role playing: Children can use puppets or role playing to act out what to do when a younger child has diarrhoea. They can cut a large mouth in a 'gourd baby', and actually give it Special Drink and food.



Teaching Others

After the children have learned about diarrhoea and dehydration, they can help teach others. Here are a few possibilities:

- Children can put on demonstrations, plays or puppet shows to convince people that giving liquids and Special Drink can save children's lives.
- They can discuss what they learn with their parents, and help prepare Special Drink when the baby has diarrhoea.
- School children who took part in this activity can teach children who do not go to school because they have to care for younger brothers and sisters.
- Children from older grades can help teach these ideas to children in the younger grades.

Finding out how well the activity worked

The group can make counts each month (or their 6 months or a year) to find out:

- How many children (or their mothers) have made the Special Drink for persons with diarrhoea?
- How many children have had diarrhoea?
- How many (if any) died?

Ask any child who has prepared the Special Drink for a brother or sister with diarrhoea to tell his story at school. He can explain how he (or his mother) made the Drink and used it, any problems he had, and if it seemed to help.

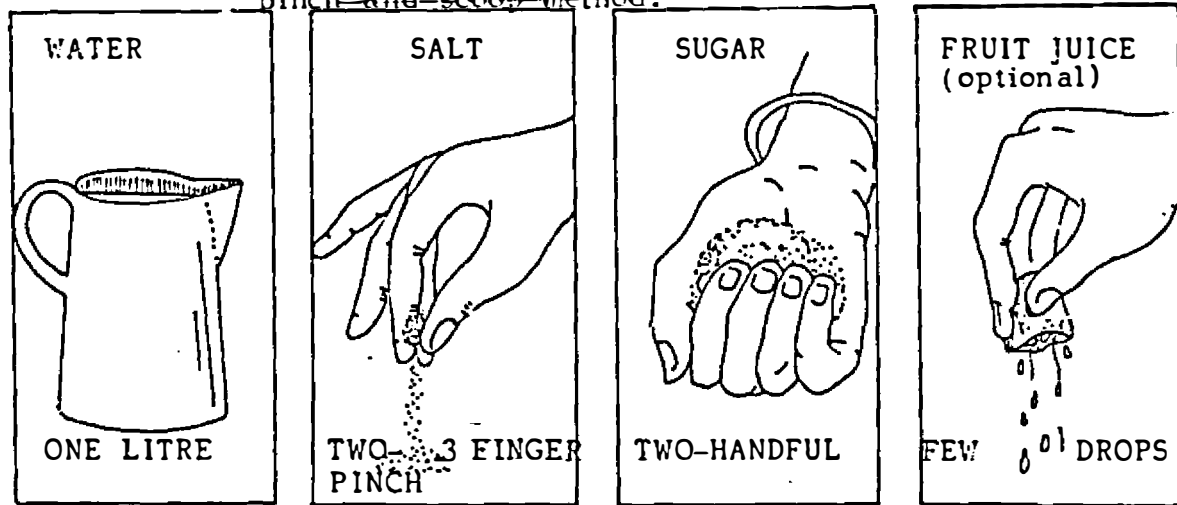
SOURCE

Child-to-Child Programme. Institute of Child Health, 30, Guilford Street, London WC1N 1EH, ENGLAND.

11.8(C) HOW TO MAKE SALT AND SUGAR SOLUTION AT HOME

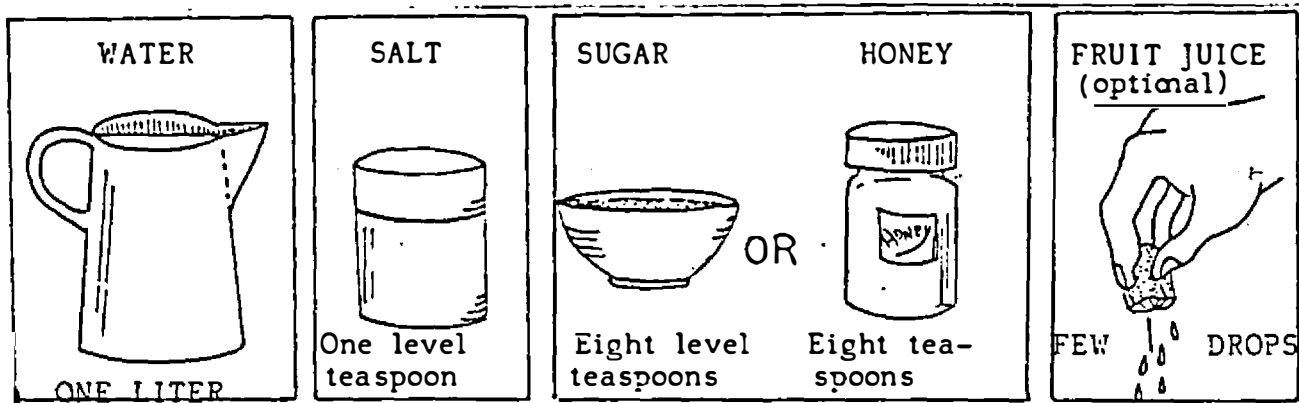
A special drink (Oral Rehydration Solution) can be made at home to treat diarrhoea and prevent dehydration. There are many methods that can be used for measuring the correct amounts of sugar and salt. The following are 3 examples:

EXAMPLE 1: Method for mixing one liter of oral rehydration solution (ORS) using pinch and scoop method.

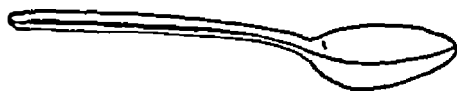


NOTE: (1) 1000 ml is equal to: 1 litre = 2 pints (approximately) - 2 beer
(2) The salt should come up to the first finger crease, but not above it.

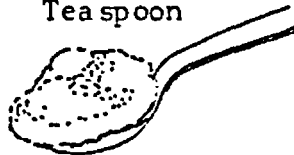
EXAMPLE 2: Method for mixing one liter of ORS using table and teaspoon.



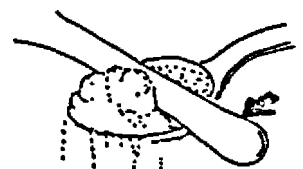
1 teaspoon (tsp) = 5 ml



Heaped
Teaspoon



Making a level
teaspoonful

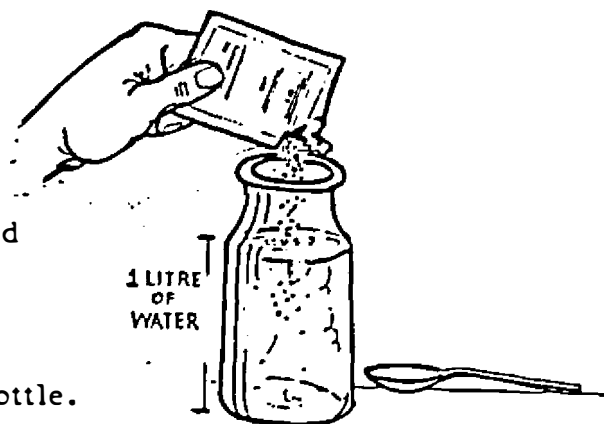


IMPORTANT: ALWAYS LEVEL TEASPOON WHEN MEASURING SALT AND SUGAR.

EXAMPLE 3: How to prepare ORS solution using Prepackaged Packets



● Wash your hands with soap and clean water.



● Measure one litre (or volume of water indicated on packet used) of clean drinking water into a clean container. It is best to boil and cool the water, but if this is not possible, use the cleanest water available. Use whatever clean container is available such as a jar, pot, or bottle.

● Pour all the powder from one packet into the water and mix well until the powder is completely dissolved.

● Taste the solution so that you know what it tastes like.

Giving oral rehydration solution to children

1. Give ORS to children using spoon and cup or straight from a glass.
2. Between ORS give sips of plain water.
3. Throw away ORS that were prepared 12 hours earlier and prepare fresh ORS.
4. After each loose stool, a mother should give 50-100 ml ($\frac{1}{4}$ - $\frac{1}{2}$ cup) of ORS solution for a child less than 2 years old and $1\frac{1}{2}$ cup to 1 cup for older children.

Adults can take as much as they want.

5. If the child vomits, she should wait 10 minutes and then continue slowly giving small amounts.
6. Taste all types of rehydration drink before giving to children. If it tastes more salty than tears, pour away this mixture and make it again with less salt.

Get help when the person with diarrhoea:

1. is a very small baby;
2. has green in their vomit;
3. becomes more ill;
4. does not answer clearly when spoken to.

Continue using the salt, sugar and water until help comes. Also give sips of plain water alternatively.

SOURCES

1. Treatment and Prevention of Acute Diarrhoea, WHO-Geneva.
2. Eshuis, J. and Monschcot, P. (1978) Communicable Diseases.
3. Helping Health Workers Learn by David Werner.
4. King, M. et al Primary Child Care. A Manual for Health Workers, Oxford, Oxford University Press, 1978.

HAMID AND ZAHRA (Adapted from a children's story from Indonesia)

Hamid was 10 years old. He lived in the village with his parents, grandmother and his little sister Zahra. Little Zahra was only one and a half year old.

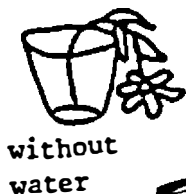
Hamid studied in his village school which was located not far from their home. Every day after school he would run home and play with his little sister. She would clap her hands in delight. When he made funny faces at her, or giggle when he scratched the sole of her little foot.



But one day on return from school, he found that Zahra did not come toddling toward him with her smiling face. She just sat on the porch and gazed at him with dull eyes. He quickly lifted her up to his hip. He noticed that she did not have her bath because she had an unpleasant smell about her.



Their grandmother greeted him with a tired voice. Worried Hamid asked her if Zahra is sick? "She has had several watery bowel movements today" answered grandma, "and she has been very fussy. Hamid, you must not let her have any food or drink so that the diarrhoea will stop and she will get better."



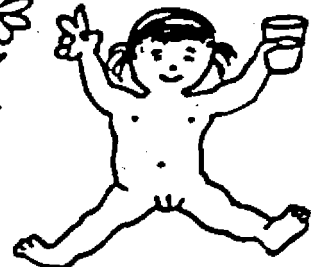
without
water



Hamid thought for a moment and then he took a deep breath. "But, Grandma", he cried out, my teacher told me that a watery stool can be very dangerous. If the body loses water, it is like a plant that isn't watered. First it gets weak, and then it dies! We have to give Zahra enough to drink so she won't be weak like this."

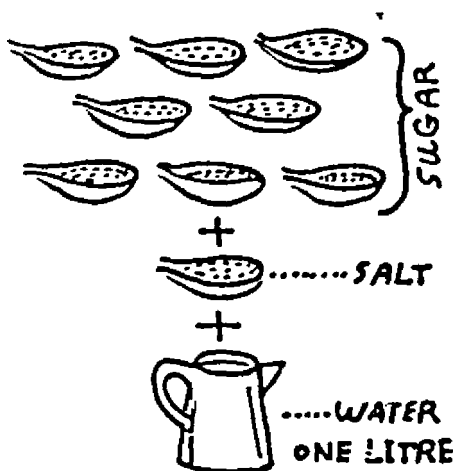


with
water



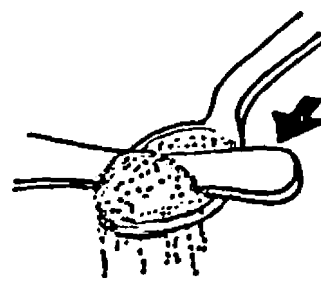
Grandma could feel how much Hamid believed in what he was saying, and she was very proud that her grand child had a chance to go to school and learn new things. But still no one had ever given any food or drink to a child with watery stools as long as she could remember. Then, while Abdul looked at her with pleading eyes and waited for her response she thought of one of her own dear children she had lost after only 2 days of watery stools.

Grandma sighed and said gently to Hamid, "Perhaps your teacher is right. Maybe we should try a new way. What does she say we ought to do."



Hamid looked at his grandmother with new respect. He urged her to follow him. Quickly he put some water on to boil and afterwards (while they waited for it to cool) he told Grandma the simple recipe that would help Zahra. Grandma could hardly believe that eight level teaspoon of sugar and 1 level teaspoon of salt in one liter of boiled water would be the right thing to give Zahra, but she was determined to let Hamid try.

As soon as the water was cool, Hamid made the drink. He showed grandmother how to measure the sugar and salt. He emphasized that only a 5 cc teaspoon should be used and showed her how to level the spoon. He also showed the calibrated jug which holds one liter of water. (The spoon and calibrated jug were both used by Hamid earlier in the school when he was learning how to prepare the drink).



Make a level teaspoon



After preparing the drink he tasted it and checked if it was o.k. He then offered it to Zahra in a glass. She was so thirsty that she gulped the whole glass. Hamid poured her another glass. Grandma watched with surprise as Zahra drank the whole second glass as well. Suddenly, Zahra vomited and Grandma looked as if she were about to scold Hamid. "My teacher said not to worry if the child vomits in the beginning. Just try again and this time Zahra should drink more slowly."



After sometime when Zahra has finished her third glass she clapped her hands and began to squirm, trying to get off Grandma's lap. Burbling at Hamid, her eyes darted after him as he got out a banana. Finally wriggling off Grandma's lap, Zahra walked toward Hamid with arms out to take the BANANA. Suddenly much to Grandma's dismay, Zahra made another watery bowel movement. "Don't worry, Grandma, she is already so much better," said Hamid. "Look how eager she is to have the banana. She should continue to have the special drink but more slowly."

Hamid had just helped Zahra finish another glass of the Special Drink, when his mother arrived home from her trip to the market. "How is Zahra" she asked Grandma anxiously. Zahra moved toward her mother's voice, her eyes bright with recognition. "Why, she's much better, I see. I'm so relieved. Not giving her anything to eat or drink must have helped her." "Oh, no," said Grandma, smiling at Hamid. "We've tried a new way, and look how Zahra has changed since this morning. Hamid, tell your mother what you've given Zahra." "I'll wait till you nurse her, Mother. She'll be even happier then," answered Hamid.



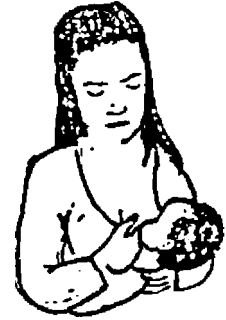
The next day, Hamid got to school early. He shyly told his teacher that he had tried the recipe she had taught the class to use in case anybody in their families had watery stools. His teacher was very happy that Hamid had remembered to use 8 level teaspoon of sugar and one level teaspoon of salt in one liter of cooled boiled water. She was even happier to know that, although Zahra had had a watery stool two more times that day, today the diarrhoea had stopped completely. "Make sure she eats some extra meals so she'll be just as strong as she was before," the teacher cautioned Hamid. "You've really learned well."

Hamid glowed inside. When school was over that day, he ran home with a happy heart to find Zahra wanting to play, her arms outstretched and her eyes shining, waiting for a new game.

11.8. (D) PREVENTING DIARRHOEA

Food and how best to feed children

- Breast-feeding, whenever the baby wants to be fed, is very important in the first 4-6 months of life. Breast milk is the best food for babies of this age and helps to prevent and stop infections, including diarrhoea. Breast-feeding should continue for at least 2 years.
- When breast-feeding is not possible, milk formulas must be given. It is better to give milk formulas with a cup and spoon than a bottle. Feeding babies milk from bottles is not good because it is difficult to keep the bottles clean.
- It is important that mothers know that they should eat more food than normal during pregnancy and when they are breast-feeding.
- At 4-6 months all babies should start to have other foods as well as milk formula. Soft mashed foods are best.
- All food should be fresh and prepared in a clean place using clean pots and utensils.
- Cooked food should be eaten while still hot, or well heated again before eating.
- Uncooked food should be washed in clean water before eating.



Water

- Drinking water should be taken from the cleanest possible source. Unless you are sure that the water is safe, it should be boiled before drinking. This water should be kept in a clean, covered container and used only for drinking.
- Washing the body, clothes, or pots and utensils should not be done at the source of the drinking water.
- Stools and urine should not be passed in or near the source of drinking water.

Hygiene

- Dirt, rubbish, stools, and urine contain germs that cause infections sometimes resulting in diarrhoea.
- Stools and urine should be passed in a latrine, which should be kept clean. If there is no latrine, stools and urine should be passed in one place away from the village and away from the source of drinking water. Stools passed by children near the house should be taken away or buried.

- Hands should always be washed after passing stools and before preparing food, eating or feeding children. Children's hands should be washed too.
- Rubbish should be burned, buried, or taken to a place far away from the village and away from the source of drinking water.
- Flies carry germs from dirt, rubbish, and stools into the house and on the food. Flies should be kept away from stools (by burying stools), from latrines (by keeping them clean), from rubbish (by burning or burying) and from food (by keeping it covered).

A SUMMARY OF HOW TO TREAT AND PREVENT DIARRHOEA AT HOME

1.

AS SOON AS DIARRHOEA STARTS, GIVE YOUR CHILD MORE FLUIDS THAN USUAL, for example,:

- rice water, fruit juice, coconut water, weak tea, soups or salt and sugar solution and
- breast milk, or milk feeds which you mix with equal amounts of water.



2.

GIVE THE CHILD FOOD:

- as much as he wants
- 5-7 times a day
- which is easy to digest, for example, boiled rice, porridges, soups, eggs, fish and well cooked meat
- which contains potassium, for example, bananas, carrots, lentils, and pineapple



3.

LOOK AND FEEL FOR THE SIGNS OF DEHYDRATION. HERE ARE SOME OF THEM:

- greater thirst
- dark urine
- unwell, sleepy or irritable condition
- sunken eyes
- sunken soft spot on the top of the head
- a pinch of skin goes back slowly



TAKE YOUR CHILD BACK TO THE HEALTH CENTRE OR COMMUNITY HEALTH WORKER, IF:

- you see any of these signs
- your child has diarrhoea for another 2 days

4.

YOU CAN PREVENT DIARRHOEA, IF:

- you give your child fresh, clean and well cooked food and clean drinking-water
- you practise good hygiene.



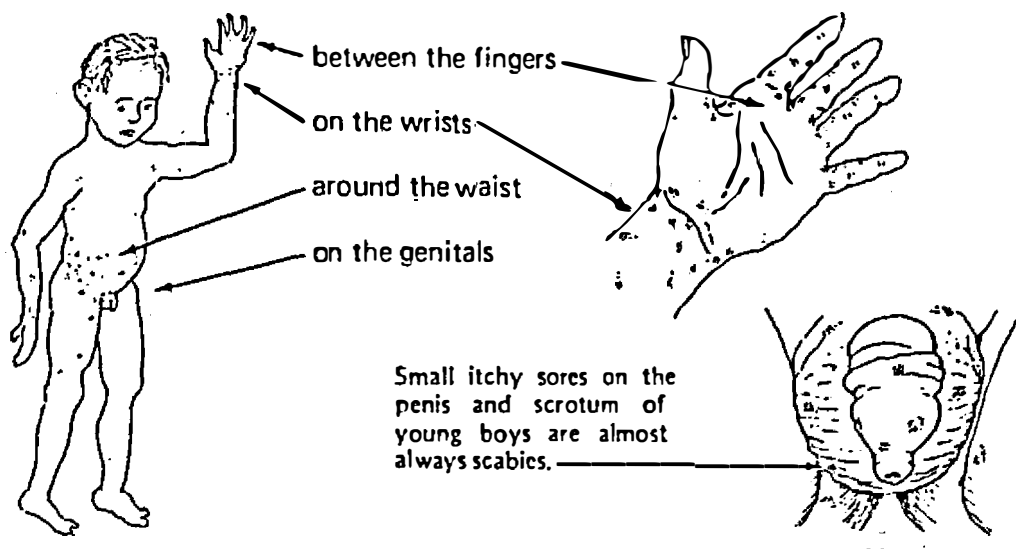
SOURCE

Treatment and Prevention of Acute Diarrhoea - WHO (1985).

11.9. COMMON SKIN INFECTIONS AND INFECTED WOUNDS

11.9.1 Scabies (Seven Year Itch)

The prevalence of scabies is very high in places where there is shortage of water. Scabies is especially common in children. It causes very itchy little bumps that can appear all over the body, but are most common:



Scabies is caused by little animals – similar to tiny ticks or chiggers – which make tunnels under the skin. It is spread by touching the affected skin or by clothes and bedding. Scratching can cause infection, producing sores with pus, and sometimes swollen lymph nodes or fever.

Control

Regular bathing, washing of clothes, and frequent use of soap will control the disease. Health education, stressing the use of soap and regular bathing of children is essential in combating this disease. Treatment of a single child infected with scabies is useless. As soon as he returns home he will be reinfected by the other members of the family.

SOAP CONTROLS SCABIES

Treatment

- If one person has scabies, everyone in his family should be treated.
- Personal cleanliness is of first importance. Bathe and change clothes daily. Wash all clothes and bedding and hang them in the sun.
- Make the following ointment from lindane (gamma benzene hexachloride) and Vaseline (petroleum jelly). In many countries lindane is sold as a sheep or cattle 'dip'.

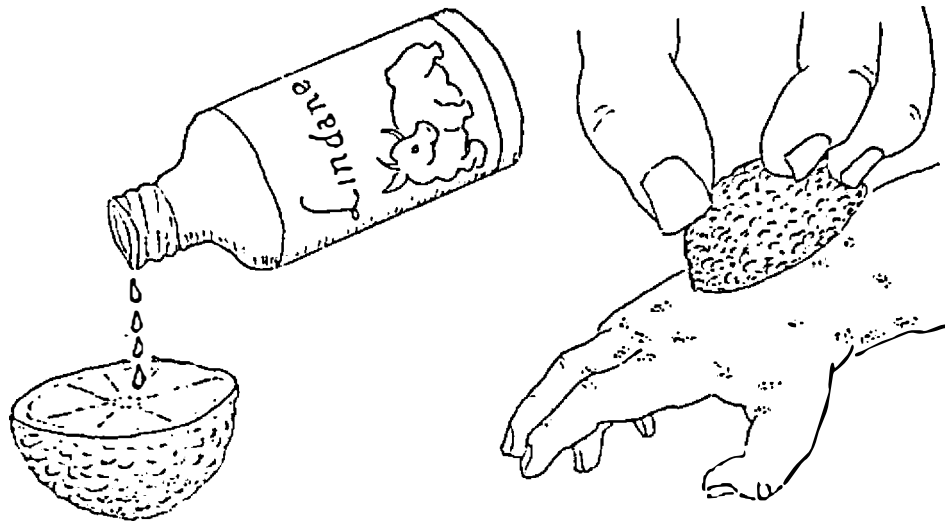
lindane, 1 part
Vaseline (or body oil), 15 parts

Wash the whole body vigorously with soap and hot water.
Heat the Vaseline and the lindane and stir well.
Smear the ointment on the whole body, except the face.
Make sure the ointment do not get into eye directly or indirectly. Leave for 1 day and then bathe well.
After treating, put on clean clothes and use clean bedding.
Repeat this treatment 1 week later.

Caution

Lindane is very strong and can cause poisoning if used too often. Do not apply more than once a week and be sure to bathe well the day after treatment.

- Instead of this ointment, you can put 4 drops of lindane on half a lemon. Leave it for 5 minutes and then rub the lemon over your whole body, except the face, starting with the areas most affected.

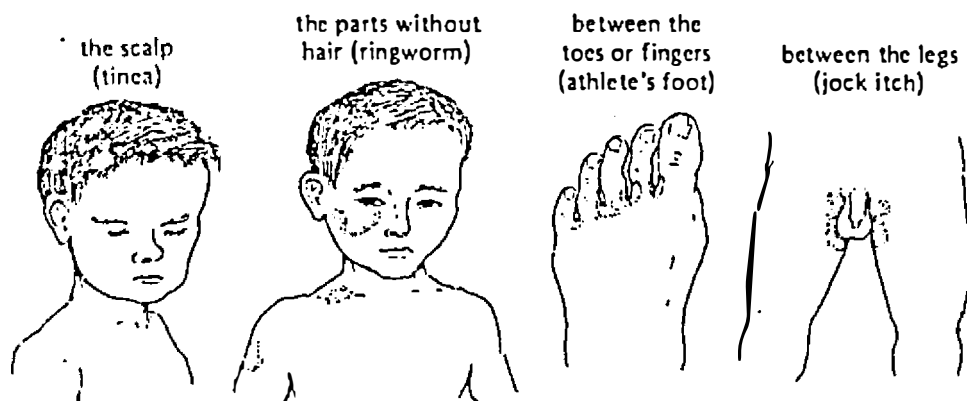


Note

Commercial ointments or solutions of gamma benzene hexachloride or benzyl benzoate (Kwell, Gammexane) also kill scabies but are more expensive. If you cannot get these or lindane, mix sulfur with fat or body oil and apply it to the skin. Use 1 part of sulfur with 10 parts of fat.

11.9.2. Ringworm, Tinea (Fungus Infections)

Fungus infections may appear on any part of the body, but occur most frequently on:



Children under ten are usually the worst sufferers.

Most fungus infections grow in the form of a ring. They often itch. Ringworm of the head can produce round spots with scales and loss of hair. Fingernails infected with the fungus become rough and thick.

Treatment

- Soap and water. Washing the infected part every day with soap and water may be all that is needed. If possible, use a soap with hexachlorophene.
- Do your best to keep the affected areas dry and exposed to the air or sunlight. Change underwear or socks often, especially when sweaty.
- Use a cream of sulfur and lard (1 part sulfur to 10 parts lard).
- Creams with salicylic or undecylenic acid help cure the fungus between the fingers, toes, and groin.
- For severe tinea of the scalp, or any fungus infection that is widespread or does not get better with the above treatments, take griseofulvin, 1 gram a day for adults and half a gram a day for children. It may be necessary to keep taking it for weeks or even months to completely control the infection.
- Many tinea of the scalp clear up when a child reaches puberty (11 to 14 years old). Severe infections forming large swollen patches with pus should be treated with compresses of warm water. It is important to pull out all of the hair from the infected part. Use griseofulvin, if possible.



How to prevent fungal infections

Ringworm and all other fungus infections are contagious (easily spread). To prevent spreading them from one child to others:

- Do not let a child with a fungal infection sleep with the others.
- Do not let different children use the same comb or use each other's clothing unless these are washed or well cleaned first.
- Treat an infected child at once.
- When many children with infection of the scalp are seen in schools, treating everybody will be very rewarding.

11.9.3. WHITE SPOTS ON THE FACE AND BODY

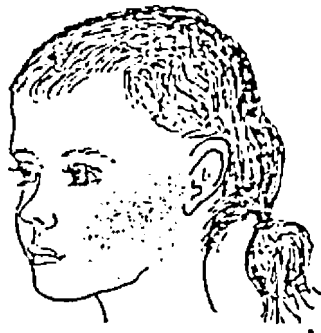
dark or light spots with a distinct and irregular border that are often seen on the neck, chest, and back may be a fungal infection called tinea versicolor. It usually does not itch and is of little medical importance.



Treatment

- Make a cream with sulfur and fat (1 part sulfur to 10 parts fat and apply it to the spots every day until they disappear.
- Sodium thiosulfate works even better. This is the 'hypo' photographers use when developing film. Dissolve a tablespoon of sodium thiosulfate in a glass of water, apply it to the skin, and then rub the skin with a piece of cotton dipped in vinegar.
- To prevent the spots from returning, it is often necessary to repeat this treatment every 2 weeks.

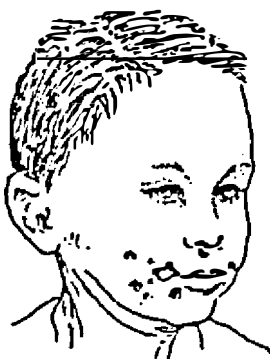
There is another kind of small whitish spot that is common on the cheeks of dark-skinned children who spend a lot of time in the sun. The border is less clear than in tinea versicolor. These spots are not an infection and are of no importance. usually they go away as the child grows up. No treatment is needed.



Contrary to popular opinion, none of these types of white spots is a sign of anaemia. They will not go away with tonics or vitamins. The spots that are only on the cheeks do not need any treatment.

11.9.4. IMPETIGO

This is a bacterial infection that causes rapidly spreading sores with shiny, yellow crusts. It often occurs on children's faces, especially around the mouth. Impetigo can spread easily to other people from the sores or contaminated fingers.



Prevention

- Follow the Guidelines of Personal Cleanliness. Bathe children daily and protect them from bedbugs and biting flies. If a child gets scabies, treat him as soon as possible.
- Do not let a child with impetigo sleep or play with other children. Begin treatment at the first sign.

Treatment

- Wash the affected part with soap and boiled water, gently soaking off the crusts.
- Paint the sores with gentian violet or spread on an antibiotic cream such as Polysporin or tetracycline, if that is all you have.
- If the infection is spread over a large area or causes fever, give penicillin tablets.

11.9.5. BOILS AND ABSCESSES

A boil, or abscess, is an infection that forms a sac of pus under the skin. Sometimes it results from a puncture wound or an injection given with a dirty needle. A boil is painful and the skin around it becomes red and hot. It can cause swollen lymph nodes and fever.



Treatment

- Put hot compresses over the boil several times a day.
- Let the boil break open by itself. After it breaks, continue applying hot compresses. Allow the pus to drain, but never press or squeeze the boil, since this may cause the infection to spread to other parts of the body.
- If the boil causes swollen nodes or fever, take penicillin tablets or erythromycin.
- If by 4th day patient is still feverish and the lump hurts a lot: patient should be referred to a health centre.

11.9.6. SMALL SORES WITH PUS

Skin infections in the form of small sores with pus often result from scratching insect bites, scabies, or other irritations with dirty finger-nails.



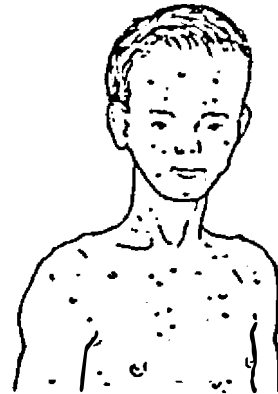
Treatment and Prevention

- Wash the sores well with soap and boiled water, gently soaking off the scabs. Do this daily as long as there is pus.
- Leave small sores open to the air. Bandage large sores and change the bandage frequently.
- If the skin around a sore is red and hot, or if the person has a fever, red lines coming from the sores, or swollen lymph nodes, use an antibiotic such as penicillin tablets or sulfa tablets.
- Do not scratch sores. This makes them worse and can spread infection to other parts of the body. Cut the fingernails of small children very short or put gloves or socks over their hands so they cannot scratch.
- Never let a child with sores or any skin infection play or sleep with other children. These infections are easily spread.

11.9.7. CHICKENPOX

This mild virus infection begins 2 to 3 weeks after a child is exposed to another child who has the disease.

First many small, red, itchy spots appear. These turn into little pimples or blisters that pop and finally form scabs. usually they begin on the body, and later on the face, arms, and legs. There may be spots, blisters, and scabs, all at the same time. Fever is usually mild.



Chickenpox is like measles, extremely contagious. The wind can transmit the small virus particles from the skin of an infected person over a distance of several metres to somebody else.

Treatment

The infection goes away in a week. Bathe the child daily with soap and warm water. To calm itching, apply cool clothes soaked in water from boiled and strained oatmeal. Cut fingernails very short. If the scabs get infected, put gentian violet or an antibiotic ointment on them.

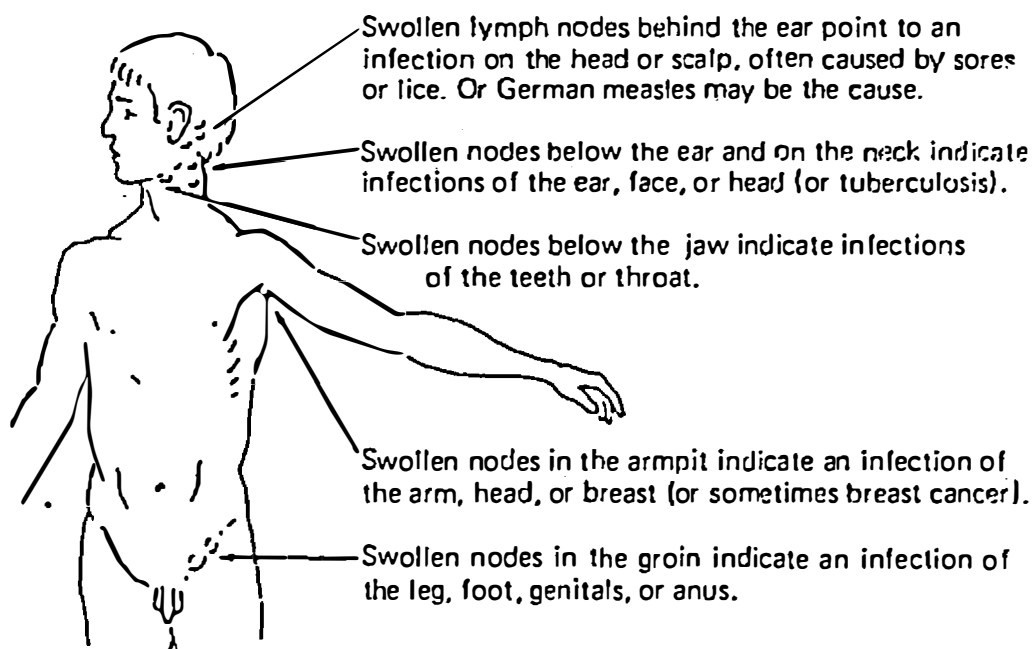
11.9.8. INFECTED WOUNDS: HOW TO RECOGNIZE AND TREAT THEM

A wound is infected if:

- it becomes red, swollen, hot and painful,
- it has pus,
- or if it begins to smell bad.

The infection is spreading to other parts of the body if:

- it causes fever,
- there is a red line above the wound,
- or if the lymph nodes become swollen and tender. Lymph nodes - often called 'glands' - are little traps for germs that form small lumps under the skin when they get infected.



Treatment of infected wounds

- Put hot compresses over the wound for 20 minutes 4 times a day. Hold an infected hand or foot in a bucket of hot water with soap or potassium permanganate (1 teaspoon to a bucket).
- Keep the infected part at rest and elevated (raised above the level of the heart).
- If the infection is severe or the person has not been vaccinated against tetanus, use an antibiotic like penicillin.

WARNING

If the wound has a bad smell, if brown or gray liquid oozes out, or if the skin around it turns black and forms air bubbles or blisters, this may be gangrene. Seek medical help fast.

WOUNDS THAT ARE LIKELY TO BECOME DANGEROUSLY INFECTED

These wounds are most likely to become dangerously infected:

- Dirty wounds, or wounds made with dirty objects.
- Puncture wounds and other deep wounds that do not bleed much.
- Wounds made where animals are kept.
- Large wounds with severe mashing or bruising.
- Bites, especially from dogs, or people.
- Bullet wounds.

Special care for this type of 'high risk' wound

1. Wash the wound well with boiled water and soap. Remove all pieces of dirt, blood clots, and dead or badly damaged flesh. Squeeze out the dirt using a syringe or suction bulb.
2. Soak the wound in water with potassium permanganate (1 teaspoon to a bucket). Then paint the wound with gentian violet or put a little antibiotic ointment into the wound and cover it with a clean bandage.
3. If the wound is very deep, if it is a bite, or if there is a chance that it still has dirt in it, use an antibiotic. The best is ampicillin, in capsules or, in the most serious cases, injections. If you cannot afford ampicillin, use penicillin, tetracycline, or a sulfa.
4. Never close this type of wound with stitches or 'butterfly' bandages. Leave the wound open.

The danger of tetanus is very great in people who have not been vaccinated against this deadly disease. To lower the risk, a person who has not been vaccinated against tetanus should use penicillin or ampicillin immediately after receiving a wound of this type, even if the injury is small.

If a wound of this type is very severe, a person who has not been vaccinated against tetanus should take large doses of penicillin or ampicillin for a week or more. Tetanus antitoxin should also be considered - but be sure to take the necessary precautions in its use.

SOURCE

- (1) Where There is No Doctor - David Werner (1978).
- (2) Communicable Diseases. Jan Eshius & Peter Manschot (1978).

11.9.9 GENERAL RULES FOR TREATING SKIN PROBLEMS

Although many skin problems need specific treatment, there are a few general measures that often help:

Rule no.1

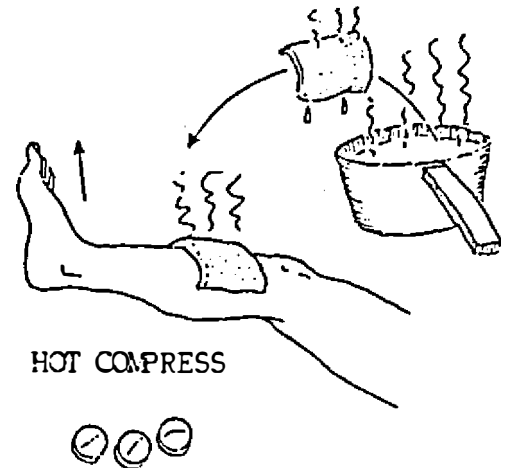
If the affected area is hot and painful, treat it with heat. Put hot, moist cloths on it (hot compresses).

If the skin shows signs of serious infection such as:

- inflammation (redness of skin around the affected areas)
- swelling
- pain
- heat (if feels hot)
- pus

Do the following:

- Keep the affected part still and elevate it (put it higher than the rest of the body).
- Apply hot, moist cloths
- If the infection is severe or the person has a fever, give antibiotics (penicillin or a sulfonamide).



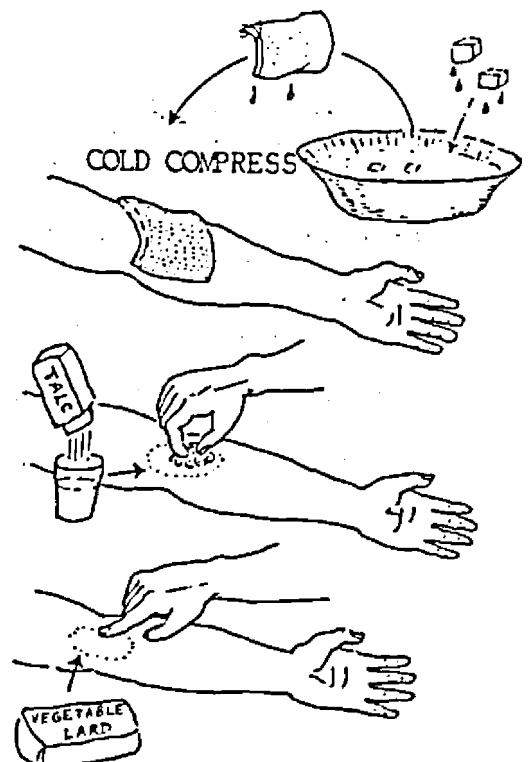
Danger signs include: swollen lymph nodes, a red line above the infected area, or a bad smell. If these do not get better with treatment - use an antibiotic and seek medical help quickly.

Rule no. 2

If the affected area itches, stings, or oozes, treat it with cold. Put cool, wet cloths on it (cold compresses)

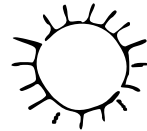
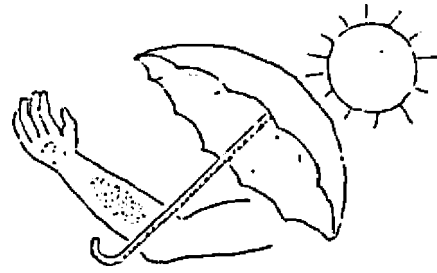
If the affected skin forms blisters or a crust, oozes, itches, stings, or burns, do the following:

- Apply cloths soaked in cool water, with white vinegar (2 tablespoons of vinegar in 1 quart of pur or boiled water).
- When the affected area feels better, no longer oozes, and has formed tender new skin, lightly spread on a mixture of talc and water (1 part talc to 1 part water).
- When healing has taken place, and the new skin begins to thicken or flake, rub on a little vegetable lard or body oil to soften it.



Rule no. 3

If the skin areas affected are on parts of the body often exposed to sunlight, protect them from the sun.



Rule no. 4

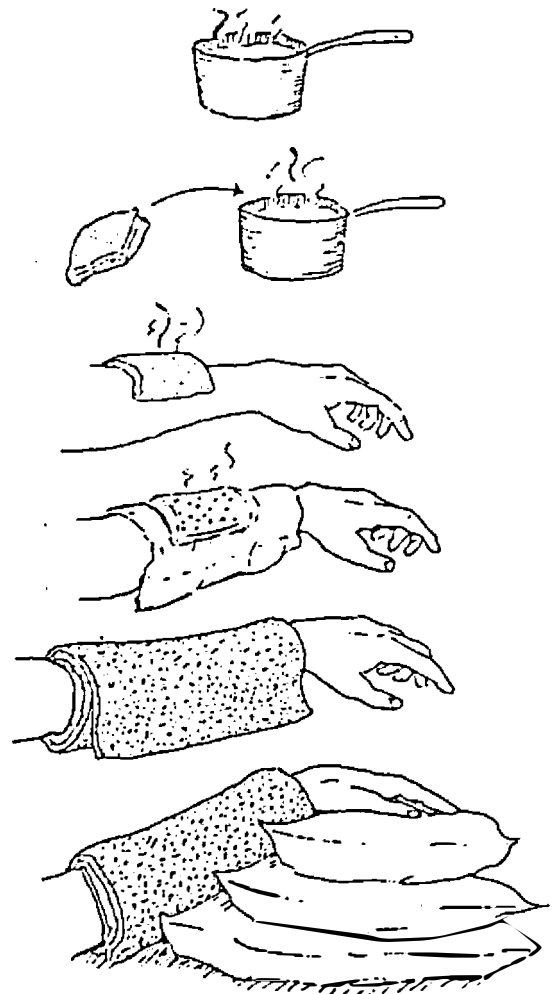
If the skin areas most affected are usually covered by clothing, expose them to direct sunlight for 20 minutes, 2 or 3 times a day.



If a skin problem is serious or gets worse in spite of treatment, seek medical help.

INSTRUCTIONS FOR USING HOP COMPRESSES (HOT SOAKS):

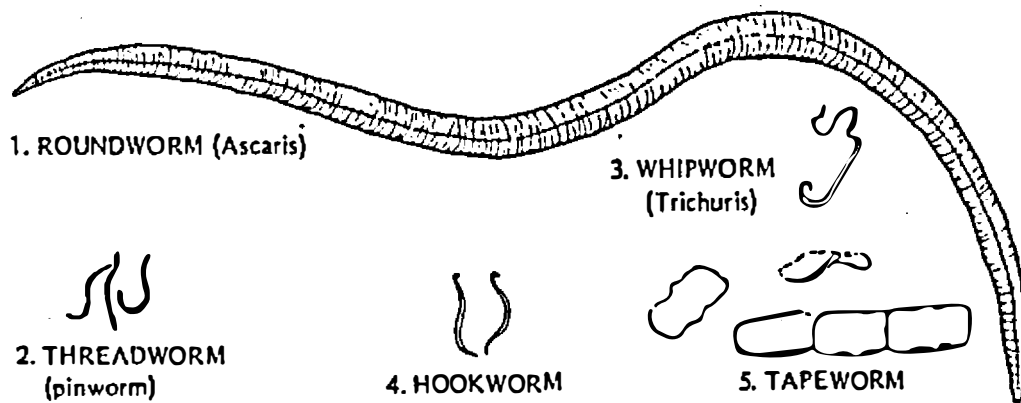
1. Boil water and allow it to cool until you can just hold your hand in it.
2. Fold a clean cloth so it is slightly larger than the area you want to treat, wet the cloth in the hot water, and squeeze out the extra water.
3. Put the cloth over the affected skin.
4. Cover the cloth with a sheet of thin plastic or cellophane.
5. Wrap it with a towel to hold in the heat.
6. Keep the affected part raised.
7. When the cloth starts to cool, put it back in the hot water and repeat.



SOURCE: Where there is no Doctor by David Werner.

11.10. WORMS AND PARASITES

There are many types of worms and other tiny animals (parasites) that live in people's intestines and cause diseases. Those which are larger are sometimes seen in the stools (faeces):

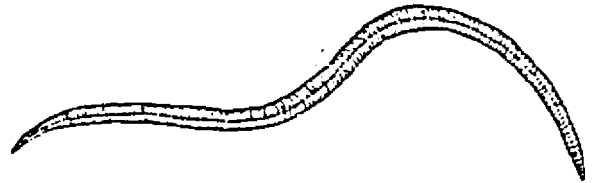


The only worms commonly seen in the stools are roundworms, threadworms, and tapeworms. Hookworms and whipworms may be present in the gut in large numbers without ever being seen in the stools.

Note: The most popular 'worm medicines' contain piperazine. These work only for roundworms and threadworms. Other worms must be treated with other medicines.

11.10.1. Roundworm (Ascaris)

20 to 30 cm long. Color: pink or white.



How they are spread

Faces-to-mouth. Through lack of cleanliness, the roundworm eggs pass from one person's stools to another person's mouth.

Effect on health

Once the eggs are swallowed, young worms hatch and enter the bloodstream; this may cause general itching. The young worms then travel to the lungs, sometimes causing a dry cough or, at worst, pneumonia with coughing of blood. The young worms are coughed up, swallowed, and reach the intestines, where they grow to full size.

Many roundworms in the intestines may cause discomfort, indigestion, and weakness. Children with many roundworms often have very large, swollen bellies. Rarely, roundworms may cause asthma, fits, or a dangerous obstruction or blockage in the gut. When the child has a fever, the worms sometimes come out in the stools or crawl out through the mouth or nose. Occasionally they crawl into the airway and cause gagging.

INTESTINAL WORMS ARE A PROBLEM OF BAD SANITATION

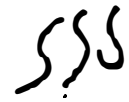
Prevention

Use latrines, wash hands before eating or handling food, protect food from flies, and follow the guidelines of cleanliness.

Treatment

One dose of piperazine will usually get rid of roundworms.

11.10.2. Threadworm (Pinworm, Enterobius)



1 cm long. Color: White. Very thin and threadlike.

How they are transmitted

These worms lay thousands of eggs just outside the anus. This causes itching, especially at night. When a child scratches, the eggs stick under his nails, and are carried to food and other objects. In this way they reach his own mouth or the mouths of others, causing new infections of threadworms.



Effect on health

These worms are not dangerous. Itching may disturb the child's sleep.

Treatment and Prevention

- A child who has pinworms should wear tight diapers or pants while sleeping to keep him from scratching his anus.
- Wash the child's hands and buttocks (anal area) when he wakes up and after he has a bowel movement. Always wash his hands before he eats.
- Cut his fingernails very short.
- Change his clothes and bathe him often - wash the buttocks and nails especially well.
- Put Vaseline in and around his anus at bedtime to help stop itching.
- Give him a worm medicine that contains piperazine. When one child is treated for these worms, it is wise to treat the whole family at the same time.
- Cleanliness is the best prevention for threadworms. Even if medicine gets rid of the worms, they will be picked up again if care is not taken with personal hygiene. Pinworms only live for about 6 weeks. By carefully following the guidelines of cleanliness, most of the worms will be gone within a few weeks, even without medicine.

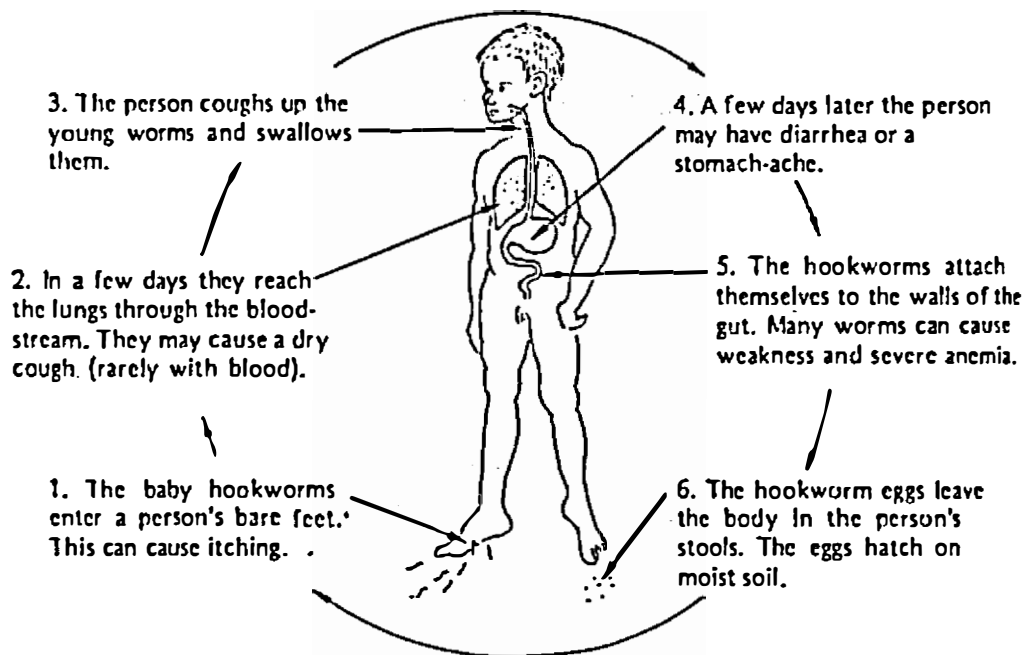
11.10.3. Hookworm



1 cm long. Color: red.

Hookworms cannot usually be seen in the faeces. A stool analysis is needed to prove that they are there.

How hookworms are spread:



Hookworm infection can be one of the most damaging diseases of childhood. Any child who is anaemic, very pale, or eats dirt may have hookworms. If possible, his stools should be analyzed.

Treatment

Use thiabendazole, mebendazole, tetrachloroethylene (T.C.E.) or bephenium. Treat anaemia by eating foods rich in iron and if necessary by taking iron pills.

Prevent hookworm: Build and use latrines.
Do not let children go barefoot.

Health education is an essential part of the treatment. If you just treat the child it will return to the same environment and immediately get reinfected.

In the intestines tapeworms grow several meters long. But the small, flat, white pieces (segments) found in the faeces are usually about 1 cm long. Occasionally a segment may crawl out by itself and be found in the underclothing.

 -
egg

People get tapeworms from eating beef (cow meat) or other meat that is not well cooked.

Be careful that all meat is well cooked, especially beef. Make sure no parts in the centre of roasted meat are still raw.

Effect on health

The greatest danger exists when the cysts (small sacs containing baby worms) get into a person's brain. This happens when the eggs pass from his stools to his mouth. For this reason, anyone with tapeworms must follow the guidelines of cleanliness carefully - and get treatment as soon as possible.

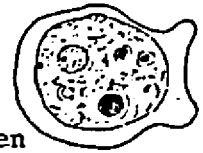
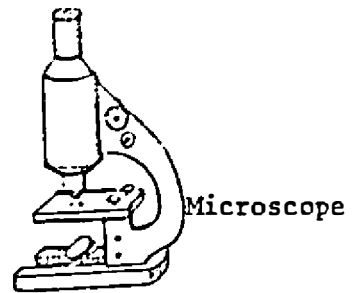
Take niclosamide (Yomesan), dichlorophen (Antiphen) or quinacrine (mepacrine, Atabrine). Follow instructions carefully.

11.10.5. Amebas

These are not worms, but tiny animals - or parasites - that can be seen only with a microscope (an instrument that makes things look much bigger).

How they are transmitted

The stools of infected people have millions of these tiny parasites. Because of poor sanitation, they get into the source of drinking water or into food, and other people become infected.



Ameba as seen
under microscope

Signs of infection with amebas

Many healthy people have amebas without becoming sick. However, amebas are a common cause of severe diarrhoea or dysentery (diarrhoea with blood) - especially in persons already weakened by other sickness or poor nutrition. Less commonly, amebas cause painful, dangerous abscesses in the liver.

Typical amebic dysentery consists of:

- diarrhoea that comes and goes - sometimes alternating with constipation;
- cramps in the belly and a need to have frequent bowel movements, even when little or nothing - or just mucus - comes out;
- many loose (but usually not watery) stools with lots of mucus, sometimes stained with blood;
- in severe cases, much blood; the person may be very weak and ill;
- usually there is no fever.

Diarrhoea with blood may be caused by either amebas or bacteria. However, bacterial dysentery (Shigella) begins more suddenly, the stools are more watery, and there is almost always fever. As a general rule:

Diarrhoea + blood + fever = bacterial infection (Shigella) Diarrhoea + blood + no fever - amebas

Occasionally bloody diarrhoea has other causes. To be sure of the cause, a stool analysis may be necessary.

Sometimes amebas get into the liver and form an abscess or pocket of pus. This causes tenderness or pain in the right upper belly. Pain may extend into the right chest and is worse when the person walks. (Compare this with gallbladder pain, hepatitis and cirrhosis). If the person with these signs begins to cough up a brown liquid, an amebic abscess is draining into his lung.

Treatment

- If possible get medical help and a stool analysis.
- Mild gut infection with amebas can be treated with metronidazole.
- If a person with diarrhoea has a fever lasting more than 6 hours after beginning treatment for dehydration and seems very ill give ampicillin if possible.
- For severe dysentery or amebic abscess, take tetracycline together with metronidazole. If metronidazole is not available, use chloroquine. (Tetracycline should not be provided to children under 12 years).

Prevention

Make and use latrines, protect the source of drinking water, and follow the guidelines of cleanliness. Those who are responsible for handling food should be extra careful.

11.10.6. (A) Blood Flukes (Schistosomiasis, Bilharzia)

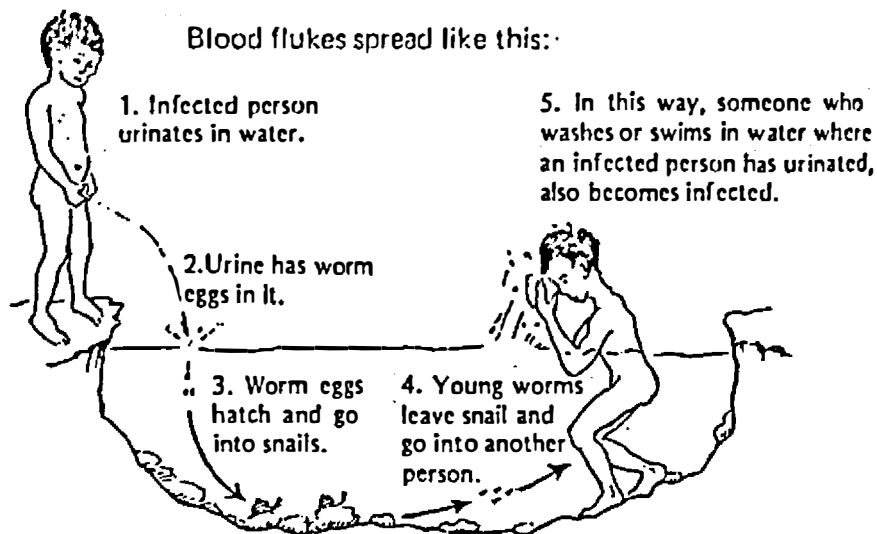
This infection, caused by a kind of worm that gets into the bloodstream, occurs only in certain parts of the world. It is common in much of Africa, the Middle East, and parts of Latin America. In areas where the disease is known to occur, any person who has blood in his urine should have his urine checked under a microscope to see if it has fluke eggs.

Signs

- The most common sign is blood in the urine, especially when passing the last drops.
- Pain may occur in the lower belly and between the legs; it is usually worst at the end of urinating. - Low fever and itching may occur.
- After months or years, the kidneys may be badly damaged - causing general swelling and death.

Prevention and Control

Blood flukes are not spread directly from person to person. Part of their life they must live inside a certain kind of small water snail.



(a) Control of Snails

The control of snails is one method for reducing transmission of schistosomiasis, but snail control has proved to be very difficult.

(b) Environmental sanitation

Prevention of snail breeding may be more important than killing of snails. This requires radical alteration of snail habitats by:

- Draining or filling of water bodies;
- clearing of vegetation in water bodies to deprive snails of food and resting places;
- irrigation schemes: intermittent irrigation will result in sudden changes of water level and wave action;
- flooding (harmful for all snails);
- changing speed of water flow in channels and rivers;
- protecting ponds;
- straightening and deepening margins of water bodies;
- when irrigation schemes are planned, these should be organized in such a way that at least no increase in snail population will occur. Sanitation engineers or public health specialists should be involved in planning;
- the supply of piped water to the people will not directly affect snail breeding but is most effective in reducing contact between man and snail and so will greatly reduce transmission of schistosomiasis.

(c) Prevention of infection of human beings

The most effective way to protect human beings from schistosomiasis is to give them an ample supply of safe water. Building of public water kiosks has the highest priority in the prevention of the disease. Water from other sources can be made safe by keeping it in a container for 48 hours – the three –pot system. Within this period the young worms will have died.

Action

When there is a high prevalence of schistosomiasis the following actions may be helpful:

- Give frequent health education on how the disease is spread.
- Stress the importance of a safe water supply.
- Emphasize the need for building pit latrines.
- Treat cases.

11.10.6.(B) THE LIFE CYCLE OF SCHISTOSOMIASIS

How to use the schistosomiasis poster

The point of explaining the life cycle is to help people to understand their role in causing, spreading and falling ill from schistosomiasis. People cause their own disease because of unhealthy habits. It is not the snail's fault that people get schistosomiasis! It is easier to understand that people cause schistosomiasis than to try to understand how the snail transmits the tiny parasite. You may want to start the story either where people cause schistosomiasis or where people catch schistosomiasis. It is probably better to start by saying that people cause it. Once people grasp this idea, schistosomiasis will be easier to control.

You can use the colour poster (overleaf) for individual or group discussions, and base your explanations on the notes on this page.

People cause schistosomiasis

People are responsible for their own disease. The worms which cause urinary schistosomiasis live in the blood vessels around the bladder; mother worms produce eggs, which are found in the urine. In children, most of the time these eggs are mixed with blood. The worms which cause intestinal schistosomiasis live in the blood vessels around the intestines, and mother worms produce eggs which are found in the faeces. About half of the eggs produced by the mother worms stay in the body and damage the liver (in intestinal schistosomiasis) or the bladder or kidneys (in urinary schistosomiasis).

If the eggs which leave the body reach fresh water, a tiny fast-moving parasite (a miracidium) leaves each egg by breaking the egg's shell, and swims about in the water. It must find and enter a snail so that it can continue to grow. Inside the snail the single parasite multiplies into thousands of fork-tailed parasites (cercaria); they escape after four to seven weeks into the water.

Sanitation and water supply

This is the simplest solution to stopping schistosomiasis. If people built latrines and used them, they would not contaminate the water. It is important for children to learn to use latrines and not to urinate or defecate in the water. If every child used latrines, then all could swim with no danger of getting schistosomiasis. Good village water supplies with pumps and pipes help people to stay away from water that has been contaminated.

Health education and planning

People are not usually aware that they cause schistosomiasis, nor do they realize how they get it. Once they know these things, they also need to know what they can do to stop schistosomiasis. They can best understand this if it is explained in their own language by people who know how to deal with the disease. Agricultural development is important because it helps provide more food. Irrigation projects, small reservoirs and lakes - which contribute to agricultural development - must be carefully planned. Schistosomiasis should be controlled and the people educated about schistosomiasis, right from the start - before the problem of schistosomiasis gets too big to handle.

Snail control

Chemicals are available to kill snails. In general, they are expensive and require very skilled people to use them in the water. Snails know how to bury themselves and escape the chemicals, and the chemicals have to be applied many times over.

A much simpler way to help control snails is to remove vegetation. People can remove plants from places where children swim in the water, or where women bring their children when washing clothes or dishes. The snails grow well on the plants; without plants, they cannot thrive.

People catch schistosomiasis

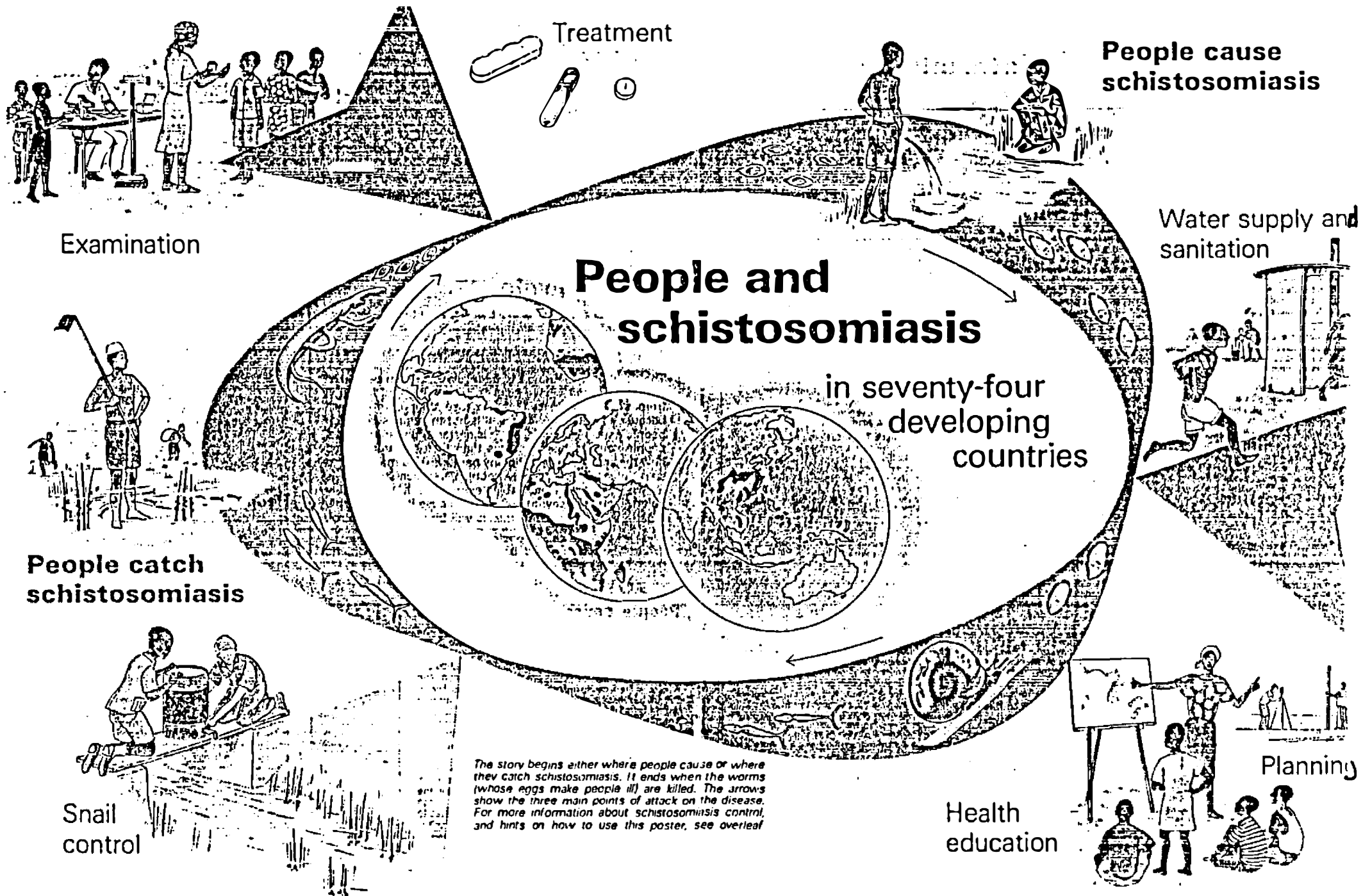
People get schistosomiasis by going into the water. Children love to swim and play in the water. Remember that they must be taught to urinate and defecate in latrines, far away from the water. Water is the most important part of our lives. Water makes the crops grow and keeps them green. People must work in the water to keep their crops growing, but they can stop schistosomiasis by getting treatment and by not urinating or defecating in the water.

The fork-tailed parasites, or cercariae, penetrate the skin of people who go into the water. This is the way the disease starts. Most of the time people don't know they have been infected.

Examination and treatment

The examination to find out if you are infected is a simple matter: a small sample of your urine or faeces can be looked at under the microscope very quickly. If there are eggs of the mother worm in your sample, you should be treated. In schools, all children should be checked once a year. If urinary schistosomiasis is in the area, schoolteachers can check their classes to see how many children have blood in their urine. Children with bloody urine may have schistosomiasis, and will need treatment.

New drugs - safe and effective - kill the worms which cause schistosomiasis. Once the worms are killed, they stop producing the eggs which damage various parts of the body and make people ill.



11.10.7. MALARIA

Malaria is an infection of the blood that causes chills and high fever. Malaria is spread by mosquitoes. The mosquito sucks up the malaria parasites in the blood of an infected person and injects them into the next person it bites.

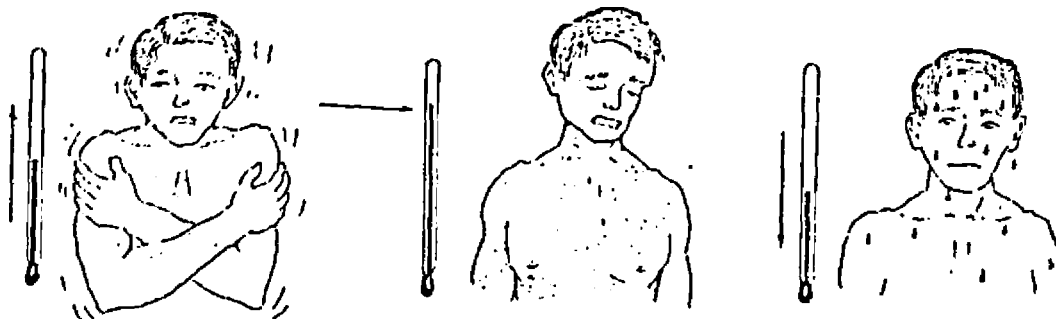
Signs of malaria

- The typical attack strikes every 2 or 3 days and lasts several hours. It has 3 stages:

1. It begins with chills— and often headache. The person shivers or shakes for 15 minutes to an hour.

2. Chills are followed by fever, often 40° or more. The person is weak, flushed (red skin), and at times delirious (not in his right mind). The fever lasts several hours.

3. Finally the person begins to sweat, and his temperature goes down. After an attack, the person feels weak, but more or less OK.



- Usually malaria causes fevers every 2 or 3 days (depending on the kind of malaria), but in the beginning it may cause fever daily. Also, in small children and persons who have had malaria before, the fever pattern may not be regular or typical. For this reason anyone who suffers from unexplained fevers should have his blood tested for malaria.

- Chronic malaria often causes a large spleen and anaemia.

Analysis and treatment

- If you suspect malaria or suffer from repeated fevers, go to a health centre for a blood test.

- If there is no health centre nearby, take chloroquine or whatever medicine is known to work best in your area. Using chloroquine tablets with 150mg of base, adults should take 4 tablets once a day for 3 days.

- If you get better with chloroquine, but after several days the fevers start again, you may need a different medicine, like primaquine. Get advice from the nearest health centre.

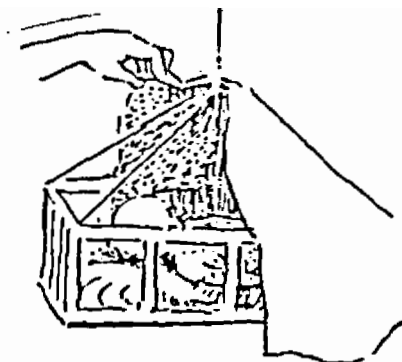
- If a person who possibly has malaria begins to have fits or other signs of meningitis he may have cerebral malaria. If possible inject chloroquine at once.

HOW TO AVOID MALARIA

Malaria is a problem in many of the hot or tropical parts of the world. If everyone cooperates, it can be controlled. All these control measures should be practiced at once.

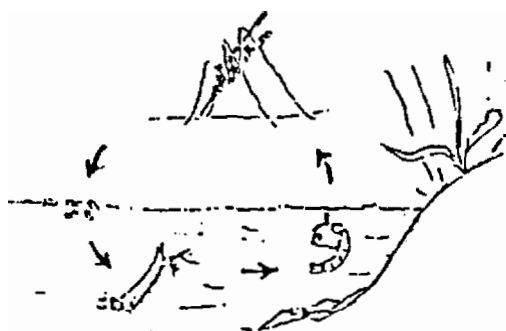
1. Avoid mosquitoes. Sleep where there are no mosquitoes or underneath a sheet.

Cover the baby's cradle with a mosquito netting or a thin cloth.



2. Cooperate with the malaria control workers when they come to your village. Tell them if anyone in the family has had fevers and let them take blood for testing.

3. If you suspect malaria, get treatment quickly. After you have been treated, mosquitoes that bite you will not pass malaria on to others.



4. Destroy mosquitoes and their larvae (young). Mosquitoes breed in standing water. Clear the neighbourhood of ponds, pits, old cans, or broken pots that collect water. Drain or put a little oil on pools or marshes where mosquitoes breed.

5. Malaria can also be prevented, or its effects greatly reduced, by taking different doses of anti-malaria medicines on a regular schedule.

11.10.8 RIVER BLINDNESS (ONCHOCERCIASIS)

This disease is common in many parts of Africa and certain areas of southern Mexico, Central America, and northern South America. The infection is caused by tiny worms that are carried from person to person by small, hump-backed flies or gnats known as black flies (simuliids).

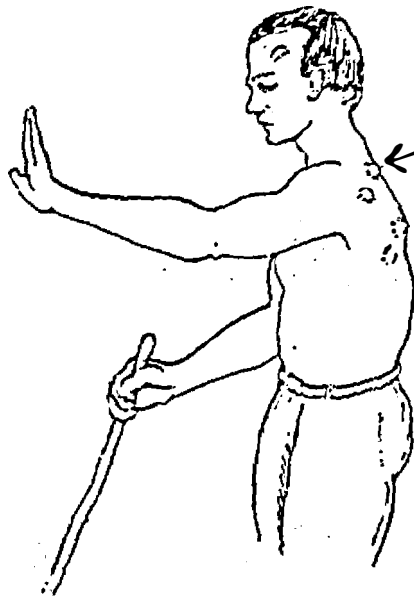
The worms are 'injected' into a person when an infected black fly bites him.

Signs of river blindness:



BLACK FLY

actual size →



- Several months after a black fly bites and the worms enter the body, lumps begin to form under the skin. In the Americas the lumps are most common on the head and upper body; in Africa on the lower body and thighs. Often there are no more than 3 to 6 lumps. They grow slowly to a size of 2 to 3 cm across. They are usually painless.
- There may be severe itching caused by an allergic reaction to the worms. Areas of the skin may become thick, dark, and scaly.
- Eye problems often develop. First there may be redness and tears, then signs of iritis. The cornea becomes dull and pitted as in xerosis. Finally sight is lost as a result of corneal scarring, cataract, glaucoma, or other problems.

Treatment of river blindness

Early treatment can prevent blindness. In areas where river blindness is known to occur, seek treatment when the first signs appear. Once damage to the eyes has begun, treatment is much more difficult, and the medicines may actually cause the eye problems to get worse.

- Diethylcarbamazine or suramin kills the worms. Both medicines have risks in their use and sometimes do more harm than good, especially when eye damage has already begun. They should only be given by experienced health workers.
- Antihistamines help reduce itching.
- Early surgical removal of the lumps lowers the number of worms.

Prevention

- Black flies breed in fast-running water. Clearing brush and vegetation back from the banks of fast-running streams may help reduce the number of flies.
- Avoid sleeping out-of-doors - especially in the daytime, which is when the flies usually bite.
- Cooperate with programmes for the control of black flies.
- Early treatment prevents blindness and also helps limit the spread of disease.

SOURCE

Where There is No Doctor by David Werner (1978).
Communicable Diseases by Jan Eshius et al (AMRF).
Child Health by Bo Baldin et al (AMRF).

11.11. COMMON RESPIRATORY INFECTIONS

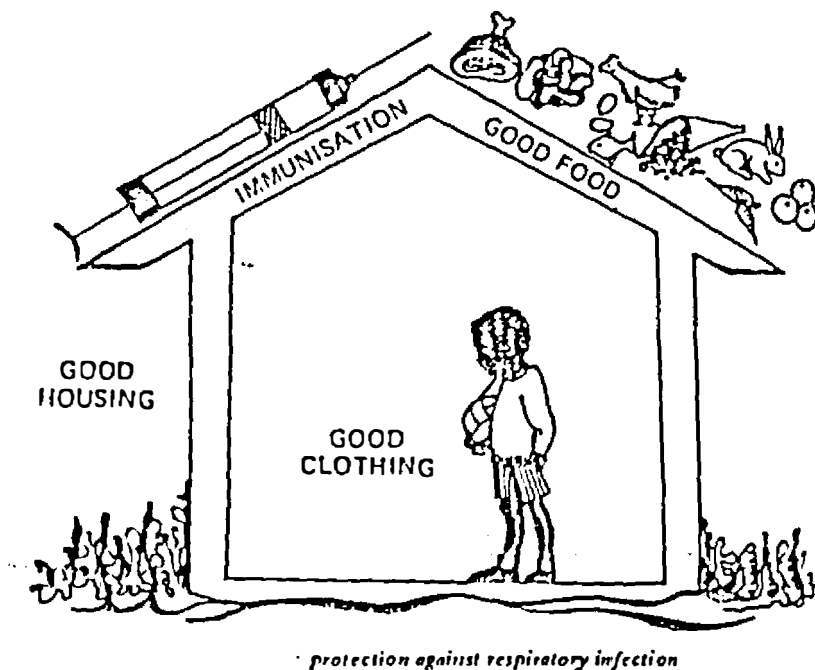
The respiratory tract infections are important due to their frequent occurrence and their tendency to be complicated by secondary bacterial infections.

Control of airborne diseases

Since the infective particles are spread by droplets from the respiratory tract of patients or carriers, an important part of the control of these diseases is based on preventing droplets from being inhaled by others'; in other words, people must not inhale 'second-hand' air.

HEALTH EDUCATION ABOUT PERSONAL HYGIENE

- to cover the mouth when coughing and sneezing
- to use a handkerchief or paper for disposal of nasal secretions and sputum
- not to spit on the ground in or outside the house
- not to share cigarettes, drinking bowls in pome shops, or eating utensils



11.11.1. COUGH

Coughing is not a sickness in itself, but is a sign of many different sicknesses that affect the throat, lungs or bronchi (the network of air tubes going into the lungs). Below are some of the problems that cause different kinds of coughs:

DRY COUGH WITH LITTLE OR NO PHLEGM cold or flu worms - when passing through the lungs measles smoker's cough	COUGH WITH MUCH OR LITTLE PHLEGM bronchitis pneumonia asthma	COUGH WITH A WHEEZE OR WHOOP AND TROUBLE BREATHING asthma whooping cough diphtheria heart trouble
CHRONIC OR PERSISTENT COUGH tuberculosis smoker's or miner's cough asthma chronic bronchitis emphysema	COUGHING OF BLOOD tuberculosis pneumonia blood-streaked phlegm severe worm infection	

Coughing is the body's way of cleaning the breathing system and getting rid of phlegm (mucus with pus) and germs in the throat or lungs. So when a cough produces phlegm, do not take medicine to stop the cough, but rather do something to help loosen and bring up the phlegm.

TREATMENT FOR COUGH

1. To loosen mucus and ease any kind of cough, drink lots of water. This works better than any medicine.

Also breathe hot water vapours. Sit on a chair with a bucket of very hot water at your feet. Place a sheet over your head and cover the bucket to catch the vapours as they rise. Breathe the vapours deeply for fifteen minutes. Repeat several times a day. Some people like to add mint or eucalyptus leaves or Vaporub, but hot water works just as well alone.



2. Avoid cough syrups: cough syrups do not do much good. Do not rely on them, instead of wasting money on expensive cough syrups, it is better to buy nutritious food.

3. Try to find out what sickness is causing the cough and treat that. If the cough lasts a long time, if there is blood, pus or smelly phlegm in it, or if the person is losing weight or has continual difficulty breathing, see a health workers.

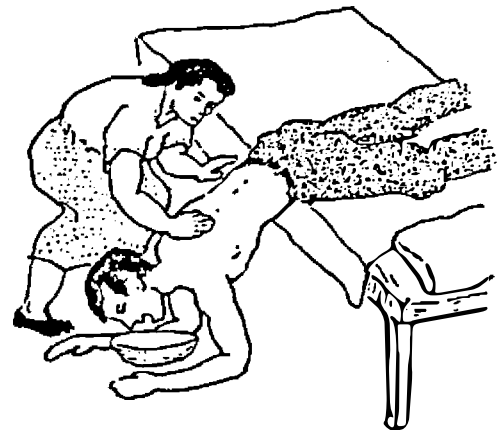
4. If you have any kind of a cough, do not smoke. Smoking damages the lungs.

To prevent a cough, do not smoke.
To cure a cough, treat the illness that causes it - and do not smoke
To calm a cough, and loosen phlegm, drink lots of water - and do not smoke

HOW TO DRAIN MUCUS FROM THE LUNGS (POSTURAL DRAINAGE)

When a person who has a bad cough is very old or weak and cannot get rid of the sticky mucus or phlegm in his chest, it will help if he drinks a lot of water. Also do the following:

- First, have him breathe hot water vapours to loosen the mucus.
- Then have him lie partly on the bed, with his head and chest hanging over the edge. Pound him lightly on the back. This will help to bring out the mucus.



11.11.2. SORE THROAT, TONSILLITIS AND RHEUMATIC FEVER

Sore Throat and Inflamed Tonsils

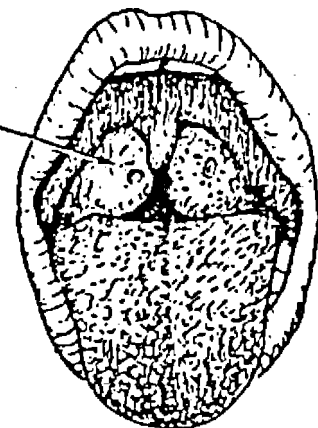
These problems often begin with the common cold. The throat may be red and hurt when the child swallows. The tonsils (two lymph nodes seen as lumps on each side at the back of the throat) may become large and painful or drain pus. Fever may reach 40°

Prevention :

Improve ventilation, reduce over-crowding and follow rules of personal hygiene.

Treatment:

- = Gargle with very warm salt water (1 teaspoon of salt in a glass of water)
- Take aspirin or acetaminophen for pain
- If pain and fever come on suddenly or continue for more than 3 days, see the following page.



Sore Throat and the Danger of Rheumatic Fever:

For the sore throat that often comes with the common cold or flu, antibiotics should usually not be used and will do no good. Treat with gargles and aspirin.

However, one kind of sore throat - called strept throat - should be treated with penicillin. It is most common in children and young adults. It usually begins suddenly with severe sore throat and fever, often without signs of a cold or cough. The back of the mouth and tonsils may become very red, and the lymph nodes under the jaw may become swollen and tender.

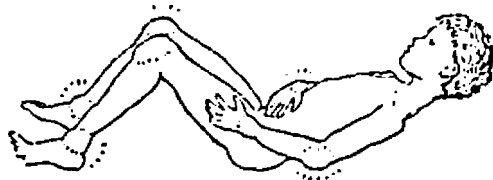
Give penicillin for 10 days. If penicillin is given early and continued for 10 days, there is less danger of getting rheumatic fever. A child with strep throat should eat and sleep far apart from others, to prevent their getting it also.

Rheumatic Fever

This is a disease of children and young adults. It usually begins 1 to 3 weeks after the person has had a strep throat (see above).

Principal signs (usually only 3 or 4 of these signs are present):

- fever
- joint pain, especially in the wrists and ankles, later the knees and elbows. Joints become swollen, and often hot and red
- curved red lines or lumps under the skin
- in more serious cases, weakness, shortness of breath, and perhaps heart pain.



Prevention:

- To prevent rheumatic fever, treat "strep throat" early with penicillin - for 10 days.
- To prevent return of rheumatic fever, and added heart damage, a child who has once had rheumatic fever should take penicillin for 10 days at the first sign of a sore throat. If he already shows signs of heart damage, he should take penicillin on a regular basis or have monthly injections of benzathine penicillin perhaps for the rest of his life. Follow the advice of an experienced health worker or doctor.

Source:

Where there is no Dr.

Treatment:

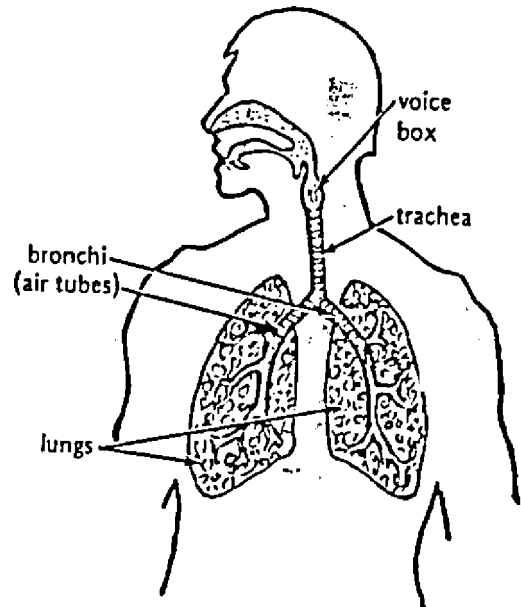
- If you suspect rheumatic fever, see a health worker. There is a risk that the heart may become damaged.
- Take aspirin in large doses. A 12-year-old can take up to 2 or 3 tablets of 300 mg. 6 times a day. Take them together with milk or a little bicarbonate of soda, to avoid stomach pain. If the ears begin to ring, take less.
- Give penicillin, 400 000 unit tablets, 1 tablet 4 times a day for 10 days.

11.11.3. PNEUMONIA

Pneumonia is an acute infection of the lungs. It often occurs after other respiratory illnesses such as measles, whooping cough, flu, bronchitis, asthma- or any very serious illness.

Signs:

- Rapid shallow breathing, sometimes with wheezing. The nostrils may spread with each breath.
- Cough (often with yellow, greenish, or slightly bloody mucus).
- Chest pain (sometimes).
- The person looks very ill.
- A very sick child who takes more than 50 shallow breaths a minute probably has pneumonia



Control of Pneumonia:

- The control of pneumonia is based on the general principles governing control of the airborne diseases, e.g. improving ventilation, reducing over-crowding and following rules of personal hygiene
- Vaccination to prevent diseases frequently complicated by pneumonia, such as measles and whooping cough, is of utmost importance - watch for signs of pneumonia.
- Mortality can be greatly reduced by early diagnosis and treatment, especially in children and the elderly.

Source:

Where there is no Dr. , and Communicable Diseases Eshuis and Manschot

EARLY TREATMENT REDUCES MORTALITY

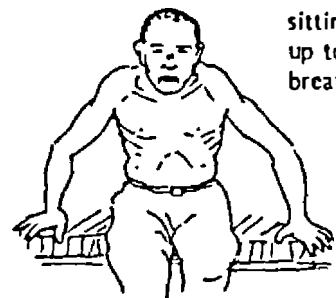
Treatment:

- Seek medical help
- For pneumonia , treatment with antibiotics can make the difference between life and death. Give penicillin or sulfonamide tablets. In serious cases, inject procain penicillin, adults: 400 000 units (250 mg.) 2 or 3 times a day or ampicillin 500 mg., 4 times a day. Give small children 1/4 to 1/2 the adult dose.
- Give aspirin or acetaminophen to lower the temperature and lessen the pain.
- Give plenty of liquids. If the person will not eat, give him liquid foods or Rehydration drink.
- Ease the cough and loosen the mucus by giving the person plenty of water and having him breathe hot water vapours. Postural drainage may also help.
- If the person is wheezing, an anti-asthma medicine with theophylline or ephedrine may help.

WHEN A PATIENT WITH PNEUMONIA DOES NOT
IMPROVE ON TREATMENT, EXAMINE THE SPUTUM
FOR TB

11.11.4. ASTHMA

A person with asthma has fits or attacks of difficult breathing. Listen for a hissing or wheezing sound, especially when breathing out. When he breathes in, the skin behind his collar bones and between his ribs may suck in as he tries to get air. If the person cannot get enough air, his nails and lips may turn blue, and his neck veins may swell. Usually there is no fever.



sitting
up to
breathe

Asthma often begins in childhood and may be a problem for life. It is not CONTAGIOUS, but is more common in children with relatives who have asthma. It is generally worse during certain months of the year or at night. Persons who have had asthma for years may develop emphysema.

An asthma attack may be caused by eating or breathing things to which the person is allergic. In children asthma often starts with a common cold. In some persons nervousness or worry also plays a part in bringing on an asthma attack.

Prevention:

A person with asthma should avoid eating or breathing things that bring on attacks. The house or work place should be kept clean. Do not let chickens or other animals inside. Put bedding out to air in the sunshine. Sometimes it helps to sleep outside in the open air. Persons with asthma may improve when they move to a different area where the air is cleaner.

If you have asthma do not smoke - smoking damages your lungs even more.

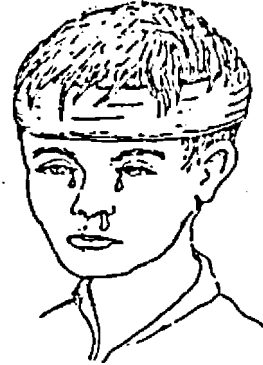
Treatment:

- If asthma gets worse inside the house, the person should go outside to a place where the air is cleanest. Remain calm and be gentle with the person. Reassure him.
- Give a lot of liquids. This loosens mucus and makes breathing easier. Breathing water vapour may also help.
- If the person does not get better, seek medical help.
- For mild attacks ephedrine or theophylline may be needed.
- If the asthma attack is specially bad, injection of Adrenalin may be needed;
- If the person has a fever, or if the attack lasts more than 3 days, tetracycline capsules or erythromycin may also be needed.
- In rare cases, roundworms cause asthma. Try giving piperazine to asthmatic children if you think they have roundworms.

11.11.5. COLDS AND THE FLU

Colds and the flu are common virus infections that may cause runny nose, cough, sore throat, and sometimes fever or pain in the joints. There may be mild diarrhoea, especially in young children.

Colds and the flu almost always go away without medicine within a week. Do not use penicillin, tetracycline, or another antibiotics as they will not help at all and may cause harm.



- Drink plenty of water and get enough rest.
- Aspirin or acetaminophen helps lower fever and relieves body aches and headaches. More expensive 'cold tablets' are no better than aspirin. So why waste your money?
- No special diet is needed. However fruit juices, especially orange juice or lemonade, are helpful.
- For treating coughs and stuffy noses that come with colds, see the next pages.

If a cold or the flu lasts more than a week, or if the person has fever, coughs up a lot of phlegm (mucus with pus), has shallow fast breathing or chest pain, he could be developing bronchitis or pneumonia. An antibiotic may be called for. The danger of a cold turning into pneumonia is greater in old people and those who have lung problems like chronic bronchitis.

Sore throat is often part of a cold. No special medicine is needed, but it may help to gargle with warm water. However, if the sore throat begins suddenly, with high fever, it could be a strep throat. Special treatment is needed.

Prevention of Colds:

- Getting enough sleep and eating well helps prevent colds. Eating oranges, tomatoes, and other fruit containing vitamin C may also help.
- Contrary to popular beliefs, colds do not come from getting cold or wet. A cold is 'caught' from others who have the infection and sneeze the virus into the air.
- To keep from giving his cold to others, the sick person should eat and sleep separately - and take special care to keep far away from small babies. He should cover his nose and mouth when he coughs or sneezes.
- To prevent a cold from leading to earache, do not blow your nose - just wipe it. Teach children to do the same.

CLASSROOM ROLE PLAYS THAT LEAD TO COMMUNITY THEATER PRODUCTIONS

Some of the best village theater presentations we have seen have grown out of role plays and sociodramas that first took place in the classroom.

Example: A skit about sensible treatment of the common cold.

A common difficulty for health workers is trying to convince people that injections and antibiotics are not needed for the common cold. Some health workers in Mexico used role playing to explore this problem. They acted out such a powerful skit that they decided to develop it into a short play and present it to the whole village. In its final form it included the following scenes:



Scene 1. A mother, Maria, arrives at the health post with her small son, Amir, who has a bad cold. She asks the health worker to give him an injection. The health worker examines the boy and finds only signs of a common cold.

He gives the appropriate advice .



But Maria insists that her son needs an injection of Respicil. (This is an antibiotic containing penicillin and streptomycin, commonly used for colds, by doctors and by people in general). The health worker explains as best as he can why antibiotics are of no help for colds and may be harmful, but Maria looks doubtful. She thanks the health worker and leaves.

Scene 2. Another mother, Zahra, arrives with her daughter, Fatima, who has a bad cold, too. Zahra also wants her child to be injected. But she listens to the health worker's advice and decides to try treating Fatima with fruit juice, aspirin and good food. For the cough, she agrees to give her daughter lots of water, and to have her breathe hot water vapours. The health worker shows Zahra how.

Scene 3. Marie, on leaving the health post, goes to the home of a village quack (untrained doctor who injects).

Much to Amir's protests, the woman injects him. He screams in pain. Then, limping and crying, Amir is led away by his mother.



Scene 4. (Several days later)

Marie brings Amir to the health worker. The boy limps in with the aid of a stick. He has a high fever, and an abscess on his backside where he was injected. The health worker recommends hot soaks and other appropriate treatment. He reminds Maria not to inject any of her children the next time they have a cold.

Scene 5. On their way home, Maria and Amir meet Zahra and Fatima on the street. Zahra asks Maria why her boy is limping, Maria explains, but adds, "At least the injection cured him of his cold."

"Maybe not," says Zahra. "My Fatima had a bad cold at the same time as your son. But I followed the health worker's advice. I gave her lots of fruit juices and aspirin and good food. She got over her cold in no time."

"I'm sure glad I didn't get an injection and end up like you," says Fatima to Amir.

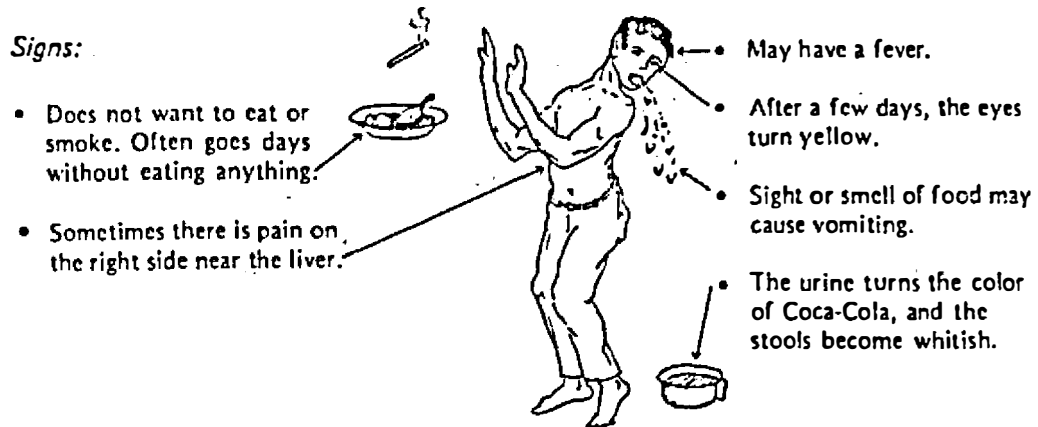
"Next time my boy has a cold, I won't have him injected either," says Maria
"I'll just give him aspirin."

"Don't forget fruit juice, lots of water and good food", says Fatima. "They help fight off the cold. Next time Amir will get well again as fast as I did".



11.12. HEPATITIS

Hepatitis is a virus infection that harms the liver. Even though in some places people call it 'the fever' hepatitis often causes little or no rise in temperature. The disease is usually mild in small children and more serious in older persons.



In general, the person is very sick for 2 weeks and remains very weak for 1 to 3 months after.

Treatment

- Isolate patients with hepatitis.
- Antibiotics do not work against hepatitis. In fact some medicines will cause added damage to the sick liver. Do not use medicines.
- The sick person should rest and drink lots of liquids. If he refuses most food, give him orange juice, papaya, and other fruit, plus broth with chicken or other proteins. It may help to take vitamins.
- To control vomiting.
- When the sick person can eat, give a balance of energy foods and protein. Beans, meat, chicken, and boiled eggs are good. Avoid lard and fatty foods. Do not drink any alcohol for a long time afterward.

Prevention

- The hepatitis virus passes from the stool of one person to the mouth of another by way of contaminated water or food. To prevent others from getting sick, it is very important to bury or burn the sick person's stools and to keep him very clean. The person providing care should wash his hands well after each time he goes near the sick person.
- Small children often have hepatitis without any signs of sickness, but they can spread the disease to others. It is very important that everyone in the house follow all the guidelines of cleanliness with great care.

WARNING

Hepatitis can also be transmitted by giving injections with needles that are not sterile (not well boiled). Always boil needles and syringes before each use.



DO NOT USE SYRINGES, NEEDLES TWICE WITHOUT STERILIZING. BOIL FOR TWENTY MINUTES. COUNTING OF 20 MTS SHOULD START AFTER THE WATER HAS STARTED TO BOIL.

SOURCE

Where There is No Doctor by David Werner (1978).

11.13. ALLERGIC REACTIONS

An allergy is a disturbance or reaction that affects only certain persons when things they are sensitive or allergic to are ...

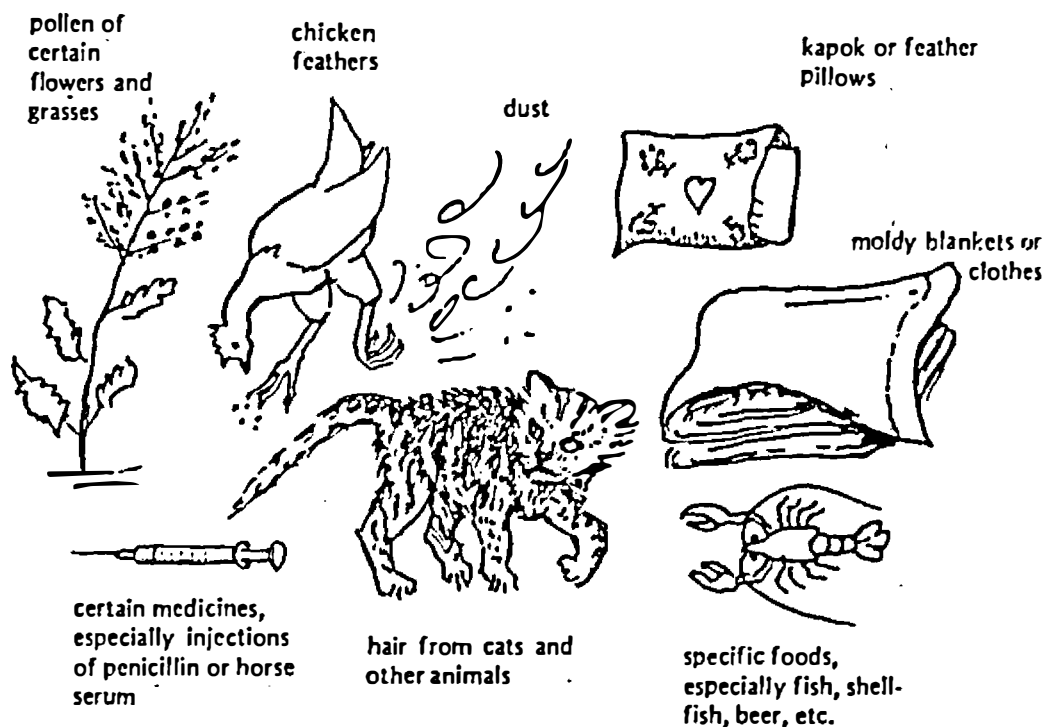
- breathed in
- eaten
- injected
- or touch the skin

Allergic reactions, which can be mild or very serious, include:

- itching rashes, lumpy patches or hives
- runny nose and itching or burning eyes
- irritation in the throat, difficulty breathing, or asthma
- allergic shock
- diarrhoea (in children allergic to milk - a rare cause of diarrhoea)

An allergy is not an infection and cannot be passed from one person to another. However, children of allergic parents also tend to have allergies.

Often allergic persons suffer more in certain seasons - or whenever they come in touch with the substances that bother them. Common causes of allergic reactions are:



ITCHING RASH, WELTS, OR HIVES (ALLERGIC REACTIONS IN THE SKIN)

Touching, eating, injecting, or breathing certain things can cause an itching rash or hives in allergic persons.

Hives are thick, raised spots or patches that look like bee stings and itch like mad. They may come and go rapidly or move from one spot to another.

Be on the watch for any reaction caused by certain medicines, especially injections of penicillin and the antivenins or antitoxins made from horse serum. A rash or hives may appear from a few minutes up to 10 days after the medicine has been injected.

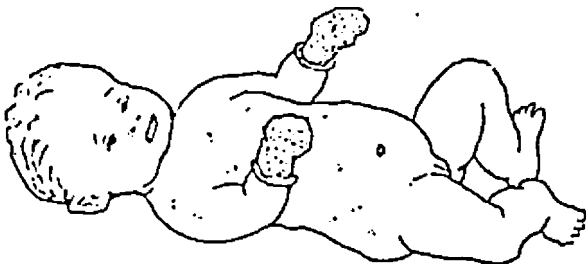


If you get an itching rash, hives, or any other allergic reaction after taking or being injected with any medicine, stop using it and never use that medicine again in your life!

This is very important to prevent the danger of ALLERGIC SHOCK

Treatment of itching

- Bathe in cool water or use cool compresses - clothes soaked in cold water or ice water.
- Compresses of cool oatmeal water also calm itching. Boil the oatmeal in water, strain it, and use the water when cool. (Starch can be used instead of oats).
- If itching is severe, taken an antihistamine like chlorpheniramine.



To protect a baby from scratching himself, cut his fingernails very short, or put gloves or socks over his hands.

HAY FEVER (ALLERGIC RHINITIS)

Runny nose and itchy eyes can be caused by an allergic reaction to something in the air that a person has breathed in. It is often worse at certain times of year.

Treatment

Use an antihistamine such as chlorpheniramine

Prevention

Find out what things cause this reaction (for example: dust, chicken feathers, pollen, mold) and try to avoid them.

SOURCE: Where There is No Doctor by David Werner (1978)

UNIT XII

DRUGS, SMOKING AND DRINKING ALCOHOL

UNIT 12: DRUGS, SMOKING AND DRINKING ALCOHOL

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
12.1 <u>Topic:</u> Medicine and their Use		
<u>Learning activities:</u> - <u>Define</u> medicine	Science/Hygiene	5-6
- <u>List</u> with examples four different uses of medicines	" "	"
- <u>State</u> the time and dates when they last took medicines and provide the reasons for taking the medicine	" "	"
<u>Resource material:</u> What are medicines (12.1).		
12.2 <u>Topic:</u> Overuse of medicines in some common sickness		
<u>Learning activities:</u> - <u>Participate</u> in a survey of drug use for common sickness in at least ten families.	Mathematics	5-6
- <u>Present</u> their findings in the class.	"	"
- <u>List</u> four common sickness where no medicines were required (based on survey).	"	"
- <u>Explain</u> why using medicines too much are harmful.	"	"
- <u>Communicate</u> to parents specific messages related to overuse of medicines (based on survey).	"	"
- <u>Draw</u> health education posters related to overuse of medicines.	Art "	"
<u>Resource material:</u> Sensible and limited use of medicines (12.2).		

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
12.3 <u>Topic</u> : Dangerous misuse of medicines and guidelines for the use of medicines		
<u>Learning activities</u> : -Name few drugs which are commonly misused.	Science/Hygiene, Home Economics	4-6
-List at least 10 rules which one should follow when using medicines.	" "	"
-Communicate to parents the 10 rules on rational use of medicines.	" "	"
-Participate in staging a show entitled "Useless medicines that sometimes kill".	" "	"
<u>Resource material</u> : Dangerous misuse of medicine and guidelines for the use of medicines (12.3 (A)). Village theatre: Useless medicines that sometimes kill (12.3 (B)).		
12.4 <u>Topic</u> : Smoking and Chewing Tobacco and its effect on Health		
<u>Learning activities</u> : - Provide six reasons why smoking is injurious to health	Religion	5-6
- List two reasons why chewing tobacco is injurious to health	"	"
- Communicate to parents the harmful effects of smoking and chewing tobacco	"	"
- Persuade peers to avoid smoking.		
- <u>Avoid</u> peers pressure by saying NO to offers of cigarettes	"	"
<u>Resource material</u> : Tobacco smoking and Tobacco Chewing (12.4).		

TOPICS, LEARNING ACTIVITIES AND REFERENCE TO RESOURCE MATERIAL	SUBJECT	GRADE
12.5 <u>Topic:</u> Drinking		
<u>Learning activities:</u> - <u>Describe</u> the effects of alcohol on different parts of the body - <u>State</u> three reasons why people choose not to drink alcohol - <u>Communicate</u> to parents the harmful effects of alcohol - <u>Participate</u> in organizing and staging a play depicting harmful effects of alcohol - <u>Avoid</u> peer pressure by saying NO to offers of cigarettes	Religion " " " "	5-6 " " " "
<u>Resource material:</u> Drinking alcohol and their harmful effects (12.5)		

1 2.1 What are medicines ?

Medicines are drugs that help cure some kinds of disease. Suppose a person is suffering from tonsillitis caused by bacteria. The doctor prescribes medicine. The medicine kills the bacteria and the person is cured.

Drugs Used as Medicine



Drugs can be used to relieve pain, control diseases, and save lives. Knowing how to correctly and safely use medicines is important for everyone.

Of course medicine cannot cure all kinds of diseases. Sometimes medicines are used to relieve symptoms of a disease. For example fever and body aches may be symptoms of flu. Medicines cannot cure flu but they can relieve symptoms. This makes a person feel much better.

There are other times when medicines are taken every day because diseases cannot be cured and need to be kept under control. For example some kind of heart disease cannot be cured so some people take medicines to keep their hearts beating the right way.

Lastly there are some medicines that can be used to prevent a disease. These medicines are known as vaccines. Vaccines help body to make antibodies. The antibodies protect us from one kind of diseases. For example, if one has had a measles vaccine then he will not get measles because he has measles antibodies.

So in Summary, we can say that medicines are drugs which help cure us from diseases, treats symptoms, keeps some disease under control and lastly protects us (through vaccination) from having certain kinds of disease.

Source : (1) Health : Focus on you (1984) by LIWA BROWER WEEKS
and Philip Heit Ed. D. Charles, E. Merill Publishing
Company.

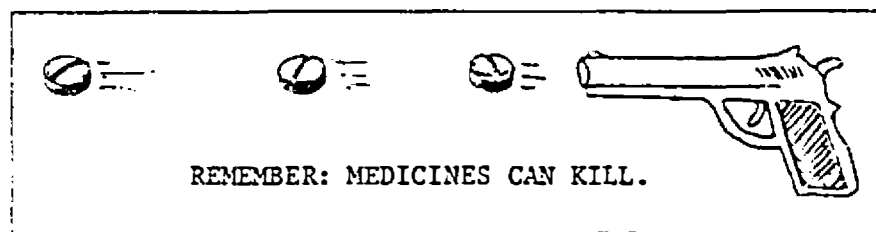
(2) Where there is no doctor - David Werner.

12.2. SENSIBLE AND LIMITED USE OF MEDICINES

One of the most difficult and important parts of preventive care is to educate your people in the sensible and limited use of medicines. A few modern medicines are very important and can save lives. But no medicine is needed for most sicknesses. The body itself can usually fight off sickness with rest, good food, and perhaps some simple home remedies.

Instead of teaching people to depend on medicines they do not need, take time to explain why they should not be used. Also tell the person what he can do himself to get over his sickness.

This way you are helping the person to rely on a local resource (himself), rather than on an outside resource (medicine). Also, you are protecting the person, for there is no medicine that does not have some risk in its use.



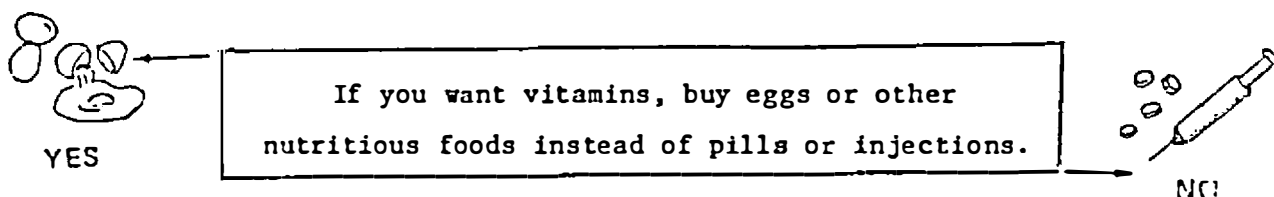
Four common health problems for which people too often request medicines they do not need are (1) the common cold, (2) minor cough, and (3) diarrhoea (4) weakness.

- . The common cold is best treated by resting, drinking lots of liquids. and at the most taking aspirin. Antibiotics do not help at all.
- . For minor coughs, or even more severe coughs with thick mucus or phlegm, drinking a lot of water will loosen mucus and ease the cough faster and better than cough syrup. Breathing warm water vapor brings even greater relief. Do not depend on cough syrup or other medicines.

For most diarrhoea of children use of medicines does not make them get well. Many of those commonly used may even be harmful. What is most important to the child's recovery is the mother, not the medicine. If you can help mothers understand this and learn what to do, many children's lives can be saved.

For weakness vitamins are often demanded and prescribed by health professionals in many parts of the world. This should be strongly discouraged..

Anyone who eats well gets all the vitamins he needs. It is always better to eat well than to buy vitamin pills, injections, syrups or tonics.



Sometimes nutritious foods are scarce. If a person is already poorly nourished, he should eat as well as he can and perhaps take vitamins besides

USE OF MEDICINES

Medicines are often used too much, both by doctors and by ordinary people.

This is unfortunate for many reasons :

- . It is wasteful.
- . It makes people depend on something they do not need (and often cannot afford).
- . Every medicine has some risk in its use. There is always a chance that an unneeded medicine may actually do the person harm.
- . What is more, when some medicines are used too often for minor problems, they lose their power to fight dangerous sicknesses.

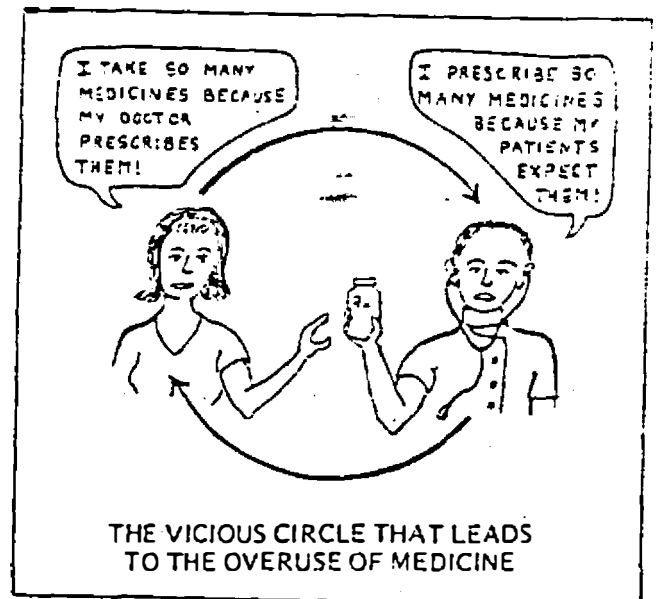
Perhaps the biggest reason for overuse of medicines, however, is that doctors and health workers often find it easier to hand out medicine than to give the time and personal attention that people need.

About 4 out of 5 illnesses are self-limiting. This means people get well whether they take medicine or not. Most health problems can be better managed without any medication. What often will help people most is friendly advice and understanding support.

However, many doctors and health workers get into the habit of giving everyone medicine - for any and every problem they have. The less curable the problem, the more medicines they give!

At the same time, people have come to expect medicine every time they visit a doctor or health worker. They like to believe that "there is a medicine for everything". They are disappointed if the doctor or health worker does not give them any, even when medicines will do no good and the health worker carefully explains why.

So a "vicious circle" results in which the doctor always gives medicine because the "patient" always expects (or demands) it, because the doctor always gives it. The prescribing of a medicine becomes both the symbol and the substitute for human caring. This problem is especially common in places where doctors, nurses, and health workers are overworked. The result



is not only a costly overuse of medicine, but a failure to meet human needs on human terms.

For all the above reasons the use of medicines should be limited.

But how ? Neither rigid rules and restrictions nor permitting only highly trained persons to decide about the use of medicines has prevented overuse. Only when the people themselves are better informed will the limited and careful use of medicines be common.

To educate people about sensible and limited use of medicines is one of the important jobs of the health worker.

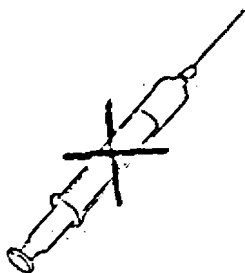
Source : (1) Where there is no Doctor. David Werner.

(2) Helping health workers learn : David Werner and Bill Bower.

12.3 .A. DANGEROUS MISUSE OF MEDICINE AND GUIDELINES FOR THE USE OF MEDICINES.

Here is a list of the most common and dangerous errors people make in using modern medicines. The improper use of the following medicines causes many deaths each year. BE CAREFUL!

1. Injections of any medicine



The common belief that injections are usually better than medicine taken by mouth, is not true. Many times medicines taken by mouth work as well as or better than injections. Also, most medicine is more dangerous injected than when taken by mouth. Use of injections should be very limited.

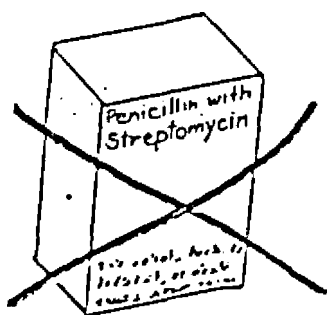
2. Penicillin

Penicillin works only against certain types of infections. Frequent use of penicillin for sprains, bruises, or any pain or fever is a great mistake. As a general rule, injuries that do not break the skin, even if they make large bruises, have no danger of infection; they do not need to be treated with penicillin or any other antibiotic.

Penicillin is dangerous for some people. Before using it, know its risks and the precautions

3. Injections of penicillin with streptomycin

(There are many brand names)



These medicines are used too much, and often for the wrong thing. They should not be used for colds, for three reasons :

1. They do not work against colds and flu.
2. They can cause serious problems-sometimes deafness or death.
3. Their overuse makes it more difficult to cure tuberculosis or other serious illnesses.

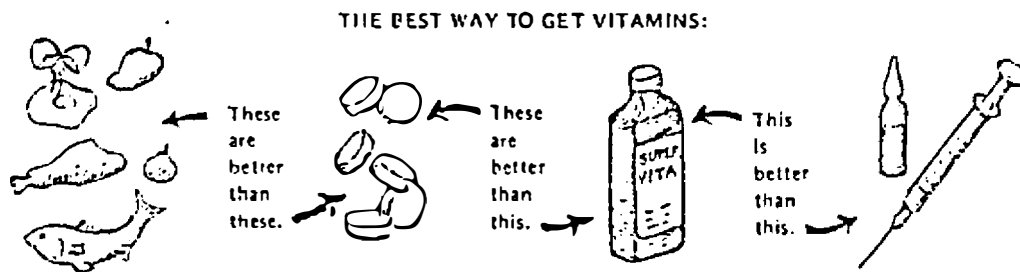
4. Vitamins

Unfortunately, many people waste their money on syrups, tonics and "elixirs" that contain vitamins. Many lack the most important vitamins.

But even when they contain them, it is wiser to buy more and better food. Body-building and protective foods like eggs, meat, fruit, vegetable, and whole grains are rich in vitamins and other nutrients.

Giving a thin, weak person good food more often will usually help him far more than giving him vitamin and mineral supplements.

A person who eats well does not need extra vitamins.



5. Laxatives and Purges



It is always dangerous to give a laxative or purge to a baby or to anyone who is very weak, dehydrated, or has severe pain in his belly. Unfortunately, people often believe that purges bring back health or clean the bad things out of the body. Purges or strong laxatives nearly always do more harm than good.

Guidelines for the use of medicine :

1. Use medicines only when necessary.
2. Know the correct use and precautions for any medicine you use
3. Be sure to use the right dose.
4. If the medicine does not help, or causes problems, stop using it.
5. When in doubt, seek the advice of a health worker.
6. Know what to do if you miss taking the drug at a particular time.
7. Keep all drugs out of reach of children
8. Be sure all drug containers have labels
9. Small children should be taught to take medicines only from parents or an adult who is in charge of them.
10. Know if you should finish the entire medicine even if you feel better
11. Do not take a medicine prescribed for someone else.

Note : Some health workers and many doctors give medicines when none is needed, often because they think patients expect medicine and will not be satisfied unless they get some. Tell your doctor or health worker you only want medicine if it is definitely needed. This will save you money and be safer for your health.

Only use a medicine when you are sure it is needed and when you are sure how to use it.
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Source : (1) Helping Health Workers learn : David Werner and Bill Bower.
(2) Health : Focus on you (1984) by LIWA BROWER MEERS
and Philip Heit Ed. D. Charles, E. Merrill Publishing Co.

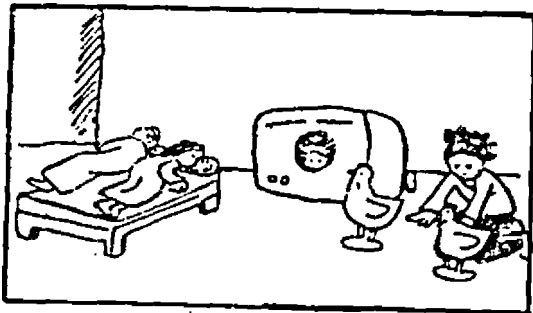
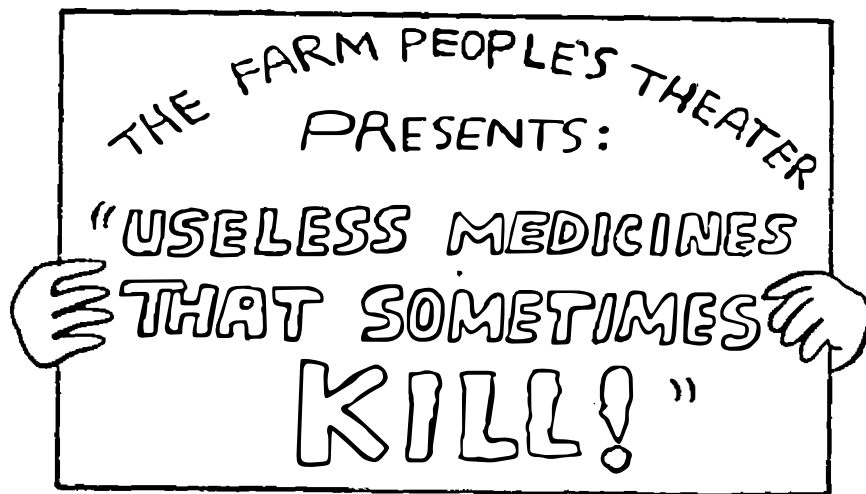
VILLAGE THEATER

12.3.B. USELESS MEDICINES THAT SOMETIMES KILL

Overuse and misuse of medicines is a problem in many countries this problem is made worse by international drug companies that advertise 'patent medicines' by radio. They do this during the hours before dawn, when many farm families listen to popular country music. The medicines advertised are very expensive and of little use, yet many people are convinced by the smooth-talking voice in the radio. So they waste their limited money on vitamin tonics and other 'wonder drugs'.

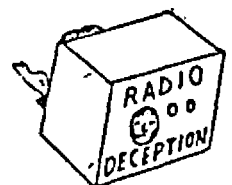
Also, many rural people in Mexico and elsewhere believe that intravenous solution has tremendous healing powers. Villagers call it "artificial life". Instead of buying nutritious food, older people who are weak or anemic sometimes spend their last pesos to have a nurse or 'modern healer' put a liter of I.V. solution into their veins.

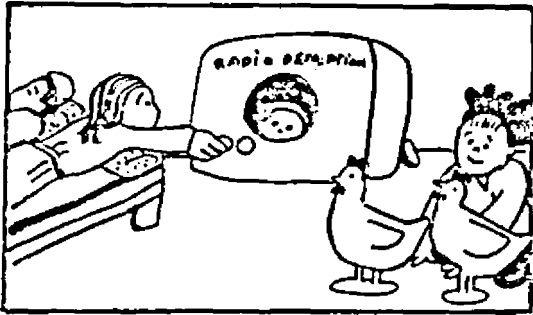
The following play tries to show the dangers of this kind of misuse of medicines. It was put on for the village of Ajoya by a team of local health workers, as part of a training programme. The text is same. Only the names have been changed.



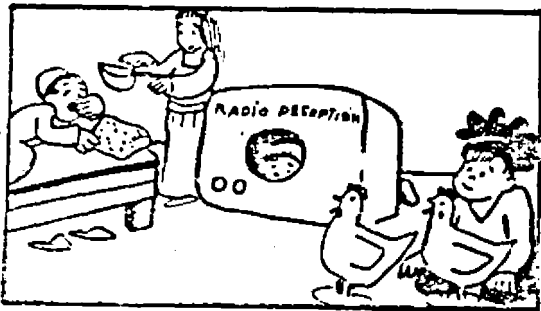
2. It is nearly dawn. The rooster crows, "Cock-a-doodle-doo". (The rooster is actually a health worker in costume). The old man and his wife stir in bed, as they usually wake up early in the morning.

Beside the bed is an enormous 'radio' with a sign that reads "RADIO DECEPTION". Hidden inside the radio is an actor.

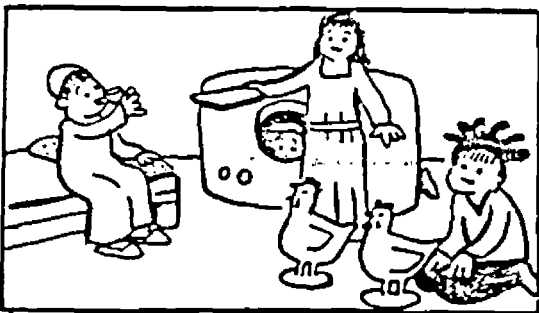
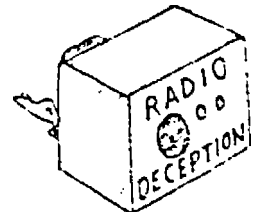




3. Old Zahra turns on the radio. There are sounds of country music. Then the voice from the radio says, "Good morning to you all. The last song was dedicated to Juanita Torres in Ajoia, Sinaloa. And now, before we play more country favourites, a word from Meyerhov Drug Company: Are you feeling weak and tired? Do you find it hard to wake up in the morning? You may be suffering from 'tired blood'. What you need are the new VITA-MEYERHOV vitamin pills. You'll wake up every morning feeling like dancing. Remember, VITA-MEYERHOV".



4. As Zahra gets up and begins to make beans for breakfast, the music and advertisements continue. But look, her husband, Amir is still in bed. He feels too weak to get up.



5. Finally Zahra coaxes him out of bed and gives him a cup of tea. He asks what there is for breakfast. She answers "Just beans. You know that's all we have".



6. Just then, they hear a knock on the door. (bang, bang, bang). It is their neighbour who makes his living by selling medicines that he buys in the city.





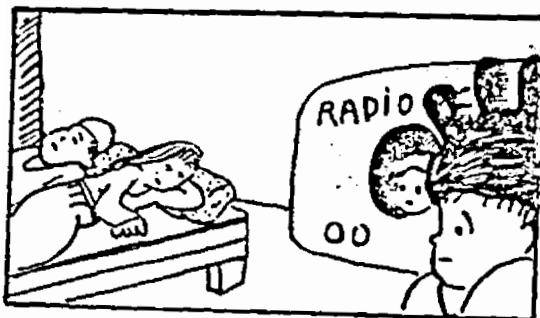
7. Today he is selling VITA-MEYERHOV! Old Zahra is excited because she just heard about VITA-MEYERHOV on the radio. She is sure that it will make her husband wake up strong and eager to work, like before. The salesman tells them the bottle is worth 300 pesos. But since they are such good friends, he will let them have it for only 150 pesos.



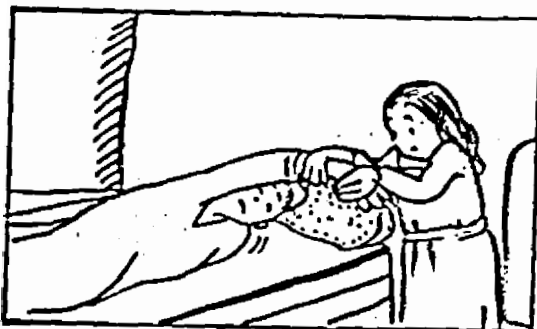
8. But the old couple only has 50 pesos. So they have to sell their 2 chickens, at 50 pesos each, in order to pay for the vitamins.



9. As their neighbour, the salesman, walks away with the chickens, the couple eagerly talks about how wonderful things will be when old Amir's health is restored.

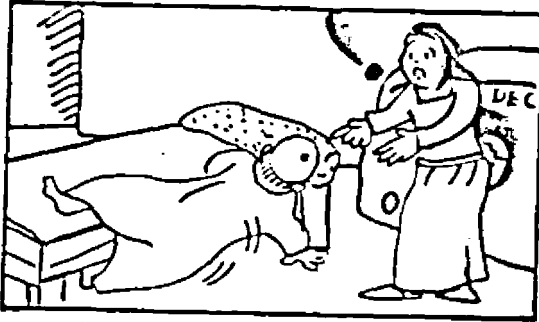


10. The next scene takes place a few weeks later. Again it was dawn, the rooster crows "Cock-a-doodle-dooo", and Zahra turns on the radio. The beat of ranchero music drifts out into the silent dawn. The radio announcer wishes a good morning to all, and goes on with more praise for the products from Meyerhov Drug Company.

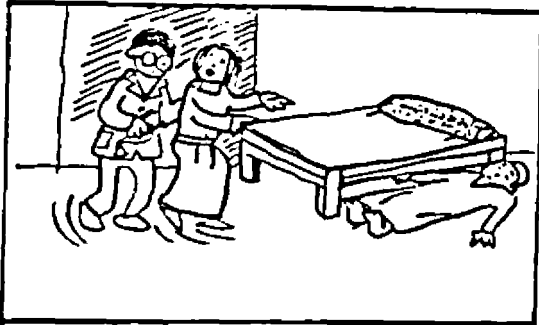


11. While the radio announcer is praising the miraculous VITA-MEYERHOV, we see old Lino is too weak to get out of bed by himself. His wife tries to pull him out.





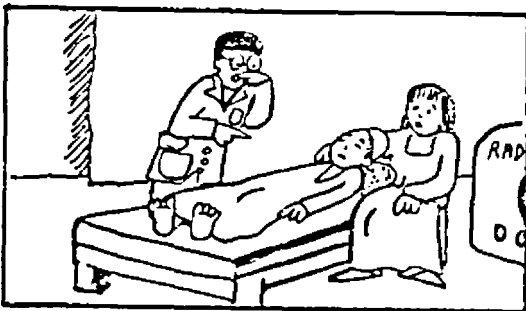
12. Amir tries to get up, but falls to the ground. Zehra cannot lift him up by herself.



13. Frightened, she runs out to get help from the village health worker. The health worker comes running.



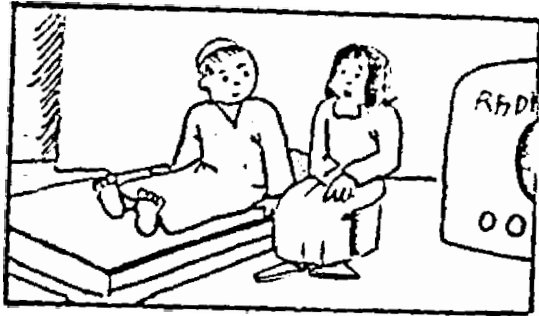
14. Between them, Zehra and the health worker lift Amir back onto the bed. The health worker figures out that his weakness comes from not eating well. The family has barely enough maize to make tortillas, and none to trade for beans. They sold their last two chickens to buy the VITA-MEYERHOV vitamins.



15. The health worker explains that the eggs from those chickens would have helped Lino much more than the vitamin pills. But Zehra is not convinced. She thinks that her husband should be given 'artificial life'



(I.V. solution).. The health worker tells her that this is just sugar water; it would be safer and cheaper for Amir simply to mix sugar and water, and drink it. But what the old man really needs is more and better food. Maybe their neighbours can get together and help them out with the food problem. He will speak to them.



16. After the village health worker leaves, the old man and his wife talk things over. They are not sure they trust the young health worker. "What does he know? He is just a villager like us. We saw him when he was born. An ugly baby at that". They decide to get Miss Ivy, the nurse, to give Lino an I.V.



17. So that afternoon, Miss Ivy comes to the house. (To make the play more entertaining the role of Miss Ivy is played by the same young man who plays the health worker. He has to change costumes quickly).



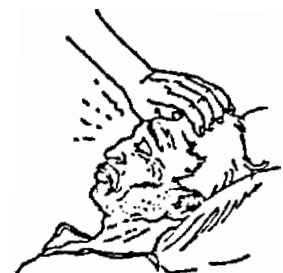
18. Nurse Ivy gives Lino an intravenous solution. He says he feels a little stronger already.



19. Because they do not have much money, the old couple gives the nurse their prize, rooster as partial payment for her services. But they will still owe her money.

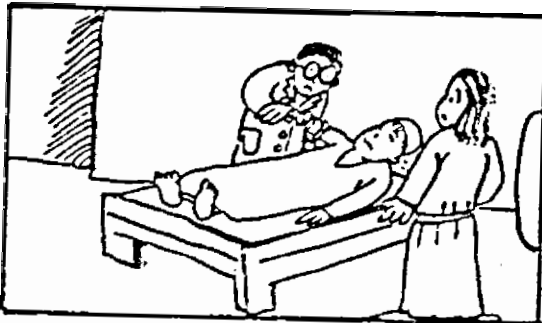


20. The next morning when old Zahar wakes up, she notices that Lino has a fever and seems very ill. She cannot waken him.

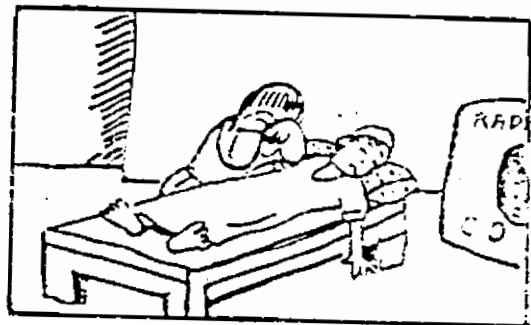




21. She runs to get the village health worker. He comes right away. He asks what could have happened to cause this sudden turn for the worse. - Zahra admits that they did not follow his advice and instead gave Amir I.V. solution.



22. The health worker examines Amir and finds that he is in critical condition, probably because of an infection in the blood introduced with the I.V. solution. He runs back to the health post to get antibiotics to fight the infection.



23. But before the health worker can return with the medicine, Amir dies. The lesson is painfully clear:

FOOD, NOT MEDICINE, IS THE KEY TO GOOD HEALTH - ESPECIALLY FOR PEOPLE WHO ARE WEAK AND HUNGRY. DO NOT WASTE YOUR MONEY ON VITAMINS OR OTHER MEDICINES ADVERTISED ON THE RADIO.

BUY FOOD - NOT VITAMINS

AND DO NOT USE I.V. SOLUTIONS TO GAIN STRENGTH

12.4 TOBACCO SMOKING AND TOBACCO CHEWING

Tobacco is a plant that grows in warm climates. When full grown the leaves are shredded. Cigarettes, cigars and pipe tobacco are made from the shredded leaves. Tobacco can also be used as chewing tobacco (ground tobacco leaves) or as a powder made from ground leaves (snuff).

I. Tobacco smoking

There are some people who use tobacco. There are others who do not. Here are some of the reasons why most people are choosing not to smoke and also why they try to stay away from people while they are smoking.

Reason I :

Cigarette smoke contains chemicals substances, tar and gas which are injurious to health.

A. Nicotine :

One chemical substance in cigarette smoke is nicotine. Nicotine is a colourless drug that is a poison. Because of nicotine, it is difficult to stop smoking. A person who smokes gets used to the nicotine and cannot get along without it. Another harmful effect of nicotine is on our arteries. Nicotine causes arteries to become narrower. This makes it hard for blood to reach all parts of our body.

B. Tar

Another substances found in tobacco smoke is tar. Tar is a sticky, gummy substance that harms the lungs of smokers. As a person continues to smoke, tar builds up around the cells of the lungs. This affects the way a person's lungs can work. Tar is also a carcinogen. A carcinogen is a substance that is known to cause cancer.

Smoking is the cause of almost all cases of lung cancer. Lung cancer usually causes death.

C. Carbon monoxide

Carbon monoxide is a gas that has no odor or color. It is present in cigarette smoke. This gas is dangerous to people. Let us see why this is so.

When a person inhales, air that contains oxygen enters the lungs. Oxygen is needed by every body cell. From the lungs, oxygen is picked up and carried to the cells by the blood.

When a person smokes, the amount of oxygen that enters the lungs is reduced. The person inhales some carbon monoxide instead. The blood picks up this gas instead of oxygen. Yet, the body cells still need oxygen. To make up for the lower amount of oxygen, the heart must beat faster. Extra strain is put on the heart muscle. This is one of the reasons why smokers have more heart problems than nonsmokers.

The heart and blood are not the only parts of the body affected by carbon monoxide. Vision can be affected. A person might find it difficult to tell how bright an object is. Carbon monoxide can also reduce a person's ability to react. It might take a person longer to move away from sudden danger.

Nicotine, tar, and carbon monoxide are only some of the dangerous substances in tobacco smoke. There are about 3000 different chemicals in cigarette smoke.

Reason II.

Smoking damages lungs by causing Emphysema and Bronchitis

Smoking causes another lung disease called emphysema (em fuh see muh). In emphysema, the air sacs in the lungs are damaged or destroyed. Damaged or destroyed air sacs reduce the amount of oxygen that can be passed to the blood. To get enough oxygen in the blood, a person with emphysema has to breathe fast. This causes the person to use more energy. Most people use

very little of their energy to breathe. People with emphysema use most of their total energy just to breathe. They have little energy to do anything else. Walking up a flight of stairs can be a major task.

Emphysema is more common among smokers than nonsmokers. It can slow be a cause of death.

Smoking also causes chronic bronchitis (brahn KITE us). Chronic bronchitis is a buildup of extra mucus in the air passages. The extra mucus causes a person to cough. Also, mucus covers the lungs. This makes it hard for oxygen to get to the blood.

It may take many years for diseases such as lung cancer and emphysema to affect a person.

Reason III

Smoking damages sense of smell, affects tastes, reduces physical activity and makes one more susceptible to cold.

Below are listed some other ways that smoking affects our health now.

(i) Physical activity

Smoking causes a person to be out of breath sooner than a nonsmoker.

Smoker	Nonsmoker
. Breathes fast after walking up one flight of stairs . Cannot run 1/4 mile . Tires easily during physical activity	. Breathes at resting rate after walking up one flight of stairs . Can run a mile . Can play during physical activity without tiring too easily.



(ii) Sense of Smell

Smoking harms the nerve endings of the nose. As a result a person would not enjoy the smell of food as well as one might if he or she did not smoke.

(iii) Sense of Taste

Smoking affects the special cells on the tongue that help to taste food. A smoker would not enjoy food as much as a nonsmoker.

(iv) Colds

Germs affect smokers more than nonsmokers. Smokers would have colds more often than non-smokers.

An important fact to remember is that it is hard to stop smoking once a person starts. The easiest way not to have a smoking problem is not to start.

Reason IV :

Sidestream smoke are injurious too.

Sidestream smoke can be either visible or invisible. It can cause ones breadth and clothes to smell.

One may feel that smokers have a right to smoke and may believe that smoke from another person's cigarette cannot affect others. However, studies now show that sidestream smoke can be dangerous to a non-smoker's health. Sidestream smoke is smoke one inhales from other people's cigarettes even if the same persons are not smoking. Studies show that nonsmokers who work in a smoky area can be harmed. They can suffer the same effects as if they smoked one to ten cigarettes a day. To protect the lungs, it is wise to stay away from people while they are smoking.

Reason V :

SMOKING AND PREGNANCY

The most tragic victims of cigarettes are potentially the babies of mothers who smoke. Pregnant women who smoke are more likely to have :



Smoking pregnant lady

- . Underweight babies (less than 5½ lbs. or 2.5 Kg.)
- . shortened gestation (less than 38 weeks)
- . spontaneous abortions (specially during the last months of pregnancy)
- . complications of pregnancy and labor (including premature rupture of membranes, bleeding during pregnancy and placenta previa and abruptia)
- . higher rates of perinatal mortality (still births and newborn deaths)

Reason VI :

PEER PRESSURE

There is another important reason why people do not smoke. It has to do with the people around them. A peer is someone your age with whom you spend time. Peer pressure is the control your peers try to have on you. Your most important peers are your friends.

Everyday your friends affect what you do. Your friends can help you make healthy decisions. They may try to get you to make unhealthy decisions, too. How do you respond to peer pressure ?

Some people may drink or smoke because of peer pressure. If you choose friends who do not drink or smoke, it is likely you will not drink or smoke.

As you grow older, other people may try to pressure you. It is important for you to choose friends who help you make healthy decisions. Your friends should support your parents' guidelines. It is also important for you to help your friends make healthy decisions.

II SMOKELESS TOBACCO

Most people are aware of the hazards of cigarette smoking. . Because of this, some of these people have decided to use smokeless tobacco. Smokeless tobacco comes in two forms - chewing tobacco and snuff. Chewing tobacco is made from chopped tobacco leaves that are pressed together. The tobacco is placed between the cheek and gums. Snuff is powdered tobacco that is placed between the cheek and gums.

Both chewing tobacco and snuff are dangerous to health. People who use these forms of tobacco increase their chances of getting cancer of the mouth and throat. Smokeless tobacco also damages gum tissue. This may lead to tooth disease as well as cause teeth to fall out.

Like smokers, users of smokeless tobacco find it difficult to stop using tobacco. The nicotine in smokeless tobacco has the same habit-forming effects as the nicotine in cigarette tobacco.

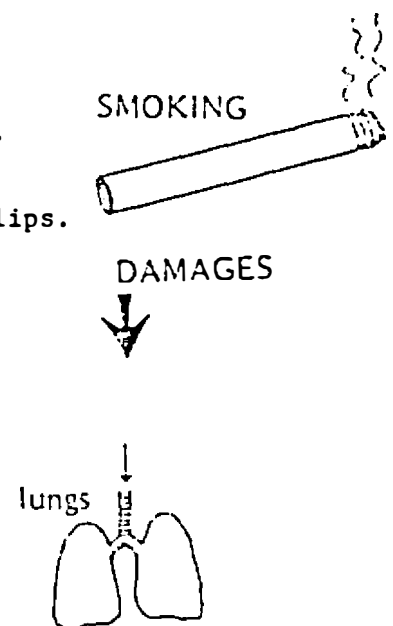
In summary, there are many reasons why smoking is dangerous.

Listed below are the major ones :

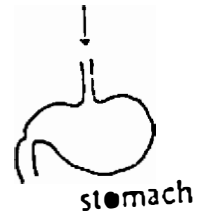
1. Smoking increases the risk of cancer of the lungs and lips.

(The more you smoke, the greater the chance of dying of cancer).

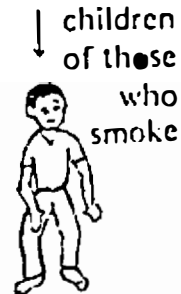
2. Smoking causes serious diseases of the lungs, including chronic bronchitis and emphysema (and is deadly for persons who already have these conditinos or have asthma).



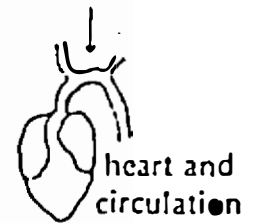
3. Smoking can help cause stomach ulcers or make them worse.



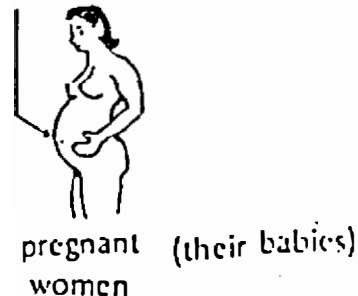
4. Children whose parents smoke have more cases of pneumonia and other respiratory illness than children whose parents do not smoke.



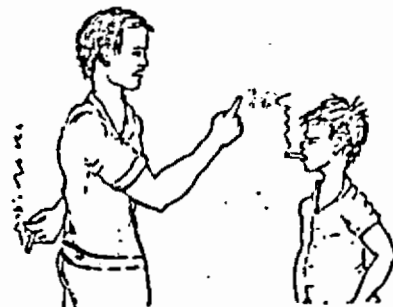
5. Smoking increases your chance of suffering dying from heart disease or stroke.



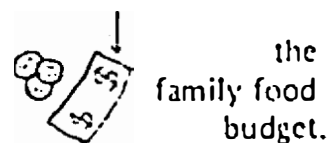
6. Babies of mothers who smoked during pregnancy are smaller and develop more slowly than babies whose mothers did not smoke



7. Parents, teachers, health workers, and others who smoke set an unhealthy example for children and young people, increasing the likelihood that they too will begin smoking.



8. Also, smoking costs money. It looks like little is spent, but it adds up to a lot. In poorer countries, many of the poorest persons spend more on tobacco than the country spends per person on its health programme. If money spent on tobacco were spent for food instead, children and whole families could be healthier



Anyone interested in the health of others should not smoke,
and should encourage others not to smoke.

DECIDING ABOUT SMOKING

Even though people know that smoking is harmful, some begin this habit. Most smokers will tell you that they did not enjoy smoking the first few times they tried it. They coughed, got dizzy, and had tears coming from their eyes. Why, then, do people become smokers? Here are two reasons.

1. TO BE LIKE THEIR FRIENDS

Some people want to do what their friends do. They think their friends will like them better if they smoke.

2. TO LOOK OLDER

Other young people think that if they smoke they will look older. They think that they are more important when they look older. They think smoking is one way to help them look important. There are many good things that one can choose to imitate besides smoking.

THE BEST DECISION - DO NOT SMOKE

Most people choose not to smoke because they do not enjoy it. Others may enjoy it, but do not want to harm their health. These people use self-discipline. They do not let others convince them that smoking is "the thing to do." Everybody should use self-discipline and choose not to smoke. The best way is learn to say NO.



LEARN TO SAY NO

SOURCE

- (1) Health: Focus on You (1984) by Liwa Brower Meeks & Philip Heit Ed.D.
Charles, E Merrill Publishing Company.
- (2) Where there is no Doctor - David Werner.

12.5 DRINKING ALCOHOL AND THEIR HARMFUL EFFECTS

WHAT IS ALCOHOL ?

Alcohol is a depressant drug found in beer, wine, whiskey, and some other drinks. It forms when yeast cells act upon certain grains, vegetables, or fruit sugars. The action of the yeast cells upon grains, vegetables, or fruit sugars is called fermentation.

The alcohol made from this type of fermentation is called ethyl alcohol, or grain alcohol. Alcohol also can be made from wood products and petroleum by another process. This type of alcohol is called Methyl alcohol, or wood alcohol. Methyl alcohol is poisonous. A person who drinks methyl alcohol can become blind or die. Ethyl alcohol is the kind of alcohol found in alcoholic beverages. It, too, is dangerous. This is why it is not legal for young people like you to buy or drink alcohol in public places.

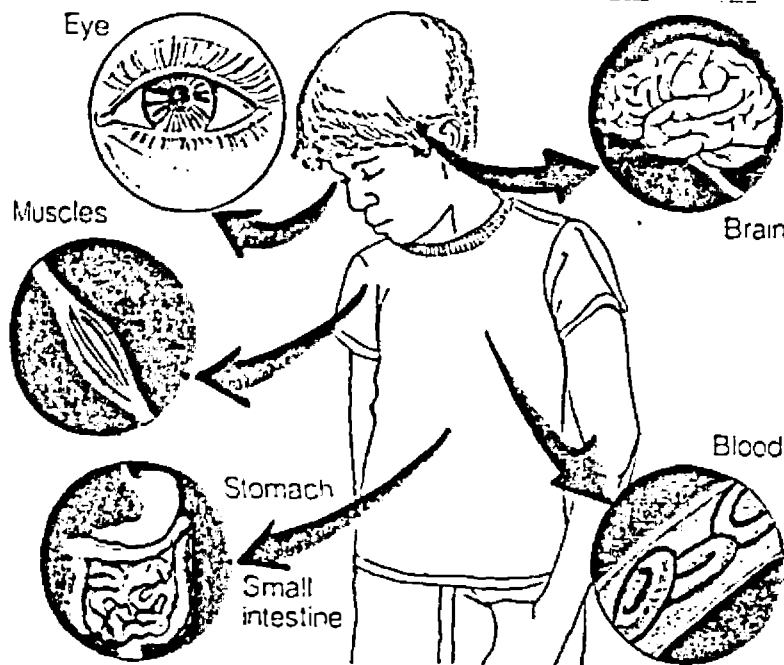
Alcohol is a colorless and clear liquid. When a person drinks alcohol, a burning sensation is felt. This feeling can occur in the mouth, throat, or chest area. The greater the amount of alcohol in a drink, the greater the burning feeling. A sip of whiskey produces a greater burning feeling than the same amount of beer. This is because whiskey has more alcohol in it than beer does.

Different Kinds of Alcoholic Drinks

There are three main kinds of alcoholic drinks. One kind is beer. Beer has less alcohol than the other kinds of alcoholic drinks. American beer usually contains about 3 to 6 percent alcohol. Wine is another general kind of alcoholic drink. Most wines contain about 12 percent alcohol. Some wines have more alcohol. These wines may contain up to 22 percent alcohol. The third kind of alcoholic drinks, hard liquors, contain the largest amount of alcohol. Hard liquors include brandy, gin, vodka, rum, and whiskey. Hard liquors contain as much as 50 percent alcohol.

Effects of alcohol on different parts of the body

After someone swallows a drink that contains alcohol, the alcohol passes quickly into the bloodstream from the stomach and small intestine. As alcohol is carried in the blood, it is absorbed by many body cells. The alcohol then affects these parts of the body.



ALCOHOL AFFECTS EVERY PART OF A PERSON'S BODY

BRAIN

Almost everything a person does each day requires thinking. Thinking clearly is required in making good decisions and relating well to others. Alcohol affects this skill. After drinking alcohol, a person may not think clearly and may make many mistakes. Alcohol often affects the way a person talks and what is said. Drinking alcohol may affect someone's work and friendships.

EYES

If a movie on the screen is not in focus, it looks blurry. It is hard to see the details. Alcohol can cause a person's vision to be blurred. This causes people who drink to have more accidents. They fall more often, drown more often, and have more auto accidents. They often cause harm to themselves and to others.

MUSCLES

Alcohol can affect how well a person's muscles work. The more alcohol a person drinks, the greater the loss of muscle control. This is why people who drink cannot walk or stand straight. They also cannot speak clearly. This happens because the tongue, which is a muscle, cannot be controlled.

BODY PARTS

Alcohol can also affect other body parts. People who drink alcohol may harm their livers, their hearts and their blood vessels.

DECIDING ABOUT DRINKING ALCOHOL

There are many reasons why people choose to drink or not to drink alcohol. Three reasons why people choose to drink alcohol :

. TO CELEBRATE

Some people drink to celebrate something good that has happened. Others might drink to celebrate a holiday.

. TO FORGET ABOUT TROUBLES

Everyone has something they may worry about at one time or another. A person may worry about a test at school or a basketball game. Parents may worry about a sick family member. Most people know how to handle their worries in a positive way. A few people drink alcohol. They think alcohol will free them of their worries. However, drinking alcohol causes more problems. It interferes with a person's ability to solve problems.

. TO BE LIKED BY OTHERS

Some young people have friends who drink. They think that if they drink, their friends will like them better. People do not have to drink to be liked by others.

Three reasons why people choose not to drink alcohol

TO STAY HEALTHY

Drinking alcohol can harm many body organs. Too much alcohol can cause people to lose their appetites. They stop eating healthy foods. A lack of healthy foods can make a person's body weak. A weak body has trouble fighting germs. These are some reasons why people who drink alcohol often have more illnesses.

TO AVOID ACCIDENTS

It is known that people who drink alcohol harm themselves and others by having accidents. Many people are harmed each year by drivers who have been drinking alcohol. These drivers cannot control their cars. Many people harm themselves after having one or two drinks. They may try to do jobs such as climbing ladders or using power tools. It would be unsafe to try such jobs after drinking alcohol. Many people do not drink because they do not want to hurt themselves or others.

TO RESPECT PARENTS' VIEWS

Most young people respect their parents' views about alcohol. They know their parents want them to have a healthy and happy life. When friends pressure them to drink, they use self-discipline and say "no". They feel good about their decision. Their parents are proud of their decision to use self-discipline.



LEARN TO SAY NO!

THE ALCOHOLIC

For one out of six people who drink, alcohol becomes a serious problem. These persons become alcoholics. An alcoholic is a person who cannot control the use of alcohol. When the alcoholic drinks, he or she cannot stop. This leads to drinking too much, too often.

Alcohol affects the body and the brain. The alcoholic may have physical health problems. damage can occur to the liver, heart, and blood vessels. the alcoholic also may have probelms thinking clearly and making decisions. This may lead to disagreements with family members. It may cause probels at work. Often alcoholics lose their jobs. After drinking too much they may drive and cause accidents.

Source : Health : Focus on you (1984) by LIWA BROWER **MEEKS**

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