

Module - 403

HEALTH EDUCATION



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HEALTH EDUCATION

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Lesson 1

Respiratory Ailments

Indications and Symptoms

Aims

On reading this lesson you will

- Be able to narrate the symptoms and indications related to the respiratory system.
- Acquire the skill of the method of observing signs and indications by asking questions and examining patients.
- Identify the respiratory illness.

Knowledge

You will know about

- Pulse rate, Rate of breathing.
- Information about particular indications and signs of the respiratory system.

Skill

You will learn

- To observe signs of respiratory distress.
- Diagnose the location of the problem from the signs and indications related to the respiratory system.

Perspective

You will understand

- How life-style affects the respiratory system.

Signs and Indications of Respiratory Ailments

a. Phlegm

This is an indication found most of the time. It occurs during the diseases Pharyngitis, Bronchitis, Tuberculosis and Pneumonia. The phlegm is not uniform. It is absent when there is dry cough. The water-like variety flows through the nose while the thick variety is expelled from the lungs.

The white-watery phlegm is caused by viruses but the thick, greenish yellow-one is caused by bacteria. TB or Pneumonia may include traces of red.

i. According to place of origin

1. Watery phlegm: -from the nose
2. Thick phlegm from lungs

ii. According to source,

1. White watery phlegm - virus
2. Thick greenish yellow phlegm - bacteria
3. Traces of blood in phlegm - TB, cancer

b. Cough

The nose, throat and vocal chords are the upper/outer parts of the respiratory system. The trachea and its branches together with the lungs constitute the lower part of the respiratory system.

Diseases of the upper/outer respiratory system

Colds, pharyngitis, tonsillitis, disorders of adenoids and vocal cords, diphtheria are all respiratory disorders, of which diphtheria is the most dangerous. Other ailments may get well soon.

Cough accompanies both types of respiratory disorders except for those related to the nose. Most often the cough is dry and the sound is shallow. But cough originating in the lungs is deep and the sputum progressively increases. Cough from the trachea sounds like a flute.

c. Pain

Cough may cause.

1. Pain while swallowing - pharyngitis, tonsillitis, laryngitis or diphtheria.
2. Chest pain with fever - pneumonia or TB (though heart ailments cause chest

pain, they are not accompanied by fever)

3. Pain at the centre of the chest - bronchitis

4. Pain in the chest and abdomen - If accompanied by cough, TB or pneumonia.

d. Fever

Infection of the respiratory system leads to fever. There is no fever when pollution is the cause of respiratory disorders.

e. Increase in the rate of breathing

Faster breathing suggests a struggle for oxygen. This happens in case of TB, asthma, pneumonia and heart trouble.

1.	0 - 1 years	-	upto 40
2.	1 - 4 years	-	upto 30
3.	5 and above	-	12-20

The normal rate of breathing provides sufficient quantities of oxygen. The rate of breathing increases if there is -

1. Obstruction of the air ways due to phlegm.
2. Chest pain which prevents the lungs from expanding completely.

f. Cynosis

The lips, nails etc turn blue when oxygen is insufficient, this condition is called cynosis.

g. Flared nostrils

Difficulty in breathing leads to this condition.

h. Weight loss

When the body fights against germs during fever, the body loses energy. Additionally fever reduces appetite. Together these conditions cause weight loss. TB is an illness that affects a patient over a period of time during which weight decreases.

i. Increase of pulse rate

The pulse rate increases due to fever, stress or disorders related to the lungs.

j. Unequal expansion of chest

Normally left and right lungs expand equally during inhalation. However if one of them gets affected by a disease like pneumonia or TB, it expands less.

k. Sounds heard when using a stethoscope

When the air sacs are full of fluid, there is friction between fluid and air. This friction creates a sound like crumpling paper which can be heard through a stethoscope placed over the patient's chest.

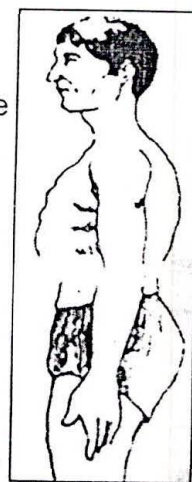
If phlegm has accumulated in the air sacs, sound as that of moving water is heard during inhalation;

Wheezing

When there is difficulty in exhalation we can hear a sound like whistling e.g. - in case of an asthma patient.

Barrel chest

The shape of a patient's chest may get deformed by illness. A drum like shape is caused in emphysema creating difficulty during exhalation.



Slow exhalation

A congested chest allows inhalation but obstructs exhalation.

Percussion Sound

Since air has low density, thumping the chest creates a percussion sound. But when the air sacs are congested, it creates a deep sound.

Drawing in of ribs

This sign is useful in case of children

To elicit this sign, quieten the child and remove the clothes covering the chest.

The ribs should expand during inhalation, but if the ribs get drawn inside, it suggests pneumonia.

Exercises

Complete the sentences

1. Diseases of the upper respiratory system are -
1. 2. 3. 4.
2. Diseases of the Lower respiratory system -
1. 2. 3. 4.
3. A serious disease of the upper respiratory system is _____.
4. Drawing in of ribs during inhalation indicates _____.
5. Which 2 ailments are indicated by pain in the throat?
6. How will you recognize that vocal cords are affected?
7. Which are the symptoms accompanying cough in tonsillitis _____?
8. Which 2 parts indicate cyanosis on observation?
1 _____ 2 _____
9. Cough caused by pollution does not have _____.
10. If only the right part of the chest expands properly it means that the left part is _____.

Exercises

Choose the correct alternative -

1. The most common symptom of a respiratory illness is
 1. Cough
 2. Fever
 3. Headache
 4. Weight loss
2. Phlegm caused by bacteria is
 1. Greenish yellow
 2. Watery
 3. White
 4. All the above
3. The organs of the upper respiratory system are
 1. Nose, throat, vocal cords
 2. Nose, throat, trachea, vocal cords
 3. Nose, throat, bronchus, lungs
 4. Nose, vocal cords, lungs
4. The organs of the lower respiratory system are
 1. Nose, throat, vocal cord, lungs
 2. Trachea, bronchus, bronchioles, lungs
 3. Throat, trachea, lungs
 4. Trachea, lungs, vocal cords
5. Dry cough is caused by infection of
 1. Upper area
 2. Inner parts
 3. Trachea
 4. Lungs
6. Pain in the middle of the chest, accompanied by cough and fever suggests -
 1. Pneumonia,
 2. Tonsillitis,
 3. Bronchitis,
 4. Diphtheria
7. Which illness of the respiratory track is serious?
 1. Diphtheria
 2. Tonsillitis
 3. Pharyngitis
 4. Adenitis

Fill in the blanks

1. 16 to 20 times/min, 2. Ronchi, 3. Drawn in ribs, 4. emphysema, 5. whistle like
- _____ are heard in congested air sacs.
 - The breathing of an asthma patient sounds _____.
 - The chest looks like a drum during _____.
 - _____ is an important symptom of pneumonia among children.
 - Normal breathing rate is _____.

Match the suitable pairs

- | | |
|-------------------------------|---|
| 1. Cyanosis | 1. Shortage of O ₂ in the body |
| 2. Increase in breathing rate | 2. Blueness of Nails and lips |
| 3. Rales | 3. Increased rate of breathing |
| 4. Pneumonia | 4. Friction of air with fluid |
| 5. Cough due to pollution | 5. Presence of fever |
| 6. Cough by infection | 6. Absence of fever |

Answers**Complete the sentences**

- Cold, disorder of vocal cords, diphtheria, tonsillitis
- TB, pneumonia, cancer, emphysema, bronchitis
- Diphtheria
- Pneumonia
- Diphtheria, tonsillitis, pharyngitis, inflamed vocal cords
- Cough will be accompanied by other symptoms like change in the voice, pain on pressing the neck/ throat.
- Pain during swallowing, fever, redness of tonsils
- Lips, nails
- Fever
- Infected

Correct Alternatives - 1-1, 2-1, 3-1, 4-2, 5-1, 6-3, 7-1

Blanks - 1-2, 2-5, 3-4, 4-3, 5-1

Pairs - 1-2, 2-1, 3-4, 4-3, 5-6, 6-5

Lesson 2

Concepts of our people

Aim

On reading this lesson you will

- Understand peoples' perceptions regarding respiratory diseases.
- Know which remedies are used for treating diseases of the respiratory system.
- Be able to classify peoples' perceptions and remedies.
- Be able to inform people of which practices are right / wrong.

Knowledge

You will know about

- What people think about diseases related to the respiratory system
- Diseases having different names in the local language.

Skill

You will learn to

- Collect information from the people.
- Connect the information with scientific knowledge.

Perspective

You will understand that

- People have their own concepts about illnesses.

Since our organization works in community health, we realize the importance of knowing the beliefs and concepts of the people that we are working with. The people should not be blamed for being ignorant. With a little understanding and correct information they soon realize the advantage of using the information that we give.

There may be much value in some age-old belief which we need to retain. Others need to be clarified and those with harmful results may be discarded.

Consider the following list of concept regarding the causes of respiratory diseases. Discuss which are true, which are false and which don't matter :

1. Cough is caused by change of weather.
2. Cough and cold is caused by eating sour things.
3. Respiratory diseases are hereditary.
4. Respiratory diseases are caused by smoking.
5. Respiratory diseases in infants are caused by faulty diet of the nursing mother.
6. Respiratory diseases are caused by infections.

Your responsibilities as a health worker

- Collect information from the people you work with about their beliefs regarding causes of respiratory diseases.
- Clarify what is relevant.
- Often their knowledge based on reason. eg. most people believe that change in weather conditions causes cold. This is true as germs are more effective in some seasons.
- Some notions may be wrong. After gently correcting these wrong notions people should be encouraged to take proper treatment for their symptoms. Once they understand the real reason and the patient improves, people will develop confidence in the health workers.

Lesson 3

Diseases of the Nose and Throat Cough and Cold

Aims

On reading this lesson you will understand

- Give the indications of coughs and colds.
- Describe the symptoms of coughs and colds.
- Treat coughs and colds.
- Observe the indications and symptoms to decide whether medical treatment is necessary.
- Explain how to prevent the disease.

Knowledge

You will know about

Skill

You will learn

- Home Remedies
- Identify serious indications to send the patient to a doctor.

Perspective

You will understand

- Medicines advertised for coughs and colds should be used after careful consideration.

Coughs and Colds

Cough and cold is a commonly occurring illness. Children have to face it every two months. This infection gets cured on its own. There is no remedy for virus. Only resistance can cure viral infections. Thus no treatment is necessary for viral infection of the respiratory tract.

However, coughs and colds do cause suffering. A patient gets headaches, loses appetite and feels, lethargic. 40% of the working people who take leave, do so due to cough and cold. This affects our economy. Some remedy is needed to reduce the suffering. People must know that

1. Cough and colds last for a week with or without treatment.
2. Antibiotics are no use.
3. Advertisements for colds are useless. The syrups contain sugar and alcohol. The linctus often contains codeine which leadens the mind. But our mental respiratory control needs to remain active for our health, even if the cough keeps us awake.
4. When the viral infection weakens the respiratory system, there may be a bacterial attack. If this affects the internal respiratory system, it can lead to serious diseases. Therefore its contains, should be diagnosed for treatment.

Serious indications

- Increased rate of breathing
- Sound inside the ribs
- Weezing
- Cough not cured by antibiotics
- Reddish phlegm

How you will be able to explain the cause

- Cough and cold is symptom resulting from the viral attack.
- When some foreign body attacks the internal covering of the nose, the body secretes a fluid to resist it. This medium helps to throw out the germs and the patient has a running nose.

Three Causes of suffering form cold and cough

1. Allergy
2. Pollution
3. Virus

Allergy

It may be caused by pollen, hair of animals etc. which cause sneezing and water flowing from nose. In such cases

- Give a CPM tablet
- Find out the cause of allergy and try to avoid it

Pollution

This leads to dry cough and running nose. Constant contact with pollutants weakens the respiratory system. Efforts should be made to reduce pollution.

Viral coughs and colds

A group of these minute germs is called the rhino virus.

Which people have coughs and colds often?

1. Age wise

- Children below 5 - 4 to 7 times a year
- Youth - 2 or 3 times per year
- Above 55 - Quite often

2. Nature of work

- Women cooking on "Chulha"
- People working with cotton
- Potters
- Stone - workers
- Traffic Policeman

3. Habitat

- People living in densely populated homes
- Homes without proper ventilation
- Homes in the vicinity of industry

4. Lack of proper diet

The complaints of cough and cold persist when the diet lacks sufficient protein with vitamins A and C. Protein increases resistance while vitamins keep inner body living healthy

If you study the categories of people suffering from coughs and colds, you will find

most of these belong to the poor classes, women cooking with smoke around, especially in rural areas. Also children in developing countries have complete respiratory ailments which could prove fatal sometimes.

Which factors cause higher frequency of coughs and cold

More frequent during January, March and October

Cold weather

Reduction of humidity in the atmosphere and lowering of temperature of the body causes, dryness. Lesser fluid reduces resistance to infections

Physical Exercise

Over exertion can cause colds or coughs

Long-term infection

Continuous infection by germs can cause tonsillitis or sinusitis

How does a cold spread?

Sneezing and coughing throws out the virus from the body. This can infect other people directly or through used handkerchiefs, hand-shake or kissing.

Complications resulting from coughs and colds

Bronchitis, tonsillitis or pneumonia and even diarrhoea can be caused due to persistent coughs and colds.

Treatment for coughs and colds

Home-remedies continue to benefit us even today.

1. Rest for about 3 days
2. Warmth by covering with blankets or quilts.
3. Avoid smoking
4. Administer vitamin C through lemon 'sharbat'.
5. Hot drinks like tea with ginger
6. Gargling with warm water and salt 3 to 4 times a day.
7. Inhalation of steam
8. Take paracetamol or kadha ('brew'/home made) for fever.
9. Do not take antibiotic or suppressants

Natural Remedy/Naturopathy

This follows a thought process that the disease itself is the remedy. According to this theory, improper excretion causes cough and cold in order to get rid of unwanted material.

Treatment

In this theory, the body should rest not only without active work but also give the digestive system rest by fasting. In addition the patient should either use enema or drink soups to clean the intestines. Cut 1/2 kg 'palak' (spinach) and tomatoes with 75 gms of turnips and 25 mgs ginger into small pieces. Boil in a litre of water in covered pan. Add salt, lime-juice and jeera powder (cummin). Drink a cup every hour. Go for a brisk walk. Later keep your feet, soaked in warm water. Provide this information. But the patient should follow natural remedies / naturopathy only if he/she has faith and a strong will.

Home Remedies

1. Boil 10 to 15 leaves of 'tulsi' (Basil) in a cup of water with pepper till half remains. Drink it 3 to 4 times a day.
2. Boil 5 leaves of tulsi and 2 pepper seeds, a bit of ginger, a couple of 4-inch pieces of lemon grass in a cup of water, reducing to half. Drink it 3 times.

or

Drink lemon juice mixed with honey and warm water

Remedies for children's colds

1. Crush 3/4 tulsi leaves and give two drops of their juice to the children 3 times a day.
2. Crush a spoonful of camphor in two spoonful of heated oil. Keep the mixture in a bottle. Rub it on the nose and chest of the child to give relief.

Ayurvedic Remedies

Like naturopathy, Ayurvedic theory also believes that colds and coughs are caused by constipation.

Ayurveda is based on the principle of balance. The body consists of the 5 elements earth, wind, water, sky, and light. There are 3 'doshas, (faults) 'pitta', 'kafa', 'vaat'. If any of these are increased too much, we fall ill.

Improper digestion or excessive eating creates a greater amount of 'kafa' (phlegm)

Ayurvedic Medicines

1. Piper Longum - Boil with milk and drink 3 times a day.
2. Control diet
3. Abstain from sleeping in the afternoon
4. Avoid eating sour things

Homeopathy

This science believes that the very cause of the illness can help cure it, just as a thorn can remove a thorn. This theory recommends medicine according to the habits and nature of individuals. The same medicine can cure different diseases. A particular remedy cannot be recommended for an illness. That has to be decided after asking about some details regarding each patient.

Given below is a list of some features of disorders with suggested medicines to be selected after interviewing the particular patient.

Features of the diseases	Medicines
1. Running nose, sneezing, red eyes, watering eyes, discomfort, feeling better in fresh air/open.	Allium Cepa 6C 1 pill for children 2 pills every 2 hrs. for adults till relief
2. Greenish yellow-flow, more in the morning, blocked nose, relief in the open/fresh air	Pulsatilla b c
3. Lung infection, pain, wet productive cough, fever, increased pulse-rate	Ferrum phos 6C 1 pill for children 2 per 2 hrs for adults till reduction in indication
4. Wheezing, mucous, noisy breath	Antimonium Tart (as above)
5. Sharp cutting pain, cough, sneezing	Bryonica 6 C (Quantity as above)

Acupressure

This system believes that obstruction in any of the routes of the flow of energy in the body causes disease.

People can try home-remedies and try any method of treatment in which they can participate actively.

Some techniques of overcoming colds

Low fever -

Home remedies

+

Traditional methods

High fever -

Paracetamol

+

Home remedies

+

Traditional Treatment

If available, homeopathic or ayurvedic medicines can be given according to the symptoms suggest practising Pranayam. (Breathing exercise).

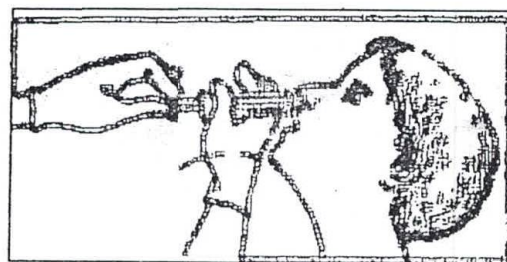
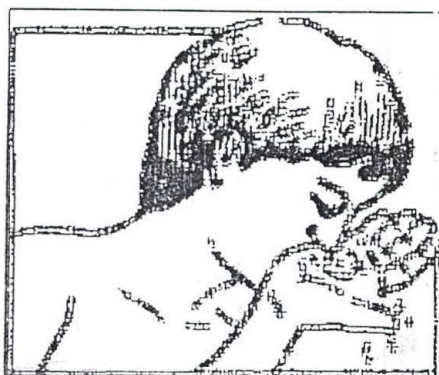
Jal neti (for older people) -

Take some water mixed with a little salt in a dish. Draw it in through one nostril and let it flow out through the other. Insert a needle through each nostril and repeat.

(Do not use a needle for children)

Inhale steam through the mouth and exhale through the nose. Mix some vicks or eucalyptus leaves in the water when boiling. Continue for 5 minutes.

There are small air sacs above and below the eyes which help us to speak. The germs infecting the nose may attack them causing sinusitis.



Indications

1. When the patient bends down there is pain in the area of these air spaces.
2. The patient gets a head-ache
3. The nose gets blocked often.
4. Sometimes there may be fever.

Signs

The patient experiences pain when these points are gently tapped.

Sinusitis

Aims

On reading this lesson you will understand

- Describe its symptoms
- Name its indications
- Give treatment for it
- Know from signs and indications when to send the patient to the doctor
- Explain the methods of prevention of sinusitis

Knowledge

You will know about

- The structure and function of the sinusitis
- The signs and indications of sinusitis

Skill

You will learn

Perspective

You will understand

- Pay attention if the sinuses are infected repeatedly

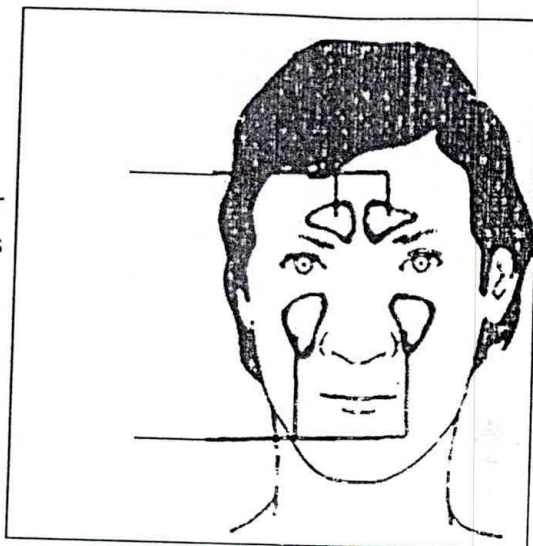
The disease of sinusitis

Treatment / Naturopathy

Natural Remedy

As mentioned before, fasting, participation and will-power are important in this method. It is done as follows -

1. Enema once a day
2. Mud application on abdomen
3. Diet control as given below-(abstain from salt)



Breakfast - one glass of Tender Coconut water or snake gourd juice (Padwal)

Noon - Raw vegetable salad or shredded fruit with coconut.

Supper - Boiled vegetables with a little rice or chapati

Continue till reduction of headache, breathing and voice improvement

Home Remedies

Application of 'Dhaval' (White) 'Lep' (Paste).

Camphor - 10 gm Frankincense (Boswellia Gabra) 10 gm Grate them separately in water. Mix them together with 30 ml (5 tea spoons of coconut oil). Beat it till the mixture becomes very soft.

Use this ointment over nose and temple for sinusitis. If inhaled with boiling water, it relieves blocked nose.

Homeopathic Treatment -

Eupatorium 6 C - 1 pill for children and 2 for adults every 2 hours till the patient gets relief.

Allopathic treatment -

1. Use heat treatment for pain
2. Use inhalation of steam.

3. Take phenyephrine to relieve the blocked nose.
4. Use the antibiotic cotrimaxazole

Ayurvedic Treatment

Apply a paste of 'moong' skins with (black) pepper on head and cheeks.

You can use any of the above systems of treatment as desired by the patient. Sinusitis is a repetitive illness. Note the period of treatment the gap between the repeated attacks and the type of treatment. Use the method most suitable for the particular patient. However, if the condition worsens, send to a specialist whenever -

1. Pain increases
2. The problem recurs every month

Acupressure	Acupressure	Acupressure
Home Remedy or Yogasana + Ayurvedic Medicine	Home Remedy or Yogasana + Homeopathic Medicine	Home Remedy or Yogasana + Allopathic Medicine

Your responsibility as a health worker is as follows

Cough and Cold

- Explain that cough and cold can get cured by itself
- Explain the importance of sinusitis

For Sinusitis

- A patient suffering from sinusitis should be given information about the different systems of treatment

Pharyngitis

Aims

On reading this lesson you will understand

- Identify the signs of pharyngitis
- Give the indications of pharyngitis
- Give treatment for pharyngitis
- Observe the indications and signs to explain when special attention is needed.
- Explain how to prevent the disease.

Knowledge

You will know about

- The reasons for irritation in the throat in pharyngitis.
- The different systems of treatment available for pharyngitis.

Skill

You will learn

- Home Remedies for pharyngitis.

Perspective

You will understand

- Treatment for worms is essential since worms can also cause pharyngitis

The disease Pharyngitis

Indications

Every person experience this disease in his/her life. Following are its symptoms

1. Pain while swallowing
2. Irritation/itching in throat
3. Dry cough
4. Redness of throat can be seen from the inside

Reasons for Pharyngitis

1. Allergy
2. Virus
3. Worms in the stomach

1. Allergy

When people come in greater contact with particular items like pollen grains or dust during certain reasons, they develop allergy.

Allopathic Treatment

CPM (Chloraphinarmine) pills,

Homeopathic Treatment

Allium Sepa 6 Q every two hours till conditions prevail.

2. Virus

Cold and cough is often accompanied by Pharyngitis.

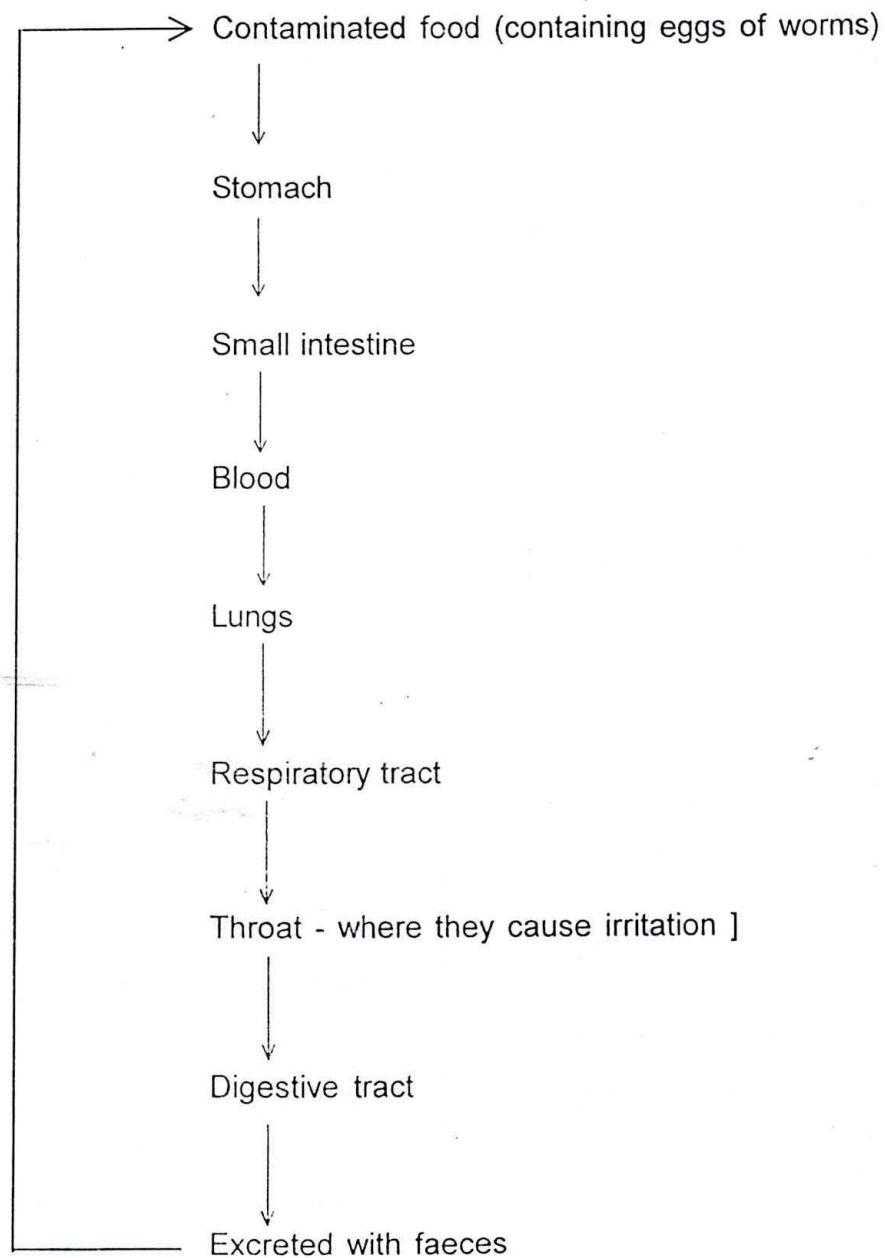
Homeopathy - Bryonia 6 c every 2 hours

Treatment

1. Gargle using warm water with salt
2. Drink juice of tulsi leaves.
3. Drink milk heated with turmeric powder.

3. Pharyngitis caused by worms

Worms are excreted with faeces. If people defecate in the open, they stick to the flies which carry them to open food. If this food is eaten or if hands are not washed carefully after excretion, the worms from nails enter the mouth while eating. These worms reach the intestines from where they enter the bloodstream. Then they reach the lungs, from where they enter the food pipe through the respiratory tract. Once again they go to the intestines, get excreted with the waste into the atmosphere.



If a patient with dry cough continues, suffering even after taking CPM for 3 days, he should be asked the following questions -

1. Have you observed worms in your stools?
2. Do you experience itching at the anus?

If yes, deworming treatment is to be given

Allopathic

One Mebendezole tablet every morning and evening for 3 days.

Homeopathic

Seenal 6 C for 3 days

Ayurvedic

Emelia Ribs powder (Latin name) 'Wavding' (Marathi) mixed with jaggery for 15 days.

Home Remedies

Consume the milky juice of raw papaya- a few drops in the morning for 3 days. The third night castor oil should be taken to purge the stomach (except for pregnant women).

2-5 years	- 2 drops
5-10 years	- 10 drops
10-15 years	- 15 drops
Above 15	- One spoonful

Home remedies should be followed immediately by allopathic treatment and then Ayurvedic method for 3 weeks.

This procedure has been found useful through experience. It has not been proved by any 'pathy' as such.

Your responsibility as a health worker is to

- Explain the causes of pharyngitis to people
- Point out the significance of gargling for pharyngitis
- If fever is accompanied by throat - ache and difficulty in swallowing consult a doctor at once.

Tonsillitis and Adenitis

Aims

On reading this lesson you will understand

- The symptoms
- The indications
- The treatment for Tonsillitis and Adenitis
- The right time to send the patient to a doctor by observing the indications and symptoms of Tonsillitis and Adenitis
- Preventive Remedies.

Knowledge

You will know about

- The structure and function of the tonsils and adenoids.
- The harmful effect of infected tonsils on other organs.

Skill

You will learn

- Observation of tonsils
- Home remedies for tonsillitis

Perspective

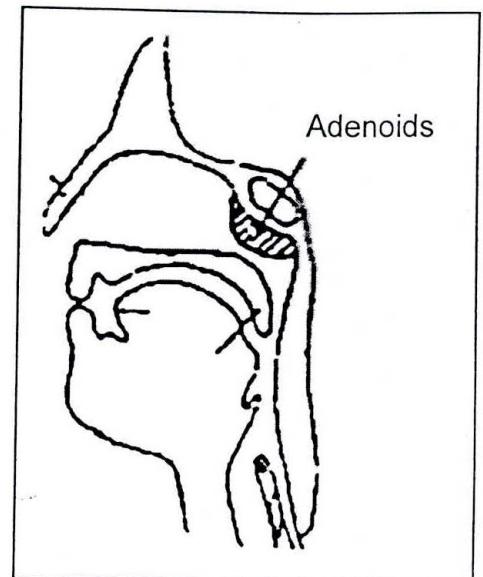
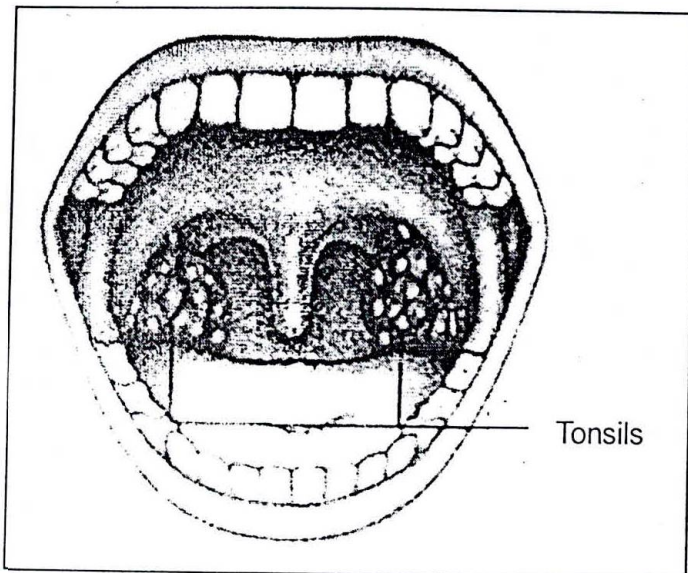
You will understand

- Immunisation is a social responsibility.
- Since tonsils and adenoid are protective glands in the respiratory system, specialists should be consulted about operating on them.

The Conditions called Tonsillitis and Adenitis

Since both occur close to each other and are important in defending our body, they are considered together for discussion of their disorders.

The tonsils are located in the throat while the adenoids occurs behind the nose.



Their functions are :

1. Developing resistance
2. Produce white blood cells
3. Tonsils prevent infection and prevent serious illnesses like bronchitis and pneumonia.

Infected tonsils lead to

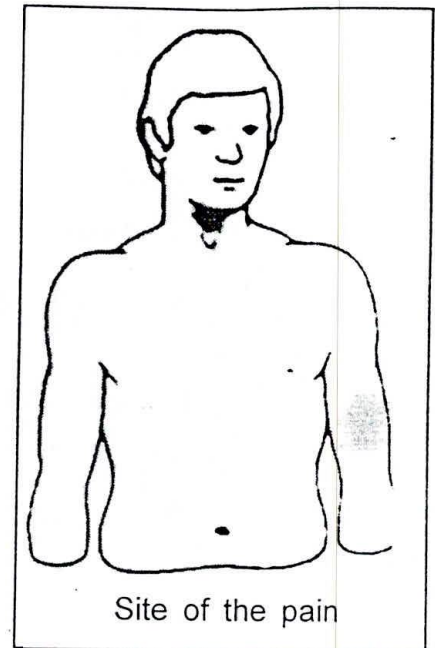
- Production of toxic material which affect the kidneys or heart through blood.
- The pus produced can infect vocal cords, respiratory tract right upto the lungs.

Susceptibility of Tonsillitis occurs among the following

- Greater frequency between the age 5 and 30 especially upto 12 years of age.
- During illness like typhoid
- People consuming polluted water
- People living in dense areas or studying in over crowded schools.
- During spring and dry summer.
- Among sinusitis patients

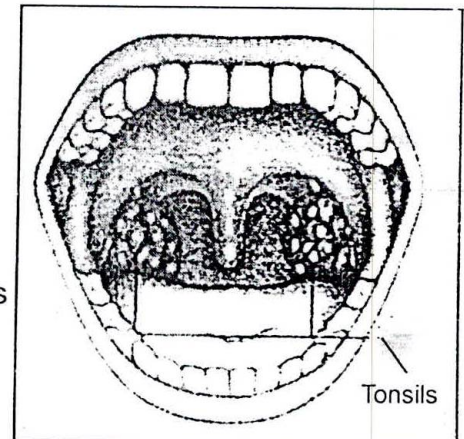
Symptoms

1. Pain while swallowing due to which children avoid food or water. The pain may reach the ears, which becomes sharper while swallowing
2. Fever from 102° F to 104°
3. Loss of appetite
4. Great thirst
5. Constipation
6. Bad breath
7. White coating on tongue
8. Pain in the throat.



Indications

1. High fever
2. Increased pulse-rate
3. External examination - swelling of glands
4. Examination of throat - Tonsils become red with spots



Treatment

Rest for 3 to 5 days

Diet

Liquids, warm and nutritive food, warm water mixed with a spoonful of lime juice and a quarter teaspoon of honey to be drink slowly.

Gargling

With aspirin and warm water, twice a day for a week.

Fever and Pain

Give paracetamol till the patients feels better

1 yr.	-	75 mg - 4 times a day x 5 days
1-5 yrs.	-	125 mg - 4 times a day x 5 days
5-12 yrs.	-	250 mg 4 times a day x 5 days
12 yrs. and above	-	500 mg 4 times a day x 5 days

Antibiotics

Cotrimoxazole for 5 days. In case of repeated attacks of tonsillitis, the patient must be referred to the doctor.

Homeopathic Medicine

Pulsatilla 6 C twice a day x 14 days.

Your responsibility as a health worker is as follows

- Explain to people that the tonsils operation is advised only in case of monthly attacks or if there is difficulty in speaking
- The idea that a tonsils operation results in better height or health is totally wrong.
- Help in ensuring immunization/vaccination of children
- Explain the seriousness of disease.
- Administer one dose of cotrimoxazole and arrange to meet a doctor after that
- Ensure immunization of all the children of your region.
- Inform the villagers about diseases.
- Let them know which symptoms in their children should be reported to you for consultation.
- Money, means of transport and people's health is needed in case of emergency. So try to raise, a combined fund for the village. Try to train health workers in case of additional help.

Exercises (Cough and Cold)

Correct Alternatives

1. What is cough and cold?
 1. Disease
 2. Indication
 3. Illness
 4. Symptoms
2. They infect us in case of cough and cold
 1. Virus
 2. Bacteria
 3. Parasite
 4. Allergy
3. An indication of a serious ailment of respiration is
 1. Fever
 2. Phlegm
 3. Running Nose
 4. Difficulty in breathing
4. Reason for cough/cold according to Ayurveda
 1. Constipation
 2. Vomiting
 3. Pitta (Acidity)
 4. Kafa (Phlegm)
5. Frequent coughs and colds occur among
 1. Children and aged
 2. Stone Workers
 3. Under nourished
 4. All the above
6. Repeated cough/cold may cause
 1. Bronchitis
 2. Tonsillitis
 3. Pneumonia
 4. Diarrhoea

7. Match the pairs

- | | |
|-----------------------------|-----------------------------|
| 1. Allergy | 1. Increasing Resistance |
| 2. Protein | 2. CPM pill |
| 3. Vitamin | 3. Natural remedy |
| 4. Enema | 4. Healthy internal linings |
| 5. Lemon juice | 5. Cough, cold |
| 6. Extracts of Tulsi leaves | 6. Vitamin C |

Fill in the blanks

(Allergy, Pollution, virus) (Centre of Respiratory control) (Antibiotic) (Pulsatilla) (4-7) (Protein, vitamin C) (Virus) (On the disease/Person) (Resistance) (Natural)

- Cough/cold is caused by infection due to _____.
- Children below 5 years of age may be attacked _____ times by germs affecting respiration.
- _____ medicines are not useful for cough/cold.
- Lack of _____ in the diet increases suffering due to cough/cold.
- Homeopathy treats _____ not _____.
- The causes of cough/cold are _____.
- _____ is the reason behind cough/cold getting cured on its own.
- In homeopathy the medicine _____ is given in case of lung infection, pain, productive cough and fever.
- In _____ remedy, medicine are not to be given for cough/cold.
- Linctus Codein can harm the _____.

Key

Correct Alternatives

1-2, 2-1, 3-4, 4-1, 5-4, 6-

Correct Pairs

1-2, 2-1, 3-4, 4-3, 6-7

Blanks

1-7, 2-5, 3-3, 4-6, 5-8, 6-1, 7-9, 8-4, 9-10, 10-2

Exercises - Sinusitis

Fill in the blanks

Participation of the patient, 14, Sinus, sinusitis, camphor ointment, Cotramexazole, swelling and infection of sinus, pupetoruim, increased pain or repeated attack, tender coconut water, snake-gourd

1. The air bags above the eyes and beneath the frame of the face are called_____.
2. Sinusitis means _____.
3. A person who gets headache, fever at times and increased pain on bending may have _____.
4. According to Natural Remedies, sinusitis should be treated for _____ days.
5. Drinking the juice of _____ gives relief in sinusitis according to natural remedy.
6. Inhaling the vapour of _____ is beneficial for sinusitis according to home remedy.
7. Allopathic treatment uses the medicine _____
8. The sinusitis patient should be sent to a doctor in case of _____.
9. _____ in natural remedies/naturopathy is essential while treating sinusitis.
10. Homeopathy recommends _____ for sinusitis

Key

Blanks

1-3, 2-7, 3-4, 4-2, 5-10, 6-5, 7-6, 8-9, 9-1, 10-8

Pharyngitis

Fill in the blanks

Mebendazole, Fever and pain, swelling in the throat/infection, gargling with salt and water, (Allergy, virus, worms), pharyngitis, bryonia, chlorophenaramine, (CPM)

1. A person with pain while swallowing, irritation in the throat, and dry cough is likely to have _____.
2. Pharyngitis means _____.
3. _____ causes irritation in the throat.
4. _____ is the allopathic medicine for pharyngitis caused by allergy.
5. Homeopathy recommends _____ in case of pharyngitis caused by virus.
6. The home-remedy for pharyngitis is _____.
7. If pharyngitis is caused by worms, allopathy recommends _____.
8. The patient should be sent to a doctor if pharyngitis is accompanied by _____.

Key

Blanks

1-6, 2-3, 3-5, 4-8, 5-7, 6-4, 7-1, 8-2

Exercise (Tonsillitis and Adenitis) ?

Lesson 4

Disorder of the Middle Ear

Aims

On reading this lesson you will understand

- Give the symptoms of the middle ear ailments
- Observe the indications of the middle ear ailments.
- Give treatment for the middle ear ailments.
- Note the symptoms and indications that require the attention of a doctor.
- Explain prevention for it.

The ear has been divided into 3 parts according to its functions

Knowledge

You will know about

- Structure and functioning of the ear
- What care should be taken to prevent ear infection.

Skills

You will learn

- The process of ear syringing (for cleaning)

Perspective

You will understand

- Pain in the ear should not be neglected.
- All the systems of our body are inter related.

The Study of the Middle Ear Ailments

1. The External Ear

It receives the sound from outside. There is a tympanic membrane at the end of the tube of the ear. The sound from the external ear reaches the inner end through the tube. Glands around the tube secrete a wax-like fluid cerumen which protect it.

Excess of this cerumen or dust trapped in it can block the tube, causing temporary deafness. It may create pressure on the membrane causing pain in the ear.

2. The Middle Ear

A drum like tympanic membrane separating it from the external ear. Sound waves vibrate it which in effect causes the 3 small bones of the ear- Malleus, Incus and Stapes to get vibrated. The middle ear contains air entering it through the Eustachian tube from the upper part of the throat. This is straight among children, causing infections from the throat or nose to directly reach the ear. But it is bent among adults, preventing direct infection. The infection of the Middle Ear can affect Mastoid, the bone behind it

3. The Internal Ear

The internal ear contains the centres of hearing and balance of the body. The vibration of the bones of the middle ear creates waves in fluid contained in the semi-circular tubes. They excite the nerves which carry the sound waves to the hearing centre of the brain. How do cough and cold cause pain in the ear? There are 6 openings in the throat- 2 each from the nose and the ears, one from the food pipe and one from the wind pipe.

The germs infecting the respiratory tract can pass these openings to reach the organs of that passage. When they infect the ear, pain is caused. If they enter the digestive tract, they cause motions.

Since all the systems are interconnected, the disease of one organ can obstruct the working of another organ or its system. This must be kept in mind.

Symptoms of disorder in the middle ear

1. Pain in the ear

Since a baby cannot speak out, its hand may keep going to the ear. When you pull it slightly it will cry if there is pain. Thus you can realise that the child is suffering from

some problem of the ear.

2. Flow from the ear

Damage to the membrane of the ear causes liquid to flow-out.

Symptoms

These symptoms inside the ear can be observed only with special instruments and a torch. Therefore you can find this out from a government hospital. Without this examination, those details don't mean much and are therefore not given here.

Treatment

Allopathic

1. Paracetamol for pain.
2. Cotrimaxazole for germs (antibiotic)
3. Application of ice to the external ear.

Ayurvedic

2 drops of Anu oil in the nose. Heat the ear with 'Shahutai' leaves soaked in milk.

Homeopathic

1. In case of a yellowish watery flow- Hepar Sulph bc 3 times a day till reduction of suffering.
2. Thick greenish flow - Pulsatilla 6 c - 3 to 4 times a day till better.
3. Thick white sticky flow - Kali Mur 3 or 4 times a day.
4. Pus with odour - Purogenniem 6 C - 3 to 4 times a day till better.

Long term ailment of the middle ear

If the flow continues for more than 2 weeks, antibiotics will have no effect. The ear should be cleaned as follows -

1. Take the 25 cm. tube and needle/syringe from your kit.
2. Boil both the things (sterilize)
3. Cool half a dish of boiled water
4. Draw 0.5 ml in the syringe.
5. Ask someone to hold the child's head steady.

6. Insert the tip of the syringe gently into the ear.
7. Join the tube to the syringe.
8. Press the syringe slightly to let water into it.
9. Draw out the water
10. Throw the dirty water away.
11. Take 5 ml water into the syringe and repeat the steps from 7 to 10 till you get clean water from the ear.
12. Take some clean sheets of paper.
13. Roll a paper finely and insert one end into the ear.
14. Remove it after one minute and throw it away.
15. Roll the papers one by one, inserting them in the ear till the end comes out dry.
16. This procedure ensures drying of the ear.
17. The whole method has to repeated for many days.

If the complaint persists even after this, the patient should be sent to a doctor. He may need surgery.

Prevention of Infection of the Ear

1. Use of swab of cotton on a match-stick to clean the ear. Do not insert it to deep into the ear. Gently remove the excess of sirumen in the ear.
2. When a child has a cold, he should be taught to clean the nose by keeping one nostril closed while exhaling fast from the other side. The mouth must be kept open during this. (See MM-cold-Bleeding)
3. Do not leave cotton etc, inside the ear. Explain to children that they should not put anything into the ears.
4. Do not allow children with infected ears to swim.
5. Do not let a child drink milk when lying totally horizontal, because the milk may enter the nose or Eustachian tube.

Treatment of Pain in the Ear

Give Aspirin to remove pain. Use germicide against infection, e.g. - ampicilin.

Try the following

1. Mix vinegar with warm water. Put 3 to 4 drops of it in the ear (First add a spoon of pre boiled and then cooled water with vinegar)

2. Heat a little fresh coconut oil. When it cools a little, put a few drops in the ear 3 to 4 times a day.
3. Clean the ear. Extract the juice of marigold leaves by crushing them. Put 2 drops to stop pain in the ear.
4. To treat infection of the ear, put a few drops of fresh urine twice a day. If there is no relief by the above means, consult a doctor.

Exercises

Fill in the blanks

(Hepar Sulph) (Cotrimexazole) (Disorder of the middle ear) (Tympanic) Tympanic Membrane, (Mallus, Inchus, Stepes), External Ear.

1. The _____ receives the sound.
2. The _____ occurs at the end of the external ear.
3. Excess of dust in the ear brings _____ on the end of the tube.
4. The middle ear contains the bones _____
5. There may be _____ in case of pain and flow from the ear.
6. Homeopathy recommends _____ for yellowish flow from ear.
7. _____ is administered for disorder of the middle ear.

Answers

Blanks

1-7, 2-5, 3-4, 4-6, 5-3, 6-1, 7-2

Lesson 5

Bronchitis (Acute)

Aims

On reading this lesson you will understand

- Give the symptoms of acute bronchitis
- Give the indications of acute bronchitis
- Treat acute bronchitis
- Know the symptoms and indications when the patient must see the doctor

Knowledge

You will know about

- Causes of Acute Bronchitis
- Different types of treatment for Acute Bronchitis

Skills

You will learn

- Observation of breathing
- Ayurvedic Treatment for acute bronchitis

Perspective

You will understand

- If not treated, acute Bronchitis can be long term and serious

Acute Bronchitis

(A Respiratory Disorder that grows fast)

When the respiratory tract and the trachea are affected, excess of fluids are produced. Usually this problem results from, viral infection.

Present complaint of patient will be as follows -

Excessive cough and phlegm.

Green and yellow phlegm, fever.

Light pain in the chest and stomach.

Physical Examination

1. Stethoscopic Examination enables you to hear Ronchi.
2. In case of great infection, weezing or whistle-like sound will also be heard.

Acute bronchitis gets cured in a week or two by itself. But often, there is a possibility of other infections during an illness. So care needs to be taken to ensure that there is no bacterial infection,

Care of the Patient

1. **Rest-** The energy should be used only to resist germs.
2. **Nutritive Diet-** A diet rich in protein and vitamins should be provided to increase the resistance.
3. **Quantity of water-** This should be increased to help dilution of phlegm so that it can flow out .
4. **Adulsa Syrup-** This 'kadha' heals cough.
5. The homeopathic medicine Aconite may be used.
6. The patient must not smoke.

Treatment

If the patient is aged and has a history of lung ailments antibiotics, may be given. Smoking is one of the main reasons for bronchitis which gets acute in crowds and cold seasons.

Early treatment and giving up of smoking cures the patient. But this doesn't happen. The cough is dry at first. Later it becomes productive and generates phlegm. The patient repeatedly gets treated for cough. If this continues for a whole year, the patient develops chronic bronchitis or long-term/disorder of the respiratory system.

Your responsibility as a health workers is this

- If a patient gets acute bronchitis repeatedly, he should be made to realise the need to change his habits and stop smoking.
- Since this complaint may result from the smoke of the 'chulha', patients should be advised to improve their roof and 'chulha' too.

Bronchitis (Chronic)

Aims

On reading this lesson you will understand

- The symptoms of chronic bronchitis
- The indications of chronic bronchitis
- Give the treatment for chronic bronchitis
- Observe the symptoms and indications when the patient must be sent to a doctor.
- Explain how to prevent it.

Knowledge

You will know about

- The causes of chronic bronchitis
- The bodily changes caused by it

Skills

You will learn

- Observation of breathing
- Ways of extracting the phlegm.

Perspective

You will understand

- Smoking is the main cause of chronic bronchitis

Chronic Bronchitis

(A long term disorder of the Respiratory System)

People who smoke or those who keep getting diseases of the respiratory tract are prone to chronic bronchitis. Long-term cough seems to become a part of life and the patient doesn't consider it a complaint when he describes other complaints. If the trachea and lung tissues get damaged, the air-sacs get enlarged resulting in the disease called emphysema.

Four stages of Chronic Respiratory Disorders

1st Stage - A lot of cough in the morning

2nd Stage - Climbing up lifting weight, extra walking leads to breathlessness and cough along with 'kafa' .

3rd Stage - The patient cannot step out of the house, complains of 'kafa' and cough in the morning

4th Stage- Experiences difficulty even while talking you may treat patients upto the 2nd stage send them to the doctor if they are not the 3rd or 4th stage.

Current Complaints

1. A patient of chronic bronchitis has cough in the morning.
2. He gets phlegm about a spoonful to a cupful
3. The phlegm is greenish yellow.

Critical observation

1. Cough and 'kafa' in the morning mainly signals that the patient has chronic bronchitis.
2. Smokers have greater complaints. They may suffer from Emphysema. In the beginning the patient experiences difficulty in breathing. They cannot carry out their daily activities. Rest leads to breathing problems.

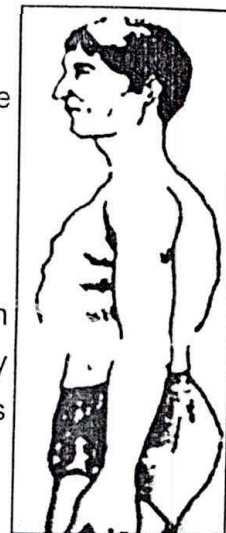
Examination of the patient

1. You will hear the wheezing/whistle-like or bronchi sound through stethoscopic examination.

2. The chest resembles a drum.
3. If the patient exhales slowly, it means he needs to use energy to breathe out.

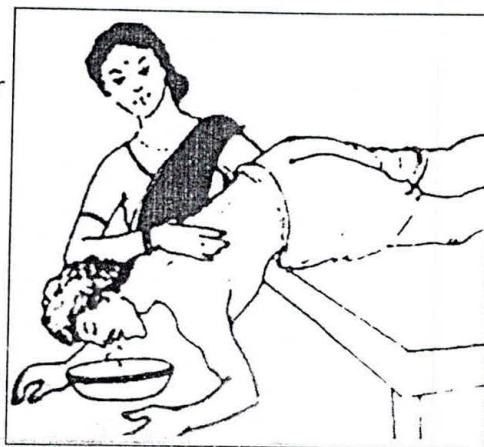
The natural effect of the illness-

The patient will get repeated attacks of coughs and cold, along with pneumonia. All patients don't get emphysema, but it proves fatal eventually when the patient complains of breathlessness while resting, and the nails or lips turn blue, you will know that the lung capacity has reduced.



Care of patients with chronic bronchitis

1. Giving up smoking by the patient is advised.
2. Antibiotics like cotrimaxazole are given.
3. Fluid intake - Maximum consumption of liquid/water helps to dilute the phlegm and bring it out.
4. Prevent pollution inside the house.
5. Give medicines to dilate bronchi and dilution of phlegm like Benadryl or Adulsa Syrup.
6. Give inhalation of steam
7. Make the patient lie down as shown in the figure to remove the 'kafa' from the body, patting his back and chest.



Treatment

Home Remedies - 1. Make a 'Talis Patraadi Choorna' for colds, cough, phlegm, bronchitis.

1. Talis	5 gm	5. Cinnmon	40 gm
2. Black pepper	10 gm	6. Cardomom	40 gm
3. Ginger	20 gm	7. Sugar	320 gm
4. Piper longum	40 gm		

Grind them into a powder and keep in a closed container. Give the quantity according to age-

Less than 1 year - 1 pinch with honey/mother's milk 3 times a day
 1-5 years - 1/4 spoon with pure ghee, 3 times a day

5 to 12 years - 1/2 spoon with honey, 3 times a day

Above 12 years - a spoon with honey, 3 times a day

(Without honey or sugar for diabetics)

This method may be used for long-term disorders,

Adulsa and 'Kantakar' Choorna

Take 25 leaves each Adulsa and 'Kantakar', dry item and powder them together.

Kafa - 1 spoon with honey, 3 times x 5 days

Asthma - 1 spoon with honey or hot water x 3 times throughout the season.

Cough - 1 spoon with honey x 3 times till better

TB- With allopathic medicines. 1 spoon with ghee x 3 times till better.

Bronchitis - 1 spoon with honey x 3 times till better

3. Moonga Choorna

For bronchitis take a 4 inch piece of 'Moonga' and grind it with a spoonful of jeera. Mix the powder with a raw egg and a spoonful of ghee. It should be consumed everyday till complaints persist.

Homeopathic Medicine

Antimonuin Tart 6 c - 1 dose after every 3 hours till patient gets relief.

Your responsibility as a health worker is as follows

- Explain the complications of chronic bronchitis
- Ask patients to give up smoking.

Exercises (Acute Bronchitis)

Fill in the blanks

Adulsa, (Disorder of the Respiratory Tract and Trachea), (Smoking, cold, crowd), Aconite, (Rich in protein and vitamin), Virus

1. Bronchitis means _____.
2. _____ is the cause of acute bronchitis.
3. A diet _____ should be given during acute bronchitis.
4. _____ syrup (kadha) is given during acute bronchitis.
5. _____ is the homeopathic medicine.
6. Bronchitis may be aggravated by _____.

Choose the correct Alternatives

1. A person with chest pain , fever, cough with greenish yellow phlegm has the disease _____.
1. Bronchitis 2. Tonsillitis 3. Pharyngitis 4. Pneumonia
2. A bronchitis patient must be asked to drink more water because
1. A patient feels thirsty 2. Water brings relief 3. Water dilutes phlegm and brings it out 4. It stops phlegm
3. A bronchitis patient is advised to give up smoking because
1. It is a bad habit
2. It can cause long-term damage to the bronchi.
3. It causes cough
4. It creates phlegm.
4. What should be done to treat bronchitis?
1. Rest/Advice to give up smoking
2. Nutritive diet/increased water in take
3. Adulsa syrup.
4. All the above
5. If the patient is aged with history of lung disease he may be given this given -
1. Ayurvedic 2. Anti viral 3. Antibiotic 4. Anti allergic

Answers

Blanks - 1-2, 2-6, 3-5, 4-1, 5-4, 6-3

Correct alternatives - 1-1, 2-3, 3-2, 4-4, 5-3.

Exercises (Chronic Bronchitis)

Fill in the blanks

(Morning), (lungs), (exhaling), (Long-term disorder or respiratory system) (drum), (cough)

1. A smoker who has repeated complaints of respiratory illness may have the disease _____.
2. A patient of chronic bronchitis always complains of _____.
3. There is greater cough in the _____ in chronic bronchitis.
4. The chest becomes shaped like a _____ due to chronic bronchitis.
5. There is difficulty in _____ during chronic bronchitis.
6. Chronic bronchitis damage the _____.

Choose the correct alternatives

1. Emphysema causes enlargement of _____
1. Tonsils 2. Adenoids 3. Bronhus 4. Air-sacs
2. The main complaint in chronic bronchitis is
1. Flowing nose 2. Difficulty in swallowing 3. Cough and Phlegm in the morning
4. Ear-ache
3. In chronic bronchitis you should recommend
1. Giving up smoking 2. More water in take 3. Inhalation 4. All the above
4. A patient of chronic bronchitis should be sent to a doctor in case of the following systems.
1. Pain while swallowing 2. Chest pain 3. Greater cough and phlegm in the morning.
4. The patient has difficulty in stepping out/talking
5. The reduced capacity of lungs is gauged from
1. Difficulty in breathing 2. Chest pain 3. Breathlessness/nails and lips turning blue
4. Pain while swallowing

Answers

Blanks - 1-4, 2-6, 3-1, 4-5, 5-3, 6-2,

Correct alternatives -1-4, 2-3, 3-4, 4-4, 5-3

Lesson 6

Asthma (Emphicema)

Aims

On reading this lesson you will understand

- The signs of Emphicema/Asthma
- The indications of Emphicema/Asthma
- Treatment for Emphysema/Asthma
- Know the signs and indications when to send the patient to the doctor.
- Explain the methods of prevention.

Knowledge

You will know about

- The causes of Asthma.
- The actual signs and indications.

Skill

You will learn

- Observation of breathing.
- How to use the inhaler to reduce the suffering during Asthma.

Perspective

You will understand

- Life style and allergy are responsible for Asthma.

The Illness of Asthma

One in every hundred people suffers from Asthma. The English word 'Asthma' has originated from the original Greek word which means breathlessness/panting.

The respiratory tract of an asthma patient contracts/shrinks in size. Inhaling is smooth but exhaling becomes difficult. There is friction between the air moving in and out. This causes the whistle-like sound. The patient feels restless, whether sitting or lying down. Asthma is mainly caused by allergy to particular things. Thus the patient suffers during those particular seasons.

Symptoms

1. Difficulty in breathing.
2. Whistle like sound during breathing.
3. Cold, cough, phlegm, 'kafa'.

Indication

Exhaling takes longer -slow

Treatment

1. Use of salbutamol inhaler
2. Use medicine prescribed by doctor for emergency
3. In the absence of a prescription give the salbutol pills/tablets with you and send the patient to the doctor.
4. Give steam
5. Find out the cause of allergy of the patient.
 - a. Pollen grains
 - b. Hair of animals
 - c. Smell
 - d. Working in the field
 - e. Food habits
 - f. Dust pollution
 - g. Flowers, particular grass of cats/dogs.
 - h. Odour of paint, flowers or incense
 - i. Use of pesticide or sprouting of millet consumption of grain, moong etc.
 - j. Due to crackers.

Peter Hembraum was working with the tribals of Bihar. He used the following 'choorna' (mixed powder) for asthma-

1. Tylophora asthmatica (Anantmool)
Ground leaves of Anantmool - 1 spoonful with honey to be taken twice a day x 5 days
OR
2. Grind 5 fresh leaves of 'Anantmool' and take this paste with milk twice a day x 5 days
OR
3. Half a spoon each of lime juice, 'paan' leaves, tulsi and honey together, 3 times a day for 15 days.

For allergy due to dust

Make 'Kheer' (porridge) on a full moon night and keep it, such that moonbeams fall on it the whole night. Add a spoonful of the bark of the 'Arjun' tree to it at dawn and have the porridge before sunrise.

Chronic bronchitis or long-term respiratory ailments can result in complications like 'Emphysema'. This is a Greek word which means 'excessive breathlessness'. The air sacs in the lungs expand excessively, reducing their elasticity. Though air enters the lungs, it is difficult for it to go out. The oxygen and carbon dioxide cannot be exchanged properly, causing suffering to the patient

1. Breathing problem
2. Pressure on the heart
3. Death

The patient with emphysema should be given an antibiotic dose, a medicine to dilate expand the respiratory tract and sent to the doctor.

Home Remedy - To dilute the 'phlegm'

1. 1/2 gm powder of "Yashtimadhu" with hot water, 3 times a day.
2. 'Doob grass/Haritaki' - 1/2 gm powder with honey, 3 times a day.
3. Mixture of 250 gm of black pepper (powdered) with 1 gm of jaggery - twice a day with milk.

Your responsibility as a health worker is as follows

- Help the patient to understand his illness.
- Help in changing the life style due to the illness
- Discuss which medicine should be taken in case of emergency with the doctor, and keep with the patient.
- Help in identifying the allergy.
- Encourage the patient to seek help of doctors or other treatment channels. Ayurvedic methods can give a lot of comfort.

Exercises

(Whistle-like), (breathlessness), (abstaining from allergy), (allergy of something), (friction between incoming and outgoing air in the respiratory tract)

1. Asthma means _____.
2. Asthma is caused by _____.
3. The breathing sound is _____ in case of Asthma.
4. _____ causes whistle-like sound of breathing.
5. _____ is the main solution in treating Asthma.

Choose the correct alternative

1. Which of these contracts in case of an asthma patients.
1. Trachea 2. Tonsils 3. Respiratory tract 4. Lungs
2. Emphysema causes enlargement of
1. Air sacs 2. Trachea 3. Tonsils 4. Lungs

Answers

Blanks - 1-2, 2-4, 3-1, 4-5, 5-3

Correct Alternatives - 1-3, 2-1

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Lesson 7

Pneumonia

Aims

On reading this lesson you will understand

- The symptoms of Pneumonia
- The indications of Pneumonia
- Treatment of Pneumonia
- The symptoms and indications when the patient must see the doctor
- Methods of Prevention

Knowledge

You will know about

- The causes of Pneumonia
- Symptoms and indications of Pneumonia in small children
- Treatment of Pneumonia

Skill

You will learn

- Observation of rate of breathing.
- Send the patient to the doctor in case of serious indications.

Perspective

You will understand

- Serious consequences can be prevented by treatment in the primary stage.

The Disease Pneumonia

The UNICEF and WHO figures show that 28% deaths among children below 5 years of age are caused by rapid infections of the respiratory tract in developing countries. These children get infected by germs in their respiratory system about 4 to 7 times a year (Fiona Plus, A Quarterly Bulletin on Primary Health Care and Community Health, Issue 31, December 1993.) They are victimised due to malnutrition, overcrowding, pollution and unhygienic conditions of living.

The maximum fatality occurs among infants below 6 months.

The name Acute Respiratory Tract Infection suggests the sudden onset of the ailment. The illnesses are classified according to the infected area of the respiratory tract. They are broadly divided into diseases of the upper tract (like the nose, throat or vocal chords which are not serious) like infection of the tonsils, cold, cough, swelling, pharyngitis which are mild.

The second category is the serious and sometimes fatal diseases of the inner respiratory system as in the trachea, bronchitis and finally air sacs, or lung tissues which are its parts. The two main illness of this kind are Pneumonia and TB.

It is easy to differentiate between the infections of the two parts of the respiratory factors. If cough and the phlegm are the deciding factors. If the upper tract is infected, the cough is dry and the sound shallow. There is pain while swallowing. However, the inner system, when infected, creates a flute-like sound which is deep. The cough is productive (gives out phlegm or 'kafa'). The main diseases in this category are bronchitis, pneumonia and TB.

Two months to 1 year (of age) - Indications

1. The baby cannot suck.
2. Attack of convulsion
3. The baby sleeps a lot and its difficult to awaken it.
4. The whistle-like sound is heard when the baby is fast asleep
5. Under nourished

Serious Illness - Treatment

1. Arrange to send to hospital immediately
2. Give the first dose of antibiotic
3. Give paracetamol in case of fever.

Serious Pneumonia- During breathing there is

1. Drawing in of ribs
2. Breathing rate is above 60 per minute

Treatment

1. Arrange to send to hospital immediately
2. Give the first dose of antibiotic
3. Give paracetamol in case of fever.

If it is not possible to send the baby to hospital, continue the dose of antibiotics and observe the baby.

Follow -up

Whenever you visit the child, you should observe -

1. Whether the condition of the child is worse (than/before)
2. Whether the ribs are drawn in while breathing.
3. Whether there are signs and indications of serious illness.

In case of any of the above symptoms, the baby should be sent to the hospital immediately.

A) Pneumonia

1. If ribs are not drawn in while breathing.
2. If breathing becomes faster

2-12 months	-	above 50/minute
1-5 years	-	above 40 per minute

Treatment

Advise the mother to take the following care of the child-

1. Give the dose of antibiotic properly
2. Understand that paracetamol is used for fever.
3. Decide whether you will visit the baby or call the mother to get information about its condition after 2 days.
4. Inform the mother which symptoms and indications are serious enough to call you.

B) In case of improvement of the child's condition, it means the treatment is correct. But if there is no improvement think of changing the antibiotic with another one like amoxycilline. However if the condition becomes worse, the case is serious pneumonia, treat accordingly.

c) If there is only cough and cold (not pneumonia)

- Chest is not drawn in while breathing.
- The breathing rate remains unchanged/steady-
2-12 months - 50 per minute
1 to 5 years - 40/minute
- In case of cough for more than 3 days, send the patient to the hospital
- Give paracetamol in case of fever.
- Ask the mother to give. Adulsa syrup or any other 'kadha' for cough.
- Explain that the child must get rest and comfort.

Decide the place and timing of the next visit after

Feedback

The treatment is correct if

- The breathing rate is normal
- The fever is less
- The child has a normal intake of food and liquid

Treatment of Paediatric Pneumonia

There are 5 main medicines used to treat children suffering from Pneumonia - Cotrimaxazole, Ampicillin, Chloramphenicol, Benejork, Penicillin and Gentamycin. They are all life-saving drugs but should be given in the right dosage keeping their side-effects in mind. Health workers must know when and how to use them.

Usually, pneumonia among children is caused by infection of bacteria like streptococcus Pneumonia and Haemophilus Influenza. Cotrimaxazole is an effective and affordable medicine with minimum side-effects.

Infants of less than 2 months are not much benefited by Cotra, so they should be given ampicillin. They should be sent to the doctor as soon as possible (using 'cotra' only as a stop-gap arrangement for the time-being).

Cotrimaxazole (Adults) Cotrimaxazole (Children) Ampicillin children who cannot swallow the pills should be administered its powder with honey and water or milk. If there is improvement after 48 hours, give the complete dose for 5 days.

If there is no improvement, keep giving cotrimoxazole for 2 days.

Use of medicines for children from 2 months to 5 years			
Age/Weight	Children's Tablet (Sulphamethoxazole) Trimethoprim 20 mg (1 tablet)	Children's Syrup (Sulphamethoxazole) Trimethoprim 200 mg (1 spoon/ 5 ml)	Adult tablet only if children's tablet unavailable Sulphamethoxazole 400 mg Trimethoprim 80 mg
Less than 2 months/upto 3.5 kg	1 tablet twice a day	1/2 spoon 2.5 ml twice a day	1/4 tablet twice a day
2-12 months 3.5 to 10 kg	2 tablets twice a day	1 spoon 5 ml twice a day	1/2 tablet twice a day
1-5 years 10-19 kg	3 tablets twice a day	1 1/2 spoon 7.5 ml twice a day	1 tablet twice a day

If condition worsens i.e., chest/ribs get drawn in, the child sleeps too much, turns blue, gets a convulsion, arrange to send it to a hospital at once

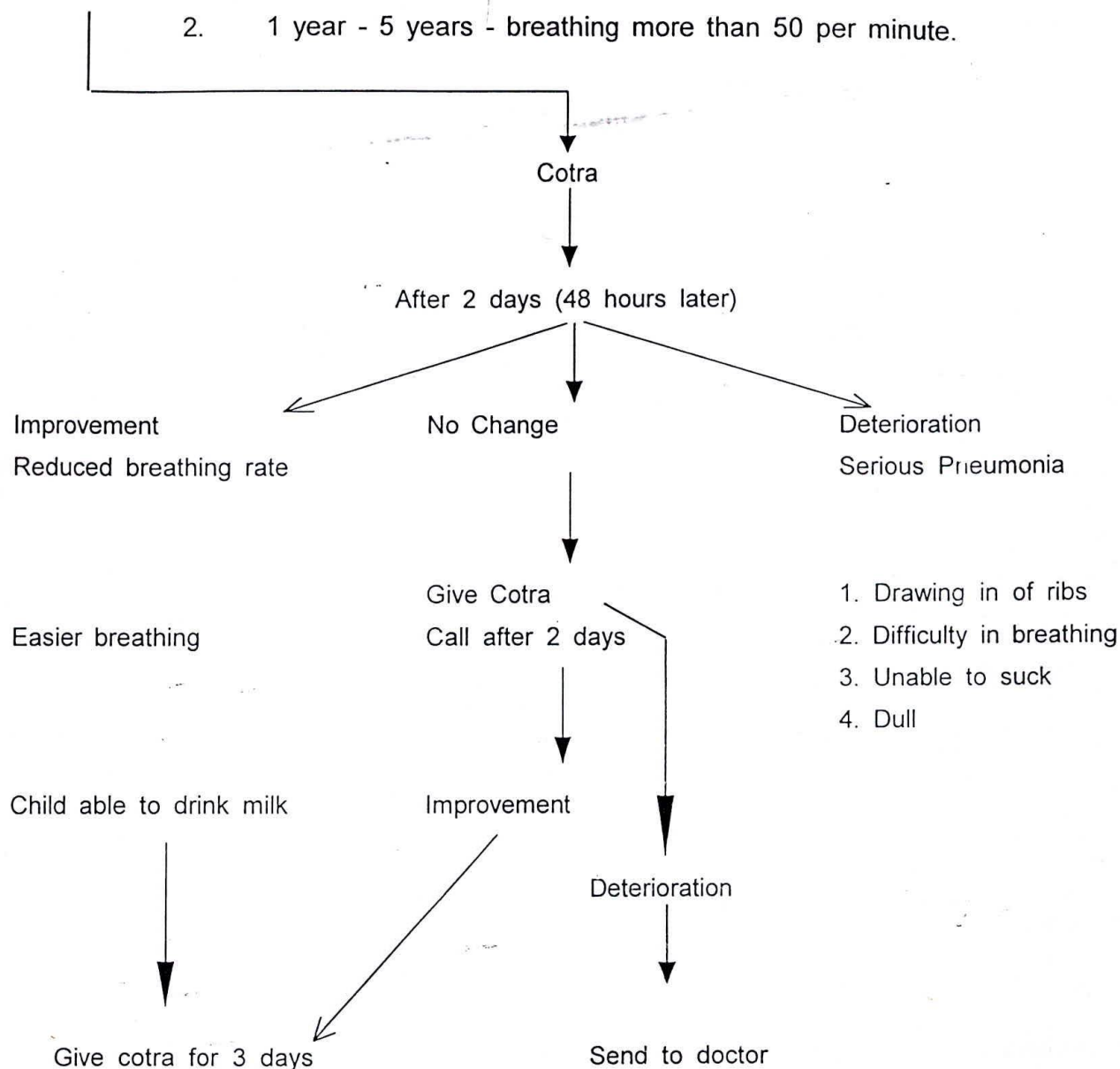
Directions for the mother

The child must be taken to a hospital in case of -

- Difficulty in breathing
- Drawing in of chest
- Inability to drink anything
- The child being difficult to wake up

The antibiotics should be taken for at least 5 days, 3 days after improvement in condition.

- Pneumonia
1. Breathing rate 2m - 12 months more 60/minute
 2. 1 year - 5 years - breathing more than 50 per minute.



The main aim of the health worker is to recognize when the illness is serious and send the patient immediately to a doctor so that he gets treated with the proper technique. This can cure dangerous diseases and save lives of patients preventing the consequences of serious illnesses is as important explaining the need to use the medicines prescribed by the doctor. Otherwise the most skilled of doctors and the best of hospitals cannot save a patient if medicines are not taken as advised.

Following is the method to question a parent who complains of respiratory problems of his child, to find out the seriousness of the problem, whether -

1. The child is consuming any diet
2. The baby can suck its mother's milk.
3. Has an convulsion
4. Sleeps too much and is difficult to awaken
5. Strider - loud sound while breathing
6. Weezing sound when child is quiet
7. High or low temperature (not normal)
8. Very undernourished

If serious, the child must be sent to a hospital.

Acute Pneumonia

Less than 2 months

1. Breathing rate above 60/min
2. Drawing in of ribs.

2 months - 5 years

1. Breathing rate above 50/min
2. Drawing in of ribs

Treatment

1. Prescribe cotra according to age
2. Keep the child warm (wrapped up)
3. Let the child continue with/mother's milk.
4. If unable to arrange for a vehicle to carry the child to the hospital, take care of the child till then.

If pneumonia is absent, reduced conditions

1. Low rate of breathing.
2. No drawing in of chest.

Advise the mother to take the following care

- Keep the child warm
- Continue breast feeding the child
- Keep the child's nose clean.
- Explain that she should call you in the following cases -
 1. Increase of illness.
 2. Difficulty in breathing
 3. The child doesn't drink milk.
- The child can thus be saved from rapidly increasing Respiratory Tract Infections
Weight at birth should be raised
- Babies born underweight suffer seriously when infected. Carrying pregnant women should be encouraged to eat well, exert less and have a regular check-up
- Breast feeding is best for children and should be encouraged upto 6 months. From 6 months onwards it should be accompanied by top feeding

Suitable Diet

Sudden respiratory infections can lead to pneumonia in case of underdeveloped children. Mother's should be explained what the children's diet should be. They must understand that children must be fed every 3 to 4 hours..

Vaccination

Respiratory diseases like measles, chicken pox, TB, diphtheria etc., often lead to pneumonia. 25% infant mortality in developing countries is caused by pneumonia. Therefore mothers should be encouraged to get their children immunized against these diseases. Vaccines for all of them are available

Vitamin A

Deficiency of vitamin A increases the risk of respiratory diseases. This is sufficiently available in mother's milk. After 6 months of breast feeding, top feeding should supplement the quantity of the vitamin through carrots, mangoes, milk, leaves of 'moonga', white gourds ('Kashiphal') Children should be given 2 lakh units of vitamin A at intervals of 6 months.

Pollution within the house

Homes are polluted by smoke. People should be encouraged to use smokeless chulha's for cooking or to arrange a chimney for the smoke to go out.

Family planning should be advocated to avoid over-crowding. Also the importance of cross-ventilation should be explained and followed.

Adult Pneumonia

Signs and Indications

A patient suffering from Pneumonia complains of high fever, cough, phlegm, faster breathing and chest-pain.

When you make enquiries you will discover that the patient had suffered from a cold or flu just before this condition or even from

1. Measles
2. Chicken pox
3. Diphtheria

Pneumonia starts with high fever and shivering. The patient gets phlegm of yellowish colour, sometimes with blood. There is pain in the chest with faster breathing.

Symptoms

1. Dilated nostrils
2. High fever
3. Faster breathing
4. Unequal expansion of chest
5. Tapping of chest leads to no depth of sound
6. Sound of Rails on stethoscopic examination
7. Nails or lips turn blue in case of insufficient oxygen.

If treated, the patient shows improvement within 24 to 48 hours.

Children may even vomit. So they must be given sufficient water. Otherwise dehydration can lead to death.

If a pneumonia patient doesn't respond to treatment, he may have TB. So he should be sent to a doctor.

Care of a Pneumonia Patient

- Observe the patient regularly and send to a doctor in case of no improvement after 24 hours.
- Give cotrimaxazole or amoxcilli as antibiotics.
- Keep giving water to drink.
- Give paracetamol for fever and Ayurvedic Kadha or Adulsa Syrup for cough. Juice of Adulsa leaves may be given, one spoon at a time.
- Ensure a healthy diet/breast feeding for infants
- Send the patient to a doctor in the following cases -
 1. The baby stops crying
 2. Faster rate of breathing
 3. Cough persists after treatment

Your responsibility as a health worker is as follows

- Explain the symptoms of pneumonia to parents and guardians of young children.
- Explain the ways of reducing the risk of pneumonia

Exercises

Choose the correct alternatives

1. _____ percent of child mortality below 5 years of age is caused by Acute Respiratory Tract Infection in developing countries.
1. 40 2. 28 3. 30 4. 20
2. How many times are children below 5 years infected by germs in the respiratory tract?
1. 1-2 2. 4-7 3. 5-6 4. 7-8
3. The cause of Respiratory Tract Infections among children of developing countries is
1. Over crowding 2. Under nourishment 3. Unclean Surroundings 4. Born under weight
4. Send a child below 1 year to a doctor in case
1. The child cries excessively 2. Faster breathing 3. Drawing in of ribs
4. 2 and 3 above
5. If the child has pneumonia its mother should relate the indications
1. Difficulty in breathing 2. Drawing in of ribs 3. Lack of appetite
4. Difficulty in awakening the child 5. All the above.
6. In case of fever/cough/faster breathing/chest pain, the disease indicated is -
1. Pneumonia 2. Bronchitis 3. TB 4. Pharyngitis

Fill in the blanks

(Vaccination), (Streptococcus Haemophilus Pneumonia), (Five), (Yellow), (Age)

1. The colour or 'kafa' during pneumonia is _____.
2. Small children can be prevented from getting pneumonia by _____.
3. Cotrimoxazole should be taken for _____ days.
4. Cotrimoxazole should be given according to _____.
5. _____ and _____ cause pneumonia.

Answers

Alternatives - 1-2, 2-2, 3-4, 4-3, 5-5, 6-1

Blanks - 1-4, 2-1, 3-3, 4-5, 5-2

Lesson 8

Tuberculosis

Aims

On reading this lesson you will understand

- What tuberculosis actually is
- How the phlegm 'kafa' of the TB patient is to be collected.
- Causes of TB
- How the phlegm is to be destroyed
- Prevention of TB

Knowledge

You will know about

- The reasons for getting the TB disease
- The reasons for other examinations related to TB

Skill

You will learn

- Diagnosis of TB from its symptoms and indications
- Know from the symptoms and indications when to send the patient to the doctor.

Perspective

You will understand

- TB can be cured with proper treatment for the complete cure.
- The treatment for TB requires the cooperation of the family and society

The disease of TB has been afflicting human beings since prehistoric times. Even the Vedas refer to it. It is a great problem today also. Almost 4 lakh people succumb to this disease annually in our country and the mortality rate for TB is the highest.

What is TB?

TB is a disease caused by a bacteria called *Microbacterium Tubercle* which is similar to the bacteria causing Leprosy. If an infected TB patient is not being treated, his cough or sneezes can throw out the bacteria which attacks the bodies of other people which it enters.

The entry of the bacteria in the body is not the same as getting the disease.

Every person has the resistance to germs. The body fights bacteria and destroys it, controlling its numbers. If any bacteria remain, they keep multiplying. Then the body has to fight a greater number of them. If the person gets some other illness, or is malnourished, the bacteria become active and the body may become a victim of TB.

Children are given TB vaccination to prevent them from developing the disease. The vaccine contains weak bacteria which cannot produce the disease but create resistance in the body. If, in future, the *microbacterium tubercle* enters such a body, the body can resist it.

However, if a vaccinated child is undernourished or lives/works in overcrowded areas the bacteria may not be overpowered continuously by the body, thus developing the disease. However, the condition will be milder due to immunization.

In miliary TB the bacteria are found in blood, thus affecting all the organs e.g. even the covering of the brain can get affected. This kind of TB can be fatal and usually doesn't occur among vaccinated children. Although we have not been able to eradicate TB completely, we have been able to control this dangerous condition to a great extent.

Most often, TB infects the lungs, causing pulmonary TB. When a patient gets this disease, he infects the people around him. If the *microbacterium tubercle* attacks the lymphatic glands, bones, covering of the brain, eyes, intestines or kidneys, the disease is called extra pulmonary TB.

Symptoms

1. Excessive Cough
2. Light Fever
3. Phlegm
4. Phlegm with traces of blood
5. Weight loss
6. Pain in the chest
7. Persistence of symptoms in spite of treatment.

In case this continues beyond a week, the patient must be sent to a government hospital to test the possibility of TB.

Check up

The easiest, quickest and cheapest test for TB the sputum test. The health worker can learn the procedure of this test as follows -

The patient should be asked to

1. Rinse the mouth to remove food particles
2. Cup the hands over the mouth.
3. Take a deep breath
4. Cough out a sufficient quantity of phlegm for testing
5. Spit it into the sputum cup for the test.

The method of testing sputum

1. Spread some sputum on a glass slide and dry it on the flame of a spirit lamp.
2. Drop a little Carbol Fuschin on it and dry it again over the flame. Keep it aside for about 5 minutes to cool.
3. Add some drops of alcohol and keep for 30 seconds. Wash the slide with water.
4. Put a few drops of blue Methyl. After 30 seconds, wash it again with water.
5. Dry the slide in the sun to get it ready for examination. If it displays reddish rod-shaped tubercule bacilli, the slide shows infection

When the sputum test is positive, the patient should be sent immediately for treatment in the primary health centre. The greater the no. of bacteria seen, the stronger the infection will be.

The national TB control programme was evaluated in 1992. The problems given earlier were discussed during this. The WHO finalised a new programme to control TB. According to the new method of treatment DOTS, (directly observed treatment for a short period), the medicine has to be taken in the presence of the health worker.

DOTS is conducted at 2 levels. At the intensive level, the patient has to take the 9 medicines thrice a week for 2 to 3 months in front of the health worker.

The second one is the regular level of 4 to 5 months when the patient takes the medicine every week. The sputum test is conducted from time to time during the treatment as follows:

1. Before the first level of treatment (3 samples)
2. Just between the two levels of treatment (3 samples)

3. At the end of the treatment

If the sputum test reveals bacteria again, the patient is treated by consulting the doctor. After the programme was started, the Social Health Centre tried to find out the difficulties in this method of treatment.

Main difficulties

1. Visiting the primary health centre frequently is costly and tiring. It disrupts employment. If relatives need to accompany the patient, the frequent visits become even more expensive. Dots is still conducted in certain districts of the country. Only time will tell how useful it is.

There have been good results from many areas. The medicines recommended at the start are continued in DOTS. Only its duration and combination varies. You can get details from doctors at the primary health centre.

Since TB is a contagious disease, all Indians are threatened by it till it is totally eradicated.

Collective Participation to prevent TB

Information about the disease must be spread in order to control it. Only when all the members of the public will contribute, the disease be brought under control.

Spread of TB

TB is not hereditary. It spreads from one person to another. A patient suffering from it gives out numerous bacteria through his coughing, which enter the bodies of the surrounding people through breathing.

How can we prevent the spread of TB?

1. To avoid the spreading of TB, the patient must begin treatment immediately. The treatment must be continued as long as recommended by the doctor. The patient must be given medicines for a minimum of 6 months to 1 year. Within days of treatment the coughing and spit will be reduced, so will the no. of bacteria in the sputum.
2. The phlegm spit out while coughing should be kept in a container with Lysol. It should either be burnt or poured out into the lavatory and the tin buried.
3. The TB patient must have a well-ventilated room. Fresh air will reduce the no. of germs in the room.

6. Write sequentially how you collected the phlegm of a TB patient.

Treatment

Treatment Regimen is the plan by which a TB patient is treated with more than 2 medicines in combination for a long time. This strengthens the fight against the microbes successfully. The dosage and proportion is as follows -

Medicine	Strength	Dosage	Side-effects
Streptomycin (s)	1 gm vial intramuscular injection	0.75 mg deep vomiting	Giddiness, headache,
INH (H)	100/300 mg tablets	300 mg-single dose	Spinal cord problems (Given B 6)
Rifampicin	150 gm vial 450 mg capsule	450 mg on empty stomach (morning)	Vomiting, rash on skin
Pyrazinamide	500 gm tablets	1500 mg single dose	Pain
Ethambutol	100, 200 mg 400, 800 mg tablets	800 mg single dose	Eye problems
Thiacetazene	50 mg, 150 mg	single dose of tablets	Vomiting, rash on skin

Your responsibility as a health worker in as follows

- The patient must be made to understand the need to take the medicines regularly and on time.
- Explain to the family how necessary it is to take medicines continuously.
- Encourage the patient to take his prescribed dose.
- Ensure that medicines are regularly available at the primary health centres
- Make the family members understand the greater need for the patient to have protein.
- TB can be cured and prevented. Yet it is one of the fatal diseases afflicting India specially among the poor and undernourished.

Prevention through BCG

BCG is a cheaper, safe and more effective means of controlling TB than its treatment. Since infection can occur at a young age, infants should be given BCG at the earliest. Although, there are different opinions about continuing BCG, at present it is given because it also helps to control leprosy.

Vaccination of BCG

It is given through injection. After about 8 weeks, a little swelling appears at the point. The area of vaccination on the body should neither be covered nor be exposed to direct sunlight.

The Cycle of TB

People who are continuously in close contact with TB patients for long can get the disease. Children normally do not develop any symptoms in the primary stages of TB. They may then go into the next stage which may be dangerous and even fatal. If treated on time, children can remain healthy and grow normally.

The third stage is often found among adults, particularly among those who become very weak due to poverty. The bacteria lying inert in the lungs of such people become active and even infect the people around. They can be cured by treatment but die if left-untreated.

Control of TB- 3 types of care

1. All the children must be given BCG to prevent infection.
2. TB patients must be identified for treatment. A person with cough for more than 15 days must get a sputum test done.
3. Spread awareness about the disease and its prevention in all parts of a town/village.

Self-study

1. Which condition of a patient is favourable to attacks by the microbacterium tuberculosis which causes TB?
2. How many TB patients are there in your village? How will you find out?
3. Conduct a monthly survey about the amount of different medicines for TB they are required everyday from your primary health centre.
4. Present a skit to give people information about TB.
5. Explain how the TB patients of your village can be encouraged to take their medicines regularly.

Exercises

Fill the blanks

(Protein-rich diet/Pollution free air), Bacteria, (Poverty/Mal-nutrition), (Mycobacteria tubercule), TB (due to the phlegm from cough or sneezes of TB patients,), BCG

1. TB is caused by _____.
2. _____ is the bacteria which causes TB.
3. TB spreads due to _____.
4. _____ is the vaccination to control TB.
5. If antibiotics cannot cure cough after 15 days, the patient is likely to suffer from _____.
6. _____ lead to TB.
7. Along with medicine, a TB patient needs _____ and _____.

Match the correct pairs

- | | |
|-----------------------|---------------------------------------|
| 1. The microbes of TB | 1. Prevents TB |
| 2. BCG | 2. Rod-shaped |
| 3. Rifampicin | 3. Problem of spinal cord |
| 4. INH | 4. Medicine taken on an empty stomach |
| 5. TB | 5. No. of microbes |
| 6. Sputum Test | 6. Infectious disease |

Choose the correct alternatives

1. The National TB Control Programme was reviewed in the year _____.
1. 1991 2. 1992 3. 1987 4. 1986
2. Dots stands for
1. Taking medicine preventing TB
2. Completing the dose preventing TB
3. Testing for TB
4. Taking the medicine in front of the health worker
3. What kind of a disease is TB?
1. Hereditary
2. Non-infectious
3. Contagious
4. All above

4. Which is tested for TB?
 1. Blood
 2. Sputum
 3. Urine
 4. Skin
5. A TB patient must complete the recommended dose till the end so that
 1. The disease is cured
 2. Medicines fight against bacteria
 3. Discontinuing medicine mid way reactivates microbes
 4. All the above factors
6. The sputum of a TB patient must be destroyed in order to
 1. Reduce unhygienic conditions
 2. Prevent infection through bacteria
 3. Repeated cough and phlegm
 4. All the above

Keys

Blanks - 1-2, 2-4, 3-6, 4-7, 5-5, 6-3,7-1.

Pairs - 1-2, 2-1, 3-4, 4-3, 5-6, 6-5

Alternatives - 1-2, 2-4, 3-3, 4-2, 5-3, 6-2

Lesson 9

Diarrhoea and Dehydration

Aims

On reading this lesson you will understand

- What is diarrhoea?
- What are the causes and types of diarrhoea?
- The symptoms of dehydration
- The treatment for diarrhoea.

Knowledge

You will know about

- How serious diarrhoea is, specially for children.
- Which symptoms of dehydration can be seen.
- How can diarrhoea be controlled by nutritive diet.

Skill

You will learn

- How can diarrhoea be classified?
- How do the symptoms of diarrhoea indicate its seriousness.
- Which treatment can be given for diarrhoea.
- How is oral rehydration and ORS conducted.

Perspective

You will understand

- The information that diarrhoea can prove dangerous for children necessitates immediate treatment with care.

Introduction

Diarrhoea means having loose or watery motions. They are often frequent and are seen as some disorder related to the stomach and intestines. Diarrhoea is an important public health problem among children in developing countries. Every year 50 lakh children die due to diarrhoea (below 5 years). In other words it is fatal for 4,000 children everyday. Malnutrition aggravates these figures, just as it leads to other illnesses too.

'Gastro Enteritis' is the term used when diarrhoea and vomiting are the symptoms. It may be accompanied by fever when excreta contains blood or mucous, the illness is diagnosed Dysentery. It is more common among children below 2 years of age. Fever is found with it. Diarrhoea is risky among infants. Every year, about 20 lakh children succumb to it in the world.

10% of child mortality is caused by diseases involving loose motions. It must be noted that this rate is less among those less than 6 months because these infants are breast fed, thus protected from diarrhoea. However children above 6 months, being top-fed, they are prone to the infections of their surroundings. This is the age when they can put anything into their mouths. Other reasons include allergy to particular food, emotional outburst or weakness, excessive intake of raw fruit etc. The virus like E coli, salmonella and staphylococcus are responsible for the infections.

Classification of diarrhoea - into 2 groups

1. Acute diarrhoea upto 14 days.
2. Long-term diarrhoea - longer than 2 weeks.

Acute diarrhoea

This occurs suddenly but for about a week. The frequency of motions increases from 4 to 5 times a day till upto 30 or even 40 times in 24 hours. Rarely a patient may get upto 100 motions! These may be light fever. Older children get diarrhoea due to different kinds of infections. Broadly, 50% of diarrhoea cases are caused by virus, mainly the Rota Virus. The remaining half have other reasons.

1. Toxins (food poisoning)
2. Attack on internal tissues

Toxins

These are released by bacteria which reduce water and electrolytes from the lining of the intestines.

Internal attack - Microbes attack internal tissues which are then given out through motions.

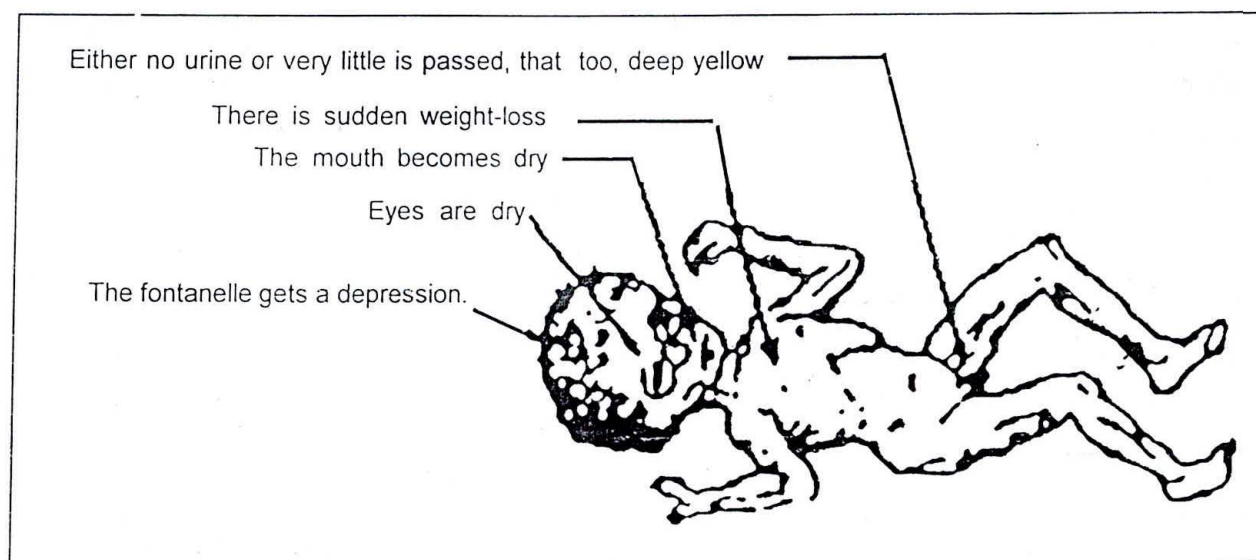
Long - term diarrhoea

1. This shows a hereditary disorder that requires enzymes for digestion. This does not cause dehydration.
2. Amoeba can also cause long-term diarrhoea.

Dehydration

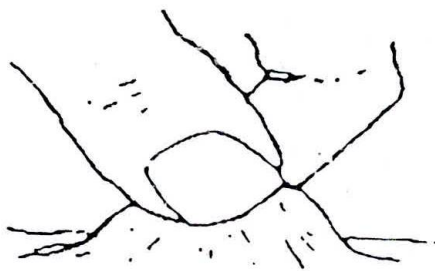
If new-born babies suffer from motions and vomiting, there is a shortage of water content in the body. This condition is called dehydration.

The following **symptoms** are observed in this-



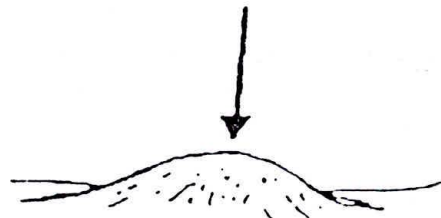
Symptoms of dehydration

Mild	Medium	Critical
Irritable child	Very disturbed	Lies very dull
Normal pulse	Weak pulse	Pulse -weak, limbs cold
Normal urine	Less urine	Urine greatly reduced
	Fontanelle depressed	Top of head greatly depressed
	Shrunk eyes	Eyes very greatly shrunk
	Drawn, dry face	Face very dry and drawn
	Lining of mouth-dry	Lining of mouth very dry
	Flaky lips	Lips greatly flaked
	Skin less soft	Hardening of skin
	Thirsty	Feeling very thirsty
		Child may get comatose
		100% weight loss.
5% weight less	5-10% reduction in weight	100% weight loss



Hold the skin between 2 fingers to test its flexibility, and pinch, pull it slightly.

If the skin doesn't return to its normal shape on letting go, there is dehydration.



Diarrhoea among new-born infants

A normal new-born baby has a greenish motion the first day (meconium). This continues for 3 more days. On the 4th or 5th day, the motion turns slightly yellowish. From the 6th day it passes yellow motions. Upto one month, it is normal for babies to pass semi-liquid motions while drinking milk.

Causes for loose motions among infants

1. Misconception- Passing motions upto 5 or 6 times a day is normal in the first 4 days. It is not an illness.
2. Infection- Those who look after the babies may pass on their own respiratory or internal infections to them. More often improper sterilization of bottles in case of top-fed babies causes loose motions.
3. Medicine induced - If the nursing mother is taking ampicilin, the baby may get loose motions.

Symptomatic of disease

The incubation period is 1 to 3 days. The child drinks less milk and becomes irritable. The temperature may become 100° F. When diarrhoea, begins, the motions are watery, yellow and acidic (causing inflammation at the rectum). They are frequent.

Signs of risk among infants

- Lack of appetite
- Eyes drawn in
- Skin turns dusky
- Depression of top of head(Depressed Fontanelle)
- Dullness in the infant

Treatment of Diarrhoea

1. Fluids

Mild and medium dehydration can be successfully treated by giving liquids through the mouth. The mother should be advised to give liquids available at home in a quantity such that the infant doesn't vomit, e.g. -tender coconut, butter-milk, salted rice soup, sherbet, mild tea. In case of great vomiting, give 2 to 3 spoonfuls at intervals of 5 minutes. If a very large quantity of liquid goes into the stomach at one go, it increases the activity in the

stomach too much, causing vomiting or motion. In case the infant is breast-fed, that should be continued.

Oral Rehydration Treatment

A mixture can be prepared for this at home. 8 flat spoons of sugar, one flat spoon of salt mixed with a litre of water, should be used with some lime juice if available.

Alternatively mix 3 pinches of salt with a handful of sugar in 1/2 litre of water which is pre boiled then cooled.

ORS

In case of continued diarrhoea, use the following formula recommended by WHO for rehydration of children.

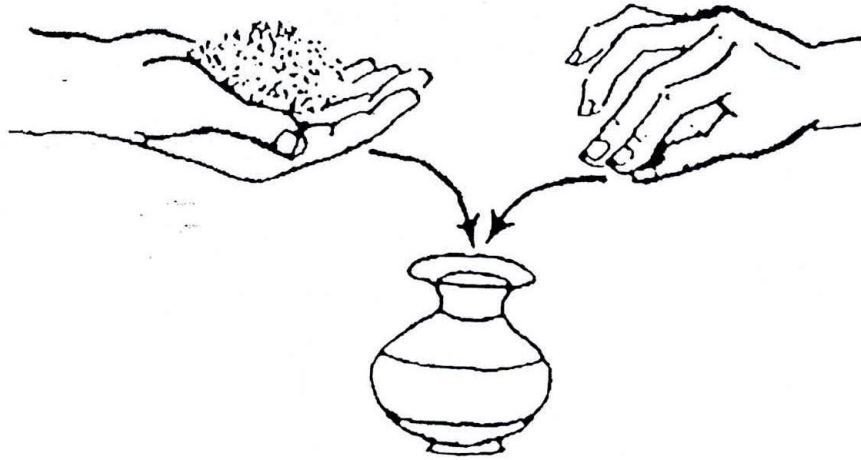
Glucose 20 gm	}	in 1 litre water
NaCl 3.5 gm		
NaHCO ₃ 2.5 gm		
Tri Sodium Citrate 2.1 gm		
KCl 1.5 gm		

Give this in small sips or spoon by spoon. A 1 year old child should get 1000 ml in 24 hours. The shortage caused by constant motions has to be compensated after every loose motion. Prepare ORS sufficient for 6 to 12 hours at a time, so that it doesn't get spoilt

Emergency Treatment

Acute dehydration can lead to death if not controlled. It reduces urine and circulation. In such conditions, intravenous fluids need to be given (IV fluids)

Home-Made Saline



In the absence of the doctors (unavailability) this can be used. It is a life saving saline taken orally. Readymade packets are available in the market. But these should be mixed with a litre of boiled water after cooling it. However, the solution can also be prepared at home with the material in the following proportion- 1 litre water, 20 gm of glucose (or 40 gm i.e., 8 spoons of sugar), 3 to 5 gms of salt ($\frac{3}{4}$ spoon or a pinch), 2.5 gms of cooking soda ($\frac{1}{2}$ spoon or 2 pinches) and 1.5 gm of KCl if available. It should not taste saltier than tears, lime-juice may be added for taste.

This life-saving solution is a boon for rehydration of the body. Since salt and water cannot be absorbed by themselves, it is necessary to add some sugar. Thus the fluid balance of the body can be maintained.

Important tips while giving life-saving solution/mixture

- Give Redydration in spite of vomiting.
- Rehydration has some use to contain vomiting.
- The water used must be clean and pure. Since sugar can cause fermentation, a limited quantity should be made at a time.
- 1 litre solution is sufficient for a 2 years old child for 24 hours. 100 ml more should be given after every motion continuously.

- Children less than 1 year old should be given double the quantity of water since the salt is too much for it.
- Even if ready-made packets are available in the market, the solution can be made at home immediately with the onset of motions.
- Dehydration makes a child irritable and other symptoms are also visible. Keep giving saline solution till the dry skin and eyes, depression of head and drying up of tongue and mouth continues.
- If the child drying up of tongue and mouth continues needs IV fluid administration. At times it is difficult to locate the veins of a child. Also, saline has to be given very slowly through the needle-30 ml in 1 hour. Excess of it may cause infection leading to death.

Thus it is important to remember then home-made/ oral solution is safer, quicker and more effective.

Diet

Breast-feeding should be continued during diarrhoea or vomiting. Breast-milk has a certain amount of resistance to these disorders, saves the child from malnutrition and also controls the damage to the digestive system faster. Dehydration is also controlled to some extent. Top-fed children should be given milk diluted with an equal quantity of water. Avoid top-milk during vomiting but give it after vomiting stops. Older children should be given liquids like gruel or soup rather than solid food like rice, dal, chapatti. Diet must be continued to prevent undernourishment.

Guiding Principles of Treatment

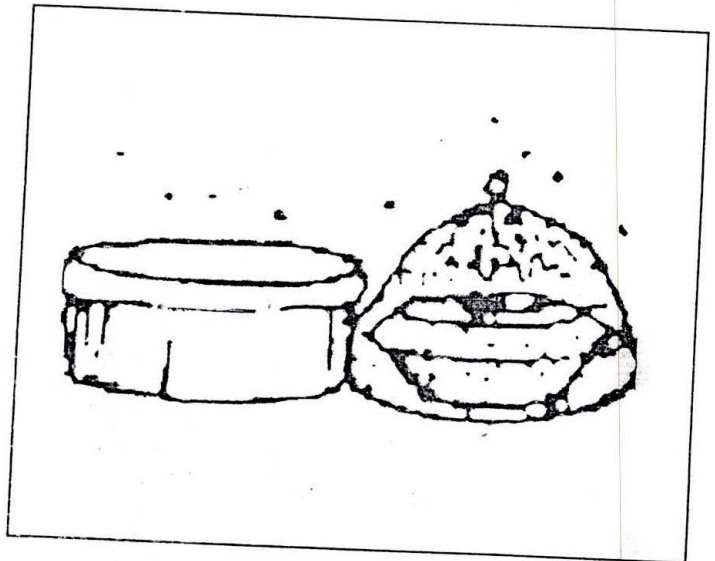
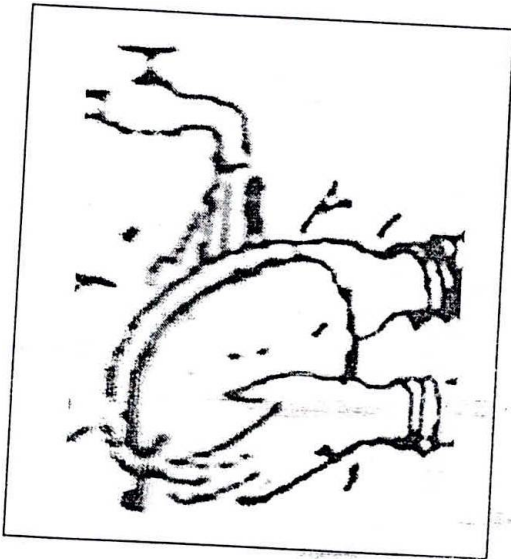
- Diagnose the disease correctly and give treatment suitable to the disease.
- Continue the life saving rehydration solution to compensate for dehydration.
- In case of acute dehydration, the child must be shown to a specialist if it doesn't show improvement. Sometimes it is necessary to administer Intra Venous saline to the child.
- Whenever there are complaints like bleeding, mucous, pain, bad odour or fever accompanying microbe-included diarrhoea, some antibiotics and oral rehydration must be started. (Cotri or Ampicillin, antibiotic and metronidazole are anti amoeba/ giardia).
- Do not give injections. They are to be used only in case of excessive bleeding or fever in special diseases.
- Indigestion causes motions till the factors responsible for it are removed. Children are unable to eat till digestive problems persist.
- Breast-feeding should never be discontinued. Except in case of indigestion children must continue to receive nutritive diet. Light food and milk ensures this is continued



Preventive Measures

1. Encourage continuing breast-feeding for as long as possible.
2. Take care that the diet is hygienic. In case of top-feeding, ensure that the spoons and bowls used are germ-free.
3. Malnourished children easily get diarrhoea. Avoid giving open or fly-infested food.
4. Avoid giving open or fly-infested food.

Cleanliness of the environment is very important. The most effective way to control diarrhoea and other infections is to provide safe drinking water. We can fulfil our aim of preventing diarrhoea by ensuring safe drinking water to our people.



Introduction

Everyone experiences loose motions during childhood. Motions may be very watery as in diarrhoea, or just slightly looser than normal. They may be caused due to improper digestion because of acidity. Bacteria or amoeba are the main reasons. Motions may contain just mucous, but otherwise they may include blood and mucous.

A normal healthy person usually passes one motion a day, which is fairly well-formed (thick). But during some diseases, not only are the stools 'not well-formed' but also repeated many times a day. At times, blood or a sticky mucous is also excreted with it.

If the disorder is in the small intestine, the food and water remains undigested and unabsorbed, thus causing watery motions. Even when there is no food in the stomach, the intestinal contents cause motions which are usually whitish during diarrhoea. When motions are very watery, usually there is no bleeding.

The cause of diarrhoea has to be identified to decide the treatment. Particular medicines are used against amoeba and bacteria. But if the cause is viral infection, antibiotics don't help.

Whatever the cause of diarrhoea, dehydration has to be supplemented by rehydration.

How is this disease caused? Reasons

Microbes cause diarrhoea. They spread through the excreta of the patient (by contact with hands, food, water or flies). The contaminated water is mainly responsible for this. Diarrhoea among those above 5 years of age is usually caused by amoebic and bacterial infections caused by unhygienic food/water, lack of personal cleanliness. Usually the bacterial infections spread in the beginning of the rainy season, like outbreaks of cholera. There is great pain when caused by bacteria. Bleeding starts after 2 or 3 motions and fever may also afflict the patient. But in amoebic dysentery motions are dilute and often contain blood and/or mucous. Other symptoms are gases, a sense of incomplete motion and even froth. Giardia is another microbe that causes frothy motions, which are accompanied by a peculiar sound which cannot be controlled.

People can be made aware of information about indigestion, diagnosis of loose motions etc.

Treatment

Since loose motions are of different types, it is necessary to find the cause. Viral motions have no particular medicine in modern science. Metronidazole should be given for amoebiasis or Giardiasis. Worms may cause motions (but not suddenly in adults) for which Mebendazole is given.

Always use salt water and sugar solution to compensate for dehydration caused by loose motions.

Exercises

Fill in the blanks -

(Environmental Cleanliness) (long term) (Ampicilin) (ORS) Breastfeeding, intravenous, Meconium

1. _____ diarrhoea doesn't cause dehydration.
2. The greenish motion passed by new-born on the first day is called _____.
3. Use of _____ by a nursing mother may cause diarrhoea in the baby.
4. The WHO has formed an _____ formula to treat dehydration caused by diarrhoea among children.
5. One has to resort to _____ while treating acute dehydration.
6. It is cheaper and easier to give _____ to save a new born infant from diarrhoea.
7. _____ is an important measure to prevent the spread of diarrhoea.

Choose the correct alternatives -

1. Acute diarrhoea lasts for _____ days.
1. 0-14 2. 0 to 8 3. 0 to 15 4. upto 10 days
2. Long term diarrhoea continues for _____ days.
1. 15 2. 14 3. more than 15 4. 20 days
3. The symptoms of dehydration are _____
1. Drying of mouth / skin
2. Less or no urine
3. Depression of top of head
4. Weight loss
5. All the above

Match the correct pairs -

- | | |
|-------------------------|-------------------------|
| 1. Rota Virus | 1. E-coli |
| 2. Medium Dehydration | 2. Intra Venous |
| 3. Dehydration | 3. Very irritable child |
| 4. Acute dehydration | 4. Viral motions |
| 5. Infections Diarrhoea | 5. Life Saving Solution |

Answers

Blanks - 1-2, 2-7, 3-3, 4-4, 5-6, 6-5, 7-1

Correct Alternatives - 1-1, 2-3, 3-5

Correct pairs - 1-4, 2-3, 3-5, 4-2, 5-1

Part 2

Fill in the blanks

(Breast feeding) (Metronidazole) (Mebendazole) (Dysentery) (Loose motions and Vomiting)
(Diarrhoea)

1. Having watery motions is called _____.
2. When loose motions are accompanied by mucous, bleeding stomach-ache, it is called _____.
3. The patient gets _____ and _____ in cholera.
4. The medicine recommended for Amoebiasis and giardiasis is _____.
5. _____ must be given to children having diarrhoea
6. _____ is recommended when motions are caused by worms.

Answers

Blanks - 1-6, 2-4, 3-5, 4-2, 5-1, 6-3

Lesson 10

Types of Fever

Aims

On reading this lesson you will understand

- The different types of fever.
- Classify the types of fever according to symptoms and indications, as well as methods of treatment.

Knowledge

You will know about

- Symptoms and indications related to types of fever
- The causes of fever
- The serious signs of fever
- Treatment according to types of fever

Skill

You will learn

- What are the home remedies for fever?
- Give medicines according to their proportions.
- What care needs to be taken alongside medicines.

Perspective

You will understand

- Fever is not a disease, but a symptom of illness.

Introduction

Fever is only a symptom of illness and not a disease by itself. The body resists germs, resulting in fever. If it rises too much, it can cause serious damage like bursting of blood vessels of the brain. That is why efforts must be made to reduce the fever. It is measured by a thermometer in Celsius or Fahrenheit.

Fever

Low	99 to 101° F	38° C to 41° C
Medium	101 to 103° F	41° C to 43° C
High	Above 103 F	Above 43° C

Means of Reducing Fever

1. Wipe the body with cold water
2. Rest
3. Paracetamol (according to age)

Serious Signs of Fever

1. Fever for longer than 15 days
2. Getting fits
3. Stiff neck
4. Fever within 42 days of abortion or miscarriage /delivery

Lesson 11

Types of Fever

Malaria

Introduction

The name originates from the Italian word which means polluted air. Malaria is one of the diseases afflicting human beings due to parasites. It obstructs the economic and industrial development of the country.

History

It has been one of the Chief health problems since ancient times. Hippo crates has described in before 5 BC. This disease has also been referred to in the Atharva Veda of India.

Geographical Expanse

The malarial parasite is found in all countries from 40° south to 60° North. The tropical areas are like a heaven for it.

What is malaria?

It is a disease with high temperature. It cause sudden shivering followed by rising fever almost every alternate day.

How is it caused

It is caused by a microbe called Plasmodium. They are of 3 types in India.

1. Plasmodium Vivax
2. Plasmodium falciparum
3. Plasmodium Malariae

Plasmodium Vivax is the cause of the maximum spread of malaria in about 70% of the patients. But it is less dangerous than that caused by Plasmodium Falciparum which affects 25 to 30% people. The latter creates many problems and could be fatal. The third variety affects only 1% while a fourth type 'plasmodium ovale' is not found in India.

How does Malaria spread?

The mosquito called Anopheles of the female gender spreads the disease. When it bites a patient, it sucks the parasite with the blood. It grows inside the mosquito upto 14 days. Whenever it bites another person, the parasite enters the body of the new victim. After an incubation period of 14 days, it causes fever in the person.

Different types of parasites take different periods to destroy the red blood cells from the time they enter the blood.

Symptoms and Signs of the disease

The patient feels restless after the malarial parasite enters the body. He also develops headache muscular pain, vomiting and stomach-ache. These symptoms are similar to those of flu. After 14 days the symptoms peculiar to malaria is seen i.e. shivering and fever. It starts in the afternoon as has 3 stages.

Cold stage

The patient feels very cold, wraps his blankets, his teeth chatter and this continues for 15 minutes to 1 hour.

The Stage of Fever

The patient feels very hot, uncovers himself and has a headache. The fever can rise upto 106° F. This condition lasts from 2 to 6 hours.

Sweating Stage

Great sweating is followed by reduction in fever. This is typical of malaria.

Diagnosis of Malaria

When the history of the patient reveals high fever after cold and shivering followed by sweating and reduction of fever, the blood-test is conducted. The pathological laboratory can decide the type of the malarial parasite.

Treatment

There are 2 objectives in this

1. Reducing fever and other kinds of suffering
2. Destruction of male and female parasites in the blood.

It is to be noted that malaria may appear like some other fever. Every kind of fever should be tested for malaria till some other disease is diagnosed. The recommended treatment is chloroquin tablets. One dose is sufficient to get the symptoms of malaria.

Prescribed Dosage. of Chloroquin

S. No.	Age	Weight of Medicine	No. of tablets
1	Less than 1 year	75 mg	"1/2
2	1 to 4 years	150 mg	1
3	4 to 8 years	300 mg	2
4	8 to 14 years	450 mg	3
5	Above 14	600 mg	4
6	Pregnant Woman	600 mg	4

Treatment for total eradication of Plasmodium Malaria

For Adults

1st Day - 600 mg chloroquin at once, 2 tablets of 150 mg after 6 hours.

Second day - 150 mg chloroquin x twice

Third day - 150 mg chloroquin x twice

Chloroquin is not to be taken on an empty stomach. It may be taken with milk.

Pregnant women may be given chloroquin with no danger of harm to the foetus.

Side Effects of Chloroquin

Normally digestible.

Sometimes causes giddiness, vomiting, restlessness or rash on the skin.

Harm caused by Malaria

1. Cerebral Malaria
2. Secondary Anaemia
3. Mild Jaundice
4. Renal Failure

Critical Condition Needing Expert Help

1. Growing restlessness, unrelated movement.
2. Delirious talk and distraught behaviour.

Anopheles Mosquito

The female of the species survives on human blood while the male lives on plants. The female Anopheles requires protein obtained from human blood for which its mouth is adapted to suck blood below the human skin.

The life cycle of a mosquito has 4 stages of which the first 3 - egg, larva and pupa are completed in water. The eggs are also laid in water and hatch within 3 days. The larva feeds in water. After 10 days it is transformed into a pupa which comes to the top of the water regularly for breathing. After about 4 days, the mosquito emerges from it. An adult mosquito can fly upto 1 to 2 km. It may live from a few hours to some months.

Control of Malaria

Measures need to be taken at individual as well as social levels to control Malaria. Personal safety and prevention of spreading is basic to unified efforts.

Measures

1. Doors and windows be covered with nets in areas with a lot of mosquitoes.
2. Apply repellents to open parts of the body e.g., citronella oil, eucalyptus, odomos cream etc.
3. Use mosquito nets while sleeping.
4. Prevent growth of mosquito larva by using 'Gambusia' fish in ponds etc. where mosquito breed.
5. Observe one dry day per week when all utensils used for storing water are emptied and dried in the sun.
6. Use soak pits to get rid of waste/sewage water.
7. Use kerosene (rock-oil) in stagnant water to prevent growth of mosquitoes.
8. Spray DDT powder solutions using 100-200 mg/per sq. ft. of wall or floor.

Exercises

Fill in the blanks

(Plasmodium Vivax/Falciparum/Malariae), (Malaria), (Bite of female Anopheles) (Chloroquin)
(Blood) (Unrelated Movements/Delirious condition) (14)

1. Malaria is caused by _____.
2. Fever after cold/shivering, sweating followed by lowering of temperature are symptoms of _____.
3. Malaria is treated with the medicine _____.
4. In case of _____ and _____ as symptoms, at once the patient of Malaria must be sent to the doctor.
5. These are the types of Malarial parasites _____.
6. The incubation period in malaria is _____ days.
7. _____ is tested for Malaria

Choose the correct alternatives

1. This is a harmful effect of malarial infection.
 1. Cerebral malaria
 2. Anaemia
 3. Mild Jaundice
 4. Less urine
 5. All the above
2. How should malaria be treated?
 1. With medicine
 2. Use mosquito nets around the bed
 3. Fever/other suffering to be reduced, destroy mosquitoes
 4. All the above

Answers

Blanks - 1-3, 2-2, 3-4, 4-6, 5-1, 6-7, 7-5

Correct alternatives - 1-5, 2-4

Influenza

During the rainy season, Ganga would often get wet on her way to meet her hard-working mother in the fields. Once she caught a chill and began shivering. Her mother gave her a 'kadha' of ginger and lime boiled together.

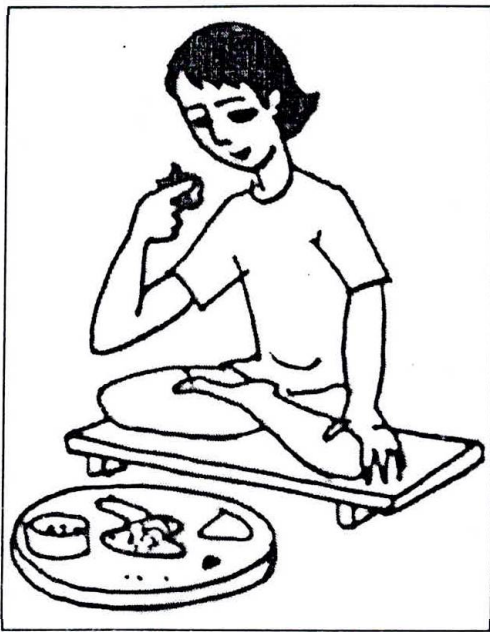
Though she drank it everyday, she continued to get drenched in the rain. She developed a cough. One day she got fever. She wrapped herself in a blanket and lay down. Her mother returned to find her breathing disturbed and chest-pain on one side. Her condition worsened at night. Next morning she went to the primary health centre in the neighbouring village and got medicines for her. Then she decided to get herself and a group of women from her own village trained to give medicines to villagers.

Questions

- What kind of fever do you think Ganga had?
- What will you ask the patient's relatives about?
- How will you check the patient? What will you examine?
- What will you diagnose after observation?
- Which medicines will you recommend?
- What advice will you give the family members of the patient? Give reasons.

Rheumatic Fever

6 years old Pradeep went to a distant village to attend school. It was winter. One day his throat was hoarse. He couldn't Swallow his food. His mother gave him a soft diet. She made him gargle with warm salted water. Within 2 days he recovered and attended school.



In December they had guests - He ate poorees and meat with them-Soon he got fever. The next day



he had a swelling on his left knee. It spread to his feet, turning red. After some days he became well again.

Soon he started falling ill repeatedly. He had chest pain. His mother took him to the doctor. The doctor said that Pradeep had got rheumatic fever. It can damage the heart. So he had to give him a penicillin injection.

Questions

1. Which financial category of society gets this disease?
2. Which age is prone to get this disease?
3. What are the damages caused by this disease?

Exercises - Rheumatic Fever

The Story of Pradeep

Fill in the blanks

1. In the beginning Pradeep had difficulty in _____ (Swallowing)
2. After some days, fever was accompanied by the symptoms _____ (Swelling of left leg, pain & redness)
3. The above symptoms disappeared by themselves because they were caused by _____ (Virus)
4. Repeated pain, swelling, fever suggests infection by _____ (Bacteria).
5. Symptoms of _____ are pain, swelling and redness of joints (rheumatic fever)
6. Penicillin injection is an _____ medicine (anti bacterial)
7. Repeated infections of respiratory system can cause _____ (Rheumatic fever).

Heat Stroke

A middle-aged man was out in the sun with a young boy. They drank some water and continued walking in the hot sun. The man felt uncomfortable and vomited. He got fever. The boy thought he had acidity and would soon get well. He took him home. His wife gave him some jaggery to eat before drinking cold water. But he felt giddy and swooned.

Questions

- How will you treat a man in the above condition?
- What will you advise to control such fever?
- What problems can acidity lead to?
- Which home-remedies are possible for such problems?

Self Study

Fill in the blanks

1. The man faced this problem due to _____ (travelling in great heat)

Urinary Tract Infection

Urinary Infection is caused by microbes. Its symptoms are - getting fever after great shivering repeated sensation of urine, burning sensation while passing it, smoke-coloured urine and pain in the lower abdomen.

1. Use of catheter
2. During pregnancy there is pressure on the tip of the urinary bladder, causing some urine to remain. This period is prone to infection by germs
3. Drinking less water.
4. Lack of personal cleanliness.

The above factors may cause urinary infection. Following are the home remedies for it-

1. Drinking more water.
2. Drinking sandalwood 'sherbet' (cold drink)
3. Drinking water of soaked cummin and corriander seeds whenever shivering is accompanied by fever, lower backache and bleeding with urine, the doctor must be consulted so that the infection doesn't reach the kidney.

Questions

- Which types of fever cause shivering? What is the characteristic feature of this symptom of shivering during fever?
- Which other conditions cause this kind of fever?
- What do you recommend to those who suffer these complaints repeatedly?
- Explain which other serious diseases are caused by these complaints, their symptoms and when the patient should be sent to the doctor.

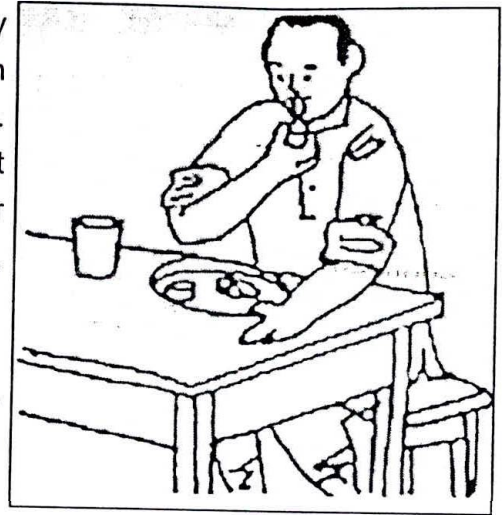
Choose correct alternatives

1. _____ has the symptoms of fever after shivering, suffering during passing urine and lower backache. Infection of the

1. Respiratory Tract 2. Urinary Tract 3. Digestive system 4. Reproductive Systems

Jaundice (Hepatitis)

Sakharam Patil was the village chief. He was healthy and had worked hard doing physical exercises. He often travelled to the District Office for administrative work. People looked after his food and drink whenever he went there. He felt he was unaffected by outside food or water unlike women who fell ill with change of food. However, once he lost his appetite.



He started getting light fever and was reluctant to walk. His wife felt he was ill and wanted him to see a



doctor. But he interpreted this as some black magic and tried some rituals to set his health right.

Soon he started getting stomach ache. His stools became whitish and urine looked smoky. Some villagers advised him to sacrifice an animal which he did with all rituals. However his wife consulted a doctor. Sakharam refused to meet him because he thought jaundice could be cured by a wise villager Maske Baba. The villager asked him to drink the juice of 'Eranda' (Castor) 3 times. He also made him wear a garland of some herbs.

Sakharam also did some things at home which his wife suggested. Within 2 months he got well again, but continued feeling weak.

Questions

1. Are men healthier than women? Why? What advice might the doctor have given to Sakharam's wife?
2. What are the harmful effects caused by jaundice? Describe its critical symptoms.

Choose the correct alternative

1. What was Sakharam Patil's first complaint?
 1. Lack of Appetite
 2. Restlessness
 3. Mild Fever
 4. Fatigue

2. What kind of disease is Jaundice?

- | | |
|-------------------|---------------|
| 1. Non-infectious | 2. Hereditary |
| 3. Infectious | 4. Allergy |

3. What is the cause of Jaundice?

- | | |
|-----------------|-------------|
| 1. Virus | 2. Bacteria |
| 3. Divine Curse | 4. Parasite |

Fill in the blanks

(Smoky/Whitish), (Change in food/water/surroundings)

1. In Jaundice, the colour of urine is _____ and faces is _____.
2. Jaundice is caused by _____.

Answers

Alternatives - 1-1, 2-3, 3-1

Blanks - 1-2, 2-1

Tuberculosis

Mangala lived in a village called Hirapur. She had cough. She also started getting fever every evening. She climbing heights made her breathless. She lost her appetite. After 8 to 10 days, she couldn't bear the suffering. She tried taking 'Adulsa' for her cough, in vain. So she went to a private doctor who gave her medicine for 3 days and an injection. However, she continued to have fever every evening with constant coughing. Her weight reduced by 5 kg.

Then she consulted another doctor. He asked her to get an X-ray of her chest. She waited for a few days.



When she began getting 'kafa' (phlegm) with cough. She got an X-ray done. When the doctor saw it, he told her she would



need medicines for 7 or 8 months since her chest was congested. Mangala started feeling better after 15 days. Since she had stopped buying further medicines. She started getting fever regularly again, with cough and phlegm. So she went to the primary health centre and brought medicine for 3 days.

Not finding any change in her illness she consulted a 'Bhagat' (witch-doctor) who said she would improve in 2 days if she sacrificed a hen. Mangala revisited the private doctor with her X-ray. He saw it and insisted that she needed to continue medicines for several months. When she mentioned that she couldn't afford the cost, the doctor advised her to visit the Government hospital.

In the Government Hospital, Mangala was given medicines for a month. After taking those, she felt better and once again discontinued her treatment. Within a few days, she started getting 'phlegm' with cough. The neighbours began whispering that she had TB but Mangala had never been told so by any doctor.

When Mangala's husband got her check-up done in the government hospital - blood, urine, phlegm and X-ray - all were tested to conclude that she had TB.

A programme called DOTS had recently been launched in the Government Hospital. Under this, all likely TB patients were being observed, because they often avoided taking medicines, thus deteriorating in health. The patients were made to realise the importance of taking the medicines punctually and regularly for a long period.

The doctor advised the couple to visit the hospital on fixed days to take the medicines. He also cleared their misconceptions about TB. Then they stopped worrying and were determined to follow the doctors instructions about continuing the treatment.

Choose the correct alternatives

1. What complaint did Mangala have at first?
 1. Loss of Appetite
 2. Breathlessness while climbing
 3. Fever rising every evening
 4. Weight loss
 5. All the above
2. What causes TB? . 1. Virus 2. Bacteria
3. How should TB be treated?
 1. By going to a witch doctor
 2. Visiting a private hospital
 3. Discontinuing medicine on improvement
 4. Completing the dosage as advised by the doctor

Fill in the blanks

(Blood and Urine/ Phlegm/X-ray) (DOTS programme)

1. The _____ is available for treatment of TB in a government hospital
2. TB was diagnosed on the basis of Mangala's test of _____ - and report or _____.

Answers

Correct Alternatives - 1-5, 2-2, 3-4

Blanks - 1-2, 2-1

Post-Pregnancy Fever

This is the story of the wife of Lord Chhatrapati Shivaji namely Saibai. She gave birth to two children, Sakhu and Sambhaji. After her second delivery. She became seriously ill. She had suffered a lot during labour and started getting fever everyday.

Though Lord Shivaji tried to get the best treatment for her, the royal Vaidya couldn't cure her. Special prayers and rituals were also conducted, but in vain. She had excessive white discharge, which proved fatal for her.

Following are the symptoms and indications of fever within 10 days of delivery/miscarriage- shivering followed by fever, fatigue, pain in private parts and lower abdomen, redness of face due to high temperature, deep red vaginal flow with blood clots and odours, as well as faster pulse.

In case of insufficient cleanliness at the time of delivery, remains of placenta or membrane in the uterus can cause fever.

A patient being treated for such fever needs complete rest. The pulse, fever and breathing should be checked and the patient sent to the doctor, without medical treatment it may prove fatal.

Questions

1. What caused Saibai's death according to you?
2. What are the other symptoms of this illness?
3. What questions will you ask such a patient?
4. How will you check the patient?
5. What are the reasons for this type of fever?

Fill in the blanks

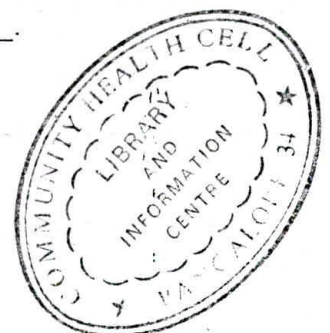
(Infection during delivery) (The place and time of delivery) (When did the fever start) (Excessive white discharge with odours) (Constant fever after delivery)

1. Saibai lost her life because of _____.
2. This disease may be caused by _____.
3. This disease may lead to _____.
4. Such a patient should be asked about _____.

Answers Blanks

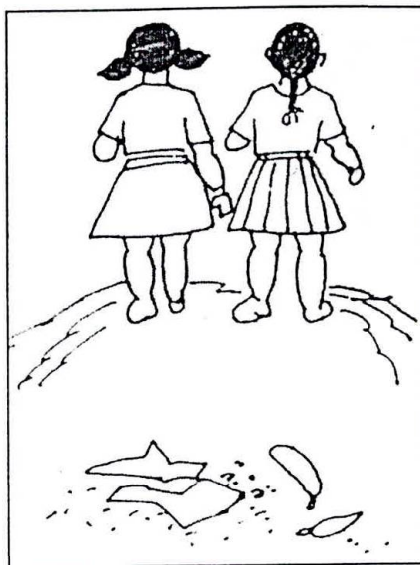
1-4, 2-3, 3-1, 4-3

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Wound Infection

Rupali was descending the hill after collecting flowers and leaves for her herbarium with her friends. Suddenly she stumbled over a stone and fell down. The stone injured her foot and it started swelling



A woman over there crushed some leaves and applied them to her wound. When Rupali returned home, her foot was paining a lot. Her mother applied turmeric to it. The wound had become red and hot. After 3 days she got fever and a swelling in her groin. Feeling worried her mother took her to the primary health centre.

There the doctor cleaned her wound with iodine, dressed it and gave her medicine for 3 days. He explained that she had got fever because of the wound.



Questions

1. What questions will you ask the patient /his or her relatives?
2. Give reasons for means/ways of checking the patient.
3. How will you diagnose the problem? Give reasons.
4. What will you ask the patient (and his relatives) to do? Explain why?
5. Are there any home-remedies for this kind of fever in your village

Choose the best alternatives

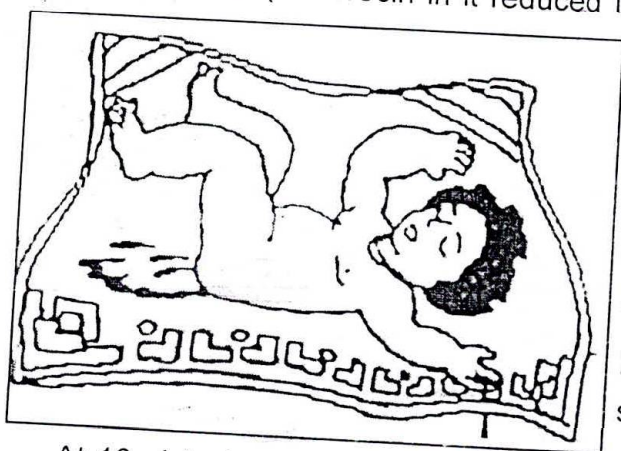
1. Why does a fever caused by a wounded foot cause a swelling in the groin?
1. Infection 2. Swelling 3. Increasing pain 4. All above.

Correct Alternatives

1-1

On Thursday, the 15.07.1999 Neil passed a loose motion but did not pass urine. The one year old had already a cold and body-ache which was not treated because it seemed an effect of the rainy season. But he was given coffee instead of milk after his bath. After a nap he even ate rice but got 4 to 5 loose motions in the afternoon.

Since Neil's mother worked in a near-by village, his grandmother and aunt were looking after him. He became irritable and turned red as his fever rose. They decided to take him to the doctor if he didn't feel better next day. However, he couldn't sleep. He passed a very watery motion and cried loudly which sounded like his stomach was aching very much. They gave him paracetamol for fever. He started getting loose motions and vomiting after almost every half an hour. They were giving him water to make up for the loss of water. Giving medicine was difficult since he had to be held tightly before forcing Ibugesic syrup down his throat (the crocin in it reduced fever). Domperidon was given to stop vomiting.



Finally Neil slept for a while, drank coffee and slept again. But he was awoken by another loose motion. He was too weak to even raise his head. He was constantly given medicines, rice soup and a mixture of salt, soda with sugar. The solution would be thrown up immediately. He was hardly passing any urine. But the rice soup lasted.

At 10 o'clock, they took him to the doctor. When he was weighed, they found he had lost 1 kg after the last week's check-up. There had been a loss of water which had to be made up. The doctor decided to give an antibiotic so that the present viral attack should not be followed by any other infections. He wanted to start IV fluids but the family said they would try to make him drink sufficient water.

Since dehydration causes sleeplessness, Neil too wasn't sleepy. They forced him to drink coffee, water and rice soup alternately. Soon he began improving. Not only did he fall asleep, but when he cried in the morning, tears could flow from his eyes. Though he passed a loose motion, he drank milk and even asked for water. Though he got a couple of loose motions, he ate rice. He indicated that his legs were aching. The next day, he passed urine normally, had normal temperature



and even revealed a new tooth on the third day. He didn't get any other infection.

Neil must have got infection because

1. Cold and cough
2. Eating anything during teething
3. Possibly swallowing bath water

Questions

What signs or symptoms are seen if a patient gets infection?

What are the symptoms of dehydration?

Fever is present in case of both, kinds of diarrhoea - viral as well as bacterial. How will you differentiate between them?

The story of Neil (Fever due to diarrhoea)

Choose the correct alternatives

1. The symptoms of dehydration are

1. Weight loss 2. Absence of urine 3. Laziness in the child 4. All above

Fill in the blanks – (ORS, Dehydration)

1. _____ is the sign (symptom of infection in a patient).
2. Dehydration is treated by _____.

Answers

Correct Alternatives 1-4

Blanks 1-2, 2-1

Medicines

Name	Description	Indications	Donts	Side -Effects
1. Amoxycillin	Anti-fever	Pneumonia Sinusitis	Nursing mother /liver infection. Single nuclei WBC	Diarrhoea Rash
2. B-Complex	Vitamin B rash	Dry mouth rash		No side effect
3. Benzyl benzoate	Itching Antibiotic	Itching Anti biotic	New born infant skin with scar	Inflammation of eyes, Membranes
4. Chloroquine	Anti malaria	Malaria	Weak-liver	Vomiting, headache giddiness
5. Chlorophenyr-amine	Anti -allergic	Rhinitis, all types of rash	New-born	Fatigue, change in appetite, reduced eyesight, dry mouth
6. Codeine	Cures dry cough	Dry cough	Past asthma, pregnancy operation, large intestine problems	Constipation vomiting faster heart beat
7. Cotramoxazole	Anti bacterial	Infections of Ear, nose, throat, urinary tract, pneumonia	Pregnant or Nursing mother	Vomiting, diarrhoea, rash, restlessness
8. Ferrous Sulphate		Pregnant Nursing Mother		Stomach-ache constipation or diarrhoea, black stools
9. Folic Acid		Pregnancy, Nursing mother, inflamed mouth		No side effect