

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

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

Knowledge

You will know about

- 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. Cough

This is an indication found most of the time. It occurs during the diseases Pharyngitis, Bronchitis, Tuberculosis and Pneumonia. The sputum 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 sputum is caused by viruses but the thick, greenish yellow-one is caused by bacteria. TB or Pneumonia may include traces of red.

a. According to place of origin

1. Sputum from the nose
2. Thick sputum from lungs

b. According to source,

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

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.

B. 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)

C. Fever

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

D. Increase in the rate of breathing

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

The normal rate of breathing provides sufficient quantities of oxygen. The rate of breathing increases if there is obstruction of the air ways due to phlegm and chest pain which prevents the lungs from expanding completely.

E. Cynosis

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

F. Flared nostrils

Difficulty in breathing leads to this condition.

G. 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.

H. Increase of pulse rate

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

I. 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.

J. Sounds heard when using a stethoscope

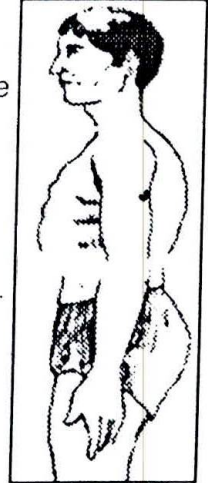
When the air sacs are full of fluid, there is friction between fluid and air. This friction creates a sound like crumpling paper which can be heard through a stethoscope placed over the patient's chest.

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.



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.

Self examination

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 two 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?
9. If someone is losing weight what is your opinion about the disease duration.
10. Cough caused by pollution does not have _____

11. If only the right part of the chest expands properly it means that the left part is _____

Exercise

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. 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. Drawn in ribs, 3. emphysema , 4. whistle like)

1. The breathing of an asthma patient sounds _____.
2. The chest looks like a drum during _____
3. _____ is an important symptom of pneumonia among children.
4. 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**

1. Cold, disorder of vocal cords, diphtheria, tonsillitis
2. TB, pneumonia, cancer, emphysema, bronchitis
3. Diphtheria
4. Pneumonia
5. Diphtheria, tonsillitis, pharyngitis, inflamed vocal cords
6. Cough will be accompanied by other symptoms like change in the voice, pain on pressing the neck/ throat.
7. Pain during swallowing, fever, redness of tonsils
8. Lips, nails
9. Long term, short term
10. Fever
11. Infected

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

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

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

Lesson 2

Diseases of the Nose and Throat Cough and Cold

Aims

On reading this lesson you will understand

- What causes frequent coughs and colds
- How to prevent coughs and cold

Knowledge

You will know about

- Causative agents of coughs and colds
- Symptoms of coughs and colds
- Various methods of treating coughs and colds

Skill

You will learn

- Home Remedies
- To identify serious indications to refer patient to a doctor.

Perspective

You will understand that

- Medicines advertised for coughs and colds should be used after careful consideration.
- Medical treatment of coughs and colds is often unnecessary.

Coughs and Colds

Coughs and colds are common illnesses. Most of these are caused by viral infections which require no medical treatment. This group of viruses (minute germs) are called rhinoviruses.

However, coughs and colds do cause suffering. A patient gets headaches, loses appetite and feels lethargic. A remedy is needed to reduce the suffering. It is necessary to know that

1. Coughs and colds generally last for a week with or without treatment.
2. Antibiotics are of no use.
3. Drugs advertised for colds are useless. The syrups contain sugar and alcohol. The linctus often contains codeine which induces sleep. 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. Bacterial infections should be diagnosed for starting treatment early.

Serious indications

- Increased rate of breathing
- Drawing in of the ribs
- Wheezing
- Cough not cured by proper antibiotics
- Phlegm tinged with blood

How will you explain that

- Cough and cold is a symptom of viral infection of our respiratory tract.
- When some foreign body attacks the internal covering of the nose, the body secretes a fluid to expel it. That is why a patient has a running nose.

Three Causes of cold and cough include

- Allergy
- Pollution
- Virus

Allergy

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

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

Pollution

This leads to dry cough and running nose. Constant contact with pollutants weakens the respiratory system. Efforts should be made to reduce exposure to pollution or protect against pollution by use of face masks.

People who frequently suffer from coughs and colds are

1. Age wise

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

2. By nature of work

- Women cooking on "Chulha"
- People working in cotton or ginning factories
- Potters
- Stone - workers
- Traffic Policeman

3. By habitat

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

4. By lack of proper diet

The complaints of cough and cold persist when the diet lacks sufficient protein and vitamins A and C. Protein increases resistance while vitamins keep the internal organs 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

Seasons

More frequent during January, March and October. In the cold season reduction of humidity in the atmosphere and lowered temperature of the body causes dryness in the respiratory tract which reduces resistance to infections.

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. Covering with blankets or quilts gives warmth and comfort
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 antibiotics or cough suppressants (Cough suppressants are medicines which control or suppress the cough without any attention to its cause like infection, irritation etc. and so can result in treating the symptom and allowing the underlying disease to progress).

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

According to 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) which results in coughs or colds.

Ayurvedic Medicines

1. Piper longum (pepper) - Boil with milk and drink 3 times a day.
2. Controlled 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 only 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 is not specific for an illness. The remedy has to be decided after ascertaining the individual nature of each patient by asking a series of questions.

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

Acupressure

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

Features of the diseases	Medicines
1. Running nose, sneezing, red eyes, watering eyes, discomfort, feeling better in fresh air/open.	Allium Ceba 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 in the chest	Bryonica 6 C (Quantity as above)

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 the practice of Pranayam. (Breathing exercise).

Jal neti (for older people) - (Fig. 1)

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



Steam inhalations

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.

Sinusitis

Aim

On reading this lesson you will understand

1. The various causes of Sinusitis

Knowledge

You will know about

- The structure and function of the sinusitis
- The signs and indications of sinusitis
- Various treatments for sinusitis

Skill

You will learn

- How to treat sinusitis
- When to refer the patient to the doctor
- About methods for prevention of recurrence of sinusitis

Perspective

You will understand

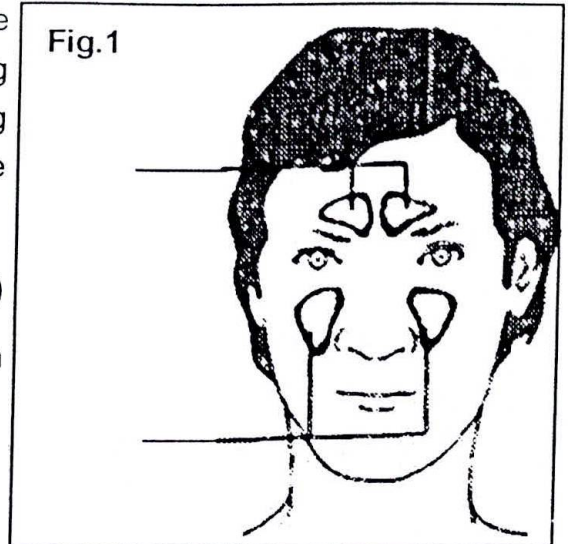
- That sinusitis is a chronic condition

Sinusitis

There are small air sacs above and below the eyes which help us in our speech. The germs infecting the nose may attack them causing sinusitis. During sinusitis, the patient experiences pain when these points are gently tapped. (Fig.1)

Indications of infection of the sinuses (Sinusitis)

- When the patient bends down there is pain in the area of these air spaces.
- The patient gets a headache
- The nose gets blocked often.
- Sometimes there may be fever.



Treatment :

Natural Remedy (Naturopathy)

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

- Enema once a day
- Mud application on abdomen
- 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. Franken sense (*Bosvelia 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

- Use heat treatment for pain
- Steam inhalation
- Take phenylephrine drops to relieve the blocked nose. - (For proper dose and other information about the medicines use the Drug list)
- Use the antibiotic cotrimaxozole in case of fever. (For proper dose and other information about the medicines use the Drug list)

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 the gap between the repeated attacks and the type of treatment. Use the method most suitable for a particular patient.

However, if the condition worsens, send to a specialist whenever -

- The pain increases
- The problem recurs every month

Acupressure	Acupressure	Acupressure
Home Remedy or <i>Yogasana</i>	Home Remedy or <i>Yogasana</i>	Home Remedy or <i>Yogasana</i>
+	+	+
Ayurvedic Medicine	Homeopathic Medicine	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

Aim

On reading this lesson you will understand

1. The various causes of pharyngitis

Knowledge

You will know about

- The signs and indications of pharyngitis
- The reasons for irritation of the throat in pharyngitis
- The different systems of treatment available for pharyngitis

Skill

You will learn

- How to treat pharyngitis due to various causes
- How to combine treatments in pharyngitis caused by worms

Pharyngitis

Itching in throat

Indications

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

- Pain while swallowing
- Irritation/itching in throat
- Dry cough
- Redness of throat can be seen from the inside

Reasons for Pharyngitis

1. Allergy
2. Virus

1. Allergy

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

Homeopathic treatment - Bryonia 6 c every 2 hours

Also

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

Our 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 after 2-3 weeks, consult a doctor at once.

Tonsillitis and Adenitis

Aims

On reading this lesson you will understand

1. The natural role of tonsils and adenoids in the protection.
2. The limited use of tonsillectomy
3. The role of immunization in protection against infections

Knowledge

You will know about

- The structure and function of the tonsils and adenoids.
- The symptoms and indications of infected tonsils and adenoids
- The harmful effect of infected tonsils on other organs.
- All remedies for cure and preventing of tonsillitis
- When to ask for referral to a doctor

Skill

You will learn

- Observation of tonsils

Perspective

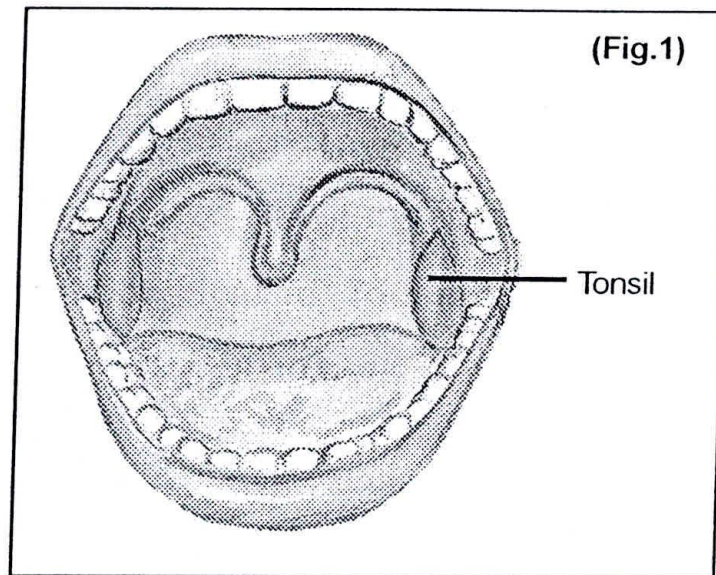
You will realize that

- Immunisation is a social responsibility.
- Since tonsils and adenoid are protective glands in the respiratory system, specialists should be consulted about operating on them.
- Damage is caused to heart and kidneys through infected tonsils.

The Conditions called Tonsillitis and Adenitis

Since the tonsils and adenoids 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 (Fig.1) while the adenoids found behind the nose



Their functions are :

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

Infected tonsils lead to

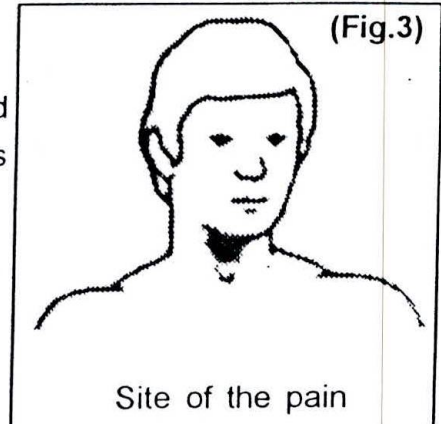
- Production of toxic material which affect the kidneys or heart through blood.
- The pus produced can infect vocal cords and the respiratory tract right upto the lungs.

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.
- Patients with sinusitis.

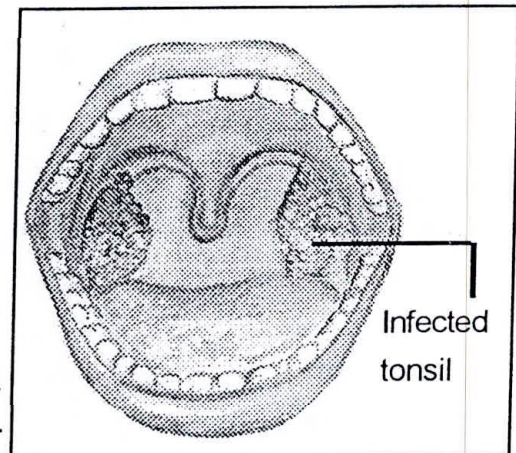
Symptoms

1. Pain ((Fig.3) 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. Bad breath
5. Great thirst



Indications

1. High fever
 2. Increased pulse-rate
 3. External examination - swelling of glands
 4. Examination of throat - Tonsils look red with spots.
- In this condition send patient to the doctor immediately otherwise patient could get rhumatic fever.**



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 drunk slowly at least twice a day.

Gargling

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

Fever and Pain

Give paracetamol till the patients feels better

Antibiotics

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

Homeopathic Medicine

Pulsatila 6 C twice a day for 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
- If there is difficulty in speaking
- The idea that a tonsils operation results in better height or health is totally wrong.
- 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)

Choose 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 'A' | 3. Natural remedy |
| 4. Enima | 4. Healthy internal linings |
| 5. Lemon juice | 5. Cough and cold |
| 6. Extracts of Tulsi leaves | 6. Vitamin C |

Fill in the blanks

(1. Allergy, Pollution, virus) (2. Centre of Respiratory control) (3. Antibiotic) (4. Pulsatilla) (5. 4-7) (6. Protein, vitamin C) (7. Virus) (8. On the disease/Person) (9. Resistance) (10. 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 within seven days on its own.
- In _____ remedy, medicine are not to be given for cough/cold.
- Linctus Codein can harm the _____.

Answers

Correct Answers

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

Correct Pairs

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

Blanks

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

Exercises - Sinusitis

Fill in the blanks

(Participation of the patient), (14), (Sinus), (Sinusitis), (Camphor ointment), (Cotramexazole), (Swelling and infection of sinus), (Pupetorum), (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

Answers

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 _____.

Answers

Blanks

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

Exercise (Tonsillitis and Adenitis)

Fill in the blanks

(1. Bone joints, 2. Tonsilitis, 3. Throat, 4. Red inflated spots with pus, 5. At the back of nostrils, 6. Tonsillitis and Adenitis 7. Respiratory system, 8. Heart, kidneys, joints)

1. The tonsils are located in the _____
2. The adenoids are found behind the _____
3. _____ and _____ glands works as protector of body.
4. Frequent infection in Tonsils and Adenoid can adversely affect_____.
- 5.
6. In tonsilitis _____ indications are found.

Match the following

Answers

Blanks

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

Match the following

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

Lesson 3

Acute Bronchitis

(A Respiratory Disorder that grows fast)

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
- how to get proection from bronchitis

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

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

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-** Drink lot of warm 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.
7. Steam inhalation

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.

Chronic Bronchitis (A long term disorder of the Respiratory System) **and** **Emphicema**

Aims

On reading this lesson you will understand

- The symptoms of chronic bronchitis and emphicema
- The indications of chronic bronchitis and emphicema
- Give the treatment for chronic bronchitis and emphicema
- 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 and emphicema
- The bodily changes caused by it

Perspective

You will understand

- Smoking is the main cause of chronic bronchitis and emphicema

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.

Current Complaints

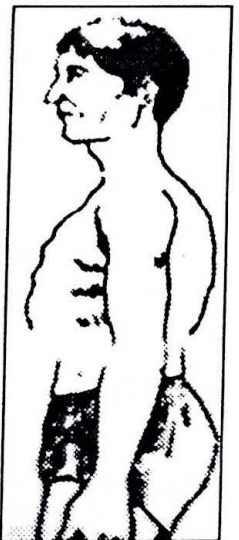
1. A patient of chronic bronchitis has cough in the morning.
2. He gets phlegm about a spoonful to a cupful
3. The phlegm is greenish yellow.

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



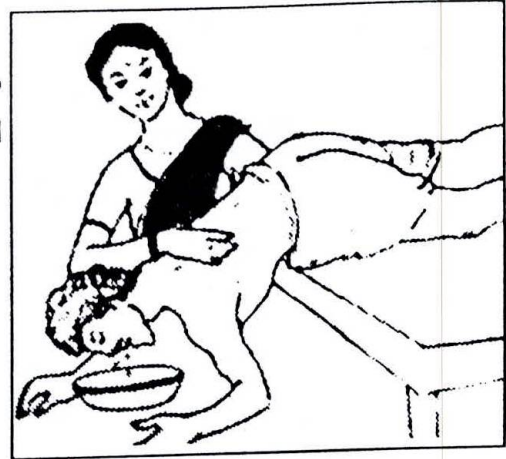
The natural effect of the illness-

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. Fluid intake - Maximum consumption of warm water helps to dilute the phlegm and bring it out.
3. Prevent pollution inside the house.
4. Give medicines to dilate bronchi and dilution of phlegm like cough syrup or *Adulsa* syrup.

5. Give inhalation of steam
6. 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	4. Piper longum	40 gm
2. Black pepper	10 gm	5. Cinnmon	40 gm
3. Ginger	20 gm	6. Cardomom	40 gm
		7. Sugar	320 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.

Emphysema -

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 and 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.

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. Sinusitis
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 can cause long-term damage to the bronchi.
2. It causes cough
3. It creates phlegm.
4. All the above
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

Answers

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

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

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. The main complaint in chronic bronchitis is
 1. Flowing nose
 2. Difficulty in swallowing
 3. Cough and Phlegm in the morning
 4. Ear-ache
2. In chronic bronchitis you should recommend
 1. Giving up smoking
 2. More water in take
 3. Inhalation
 4. All the above
3. 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
4. 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

Emphicema

1. Emphicema causes enlargement of
 1. Air sacs
 2. Trachea
 3. Tonsils
 4. Lungs

Answer

1-1

Lesson 4

Asthma

Aims

On reading this lesson you will understand

- The signs of Asthma
- The indications of Asthma
- Treatment for 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

- 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. Asthma is mainly caused by allergy to particular things. Thus the patient suffers during those particular seasons.

Symptoms

1. Difficulty in breathing out.
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 salbutamol pills/tablets with you and send the patient to the doctor. (Use Drug list)
4. Give steam
5. Find out the cause of allergy of the patient.
 - a. Pollen grains - Particular grass of flowers
 - b. Hair of animals - Cats / dogs
 - c. Smell - Odour of paint, flowers or incense
 - d. Working in the field - Use of pesticide or sprouting of millet
 - e. Food habits - Consumption of grain, moong etc.
 - f. Dust pollution - Due to crackers.

For allergy due to dust

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.

Acute signs and symptoms -

The patient must be immediately taken to a doctor / hospital on detection of any of the following signs -

- Inability to speak a complete sentence due to breathlessness.
- Respiratory rate more than 40 / min.
- No relief of symptoms even 20 mins. after taking the medication.
- No relief even after taking inhalation twice.
- Cyanosis of lips, tongue and skin (turns to blue colour)

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 Ayurvedic doctors. Ayurvedic methods can give a lot of comfort.

Exercises

(Whistle-like), (abstaining from allergy), (allergy of something)

1. Asthma is caused by _____.
2. The breathing sound is _____ in case of Asthma.
3. _____ 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

Answers

Blanks - 1-3, 2-1, 3-2,

Correct Alternatives - 1-3

Lesson 5

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, Penicylin 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 ampicyllin. 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 (Sulphamethoxazol) Trimethoprim 20 mg (1 tablet)	Children's Syrup Sulphamethoxazol Trimethoprim 200 mg (1 spoon/ 5 ml)	Adult tablet only if children's tablet unavailable Sulphamethoxazol 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

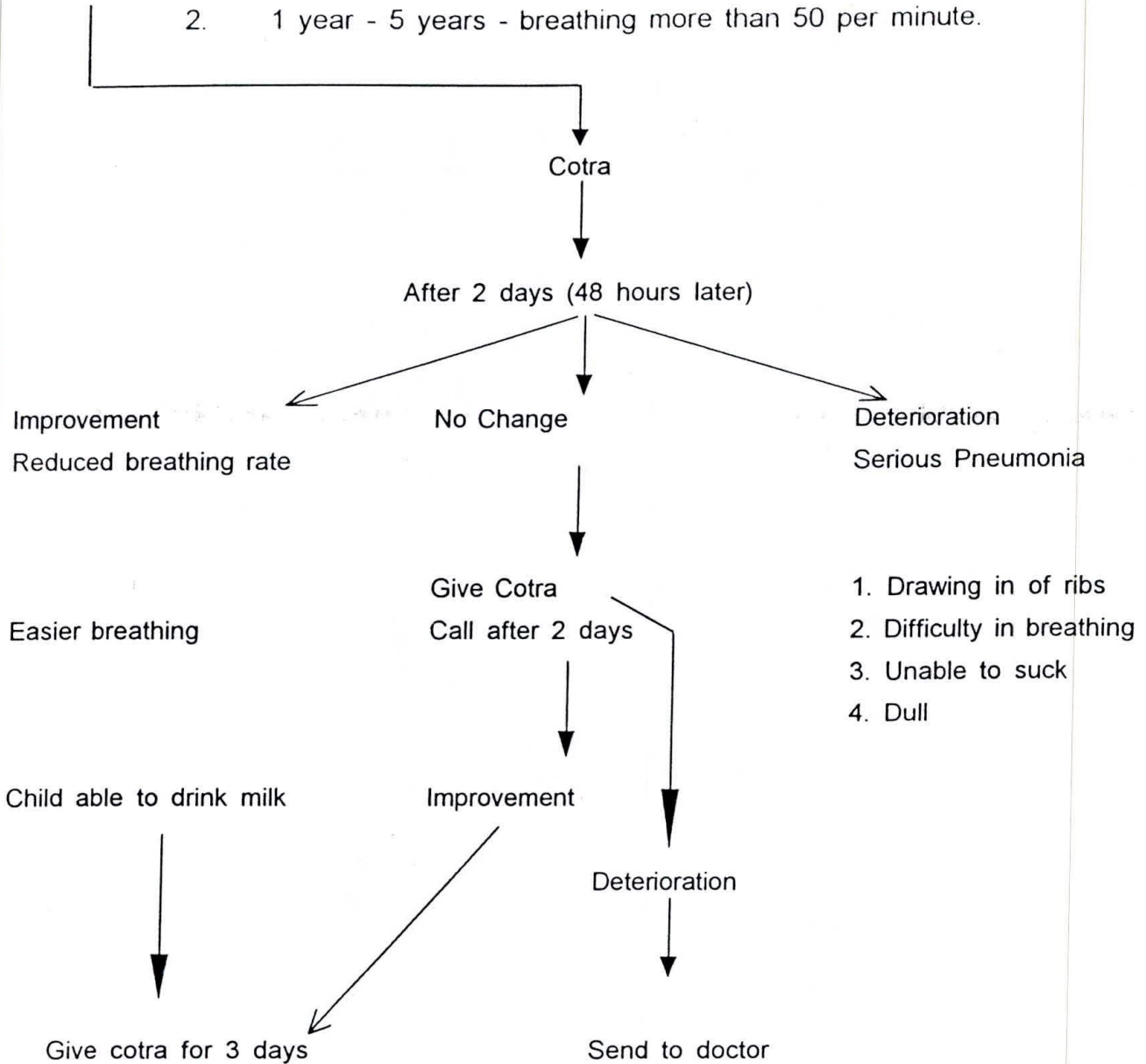
Directions for the mother

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 amoxicilli 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 6

Tuberculosis

Knowledge

You will know about

- Caustion of TB including the medical and non-medical causes.
- To list the cardinal symptoms of Tuberculosis.
- To list the steps to be taken in managing a suspect of TB.
- To list the available services in the public sector.
- To describe the basic tenets of DOTS.
- To understand the importance of completing drugs as per the full course.
- To list the dangerous side-effects of the drug that need immediate referral.
- To list various steps in the prevention of TB.

Skill

You will learn

- To be able to advise a patient on collecting a sputum specimen and differentiate between sputum and saliva.
- To be able to advise a patient on the appropriate destruction of sputum.
- To be able to counsel a suspect on going for diagnostic tests.
- To be able to counsel a patient who has just been diagnosed as having TB.
- To be able to counsel a patient who has side-effects to the drugs.
- To be able to counsel a patient who had discontinued treatment.

Perspective

You will understand

- To appreciate the link between TB and poverty and over-crowding.
- To appreciate that the drugs for TB are available free of cost and that with appropriate treatment most patients are completely cured.
- To appreciate the importance of completing the course as per the doctors instructions.
- To appreciate the importance of early suspicion so that people can get the specific treatment immediately.

Tuberculosis

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.

CAUSATION AND SPREAD

- The primary cause is a type of bacteria called *Mycobacterium tuberculosis*.
- However the mere entry of the bacteria into the body is not enough to cause the disease. The conversion of infection into disease requires some important determinants like – the number of bacteria entering the person, and the immunity of the person who has been infected.
- The number of bacteria entering the patient depend on the crowding of his / her living and / or working environment. The more crowded or underventilated the environment is the more easily the infection spreads and the higher the dose per infection.
- The immunity of the patient – ie. The ability to fight infections and diseases depends on the overall health of the person and depends crucially on the nutrition and other diseases like Cancer and HIV / AIDS.
- From the above it is obvious that the poor are at a much higher risk of getting TB.
- Apart from being at higher risk for the infection the difficulty in accessing proper treatment from the government services also leads to increasing suffering.
- It is also important to note that there is a varying period between the entry of the bacteria and the onset of the disease.
- TB is able to affect almost any part of the body, but the commonest and the most important as far as spread is concerned is the lungs. It is infection in the lungs that give rise to the classic picture of a person who is emaciated, coughing and spitting out blood.
- TB can also affect the brain, bones, abdomen, lymphnodes etc each type of infection leading to a varying set of symptoms.
- BCG is the vaccine given for TB.
- It is given as soon after birth as possible.
- It is not necessary that if you take the vaccine that you will not get the infection. However it is supposed to prevent fatal childhood infections.

Symptoms

The symptoms of TB depends on the part of the body that is affected.

The most common form of TB is that of the lung this is also the most dangerous in terms of spread and the easiest to diagnose and treat. The main symptoms are as follows:

1. Cough > than 3 weeks.
2. Weight loss / weakness.
3. Loss of Appetite.
4. Fever.
5. Hemoptysis.

While these symptoms occur specifically in patients with disease affecting the lungs, regardless of the organs affected the following symptoms should make one suspect TB:

- **Chronic fever**
- **Weight loss.**
- **Weakness.**

Diagnosis of TB in children.

- The symptoms of TB in children are non-specific.
- The key to diagnosis is early suspicion.
- The most common symptom is a **failure to thrive**.
- The child may also have chronic / recurrent episodes of fever.

The importance of early diagnosis.

TB can be suspected and diagnosed earlier if one sends all suspects for appropriate investigation.

The advantages of early diagnosis is as follows:

- There is a decreased suffering due to prompt treatment.
- There is decreased spread to uninfected individuals.
- There is available a free and efficacious cure so prompt diagnosis can help a patient hugely.

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 particular
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.

As per the Government Program for TB that has been introduced since 1992 the following are the most important aspects that you need to remember:

- Diagnosis is primarily and in the first instance on the basis of sputum examination (three sputum samples on two days).
- Patients are assured a full course of drugs as a whole set of drugs for the whole course is kept aside for each patient.
- The monitoring of treatment is by regular sputum examinations during the treatment period.
- Treatment is directly observed – which means that the patient swallows the tablets in front of a DOTS provider who is usually health worker or a responsible member of the community of the patients choice.

Side effects that need immediate referral

- If a patient develops jaundice after starting treatment she / he must stop all the tablets at once and go to the doctor immediately.
- If the patient develops itching / abdominal pain and vomiting without jaundice he / she needs to be referred to the doctor.
- If the patient develops tingling sensation over the hands and feet he needs to go to the doctor.

- In case the patient develops any other symptoms that started after the beginning of treatment he needs to be referred.
- A general rule is that most side-effects require only the temporary stopping of drugs or the introduction of alternative drugs. There is never the need to completely stop treatment due to side-effects.

Counselling a lung TB suspect

- Whenever one has cough for more than 3 weeks there is a high likelihood of it being TB.
- TB is no more the dreaded disease it once was considered to be thanks to the very effective treatment that is now available free of cost at all government hospitals.
- The diagnosis of TB is simply achieved by giving 3 samples of our sputum.
- The drugs are very effective in curing the disease.
- While the whole treatment is long drawn symptomatic relief occurs in about 2-3 weeks.
- Early detection and prompt treatment.

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.

Treatment

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.

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.

Counselling of a diagnosed patient

- TB is no more the dreaded disease it once was as there is now a very effective cure that is easily and freely available at all government centers.
- It is however important to note that the drugs are effective only if the course is taken completely as per the instructions of the doctor.
- There are many tablets to take in the beginning and all of them have to be taken together. This is quite inconvenient but to be effective they have to be taken this way. After the initial few months the total number of tablets will be reduced.
- The tablets are to be taken on 3 days of the week – make a regular schedule for this and follow it without a break.
- If there are any side-effects do not fail to go to the doctor who will treat these side-effects effectively. There is almost no need to totally discontinue treatment due to side-effects.
- If there is jaundice this needs to be reported immediately.
- You need to give your sputum for checking if the infection is cured at regular intervals during the treatment.
- You will get better after the first 3 weeks or so of the treatment – please do not stop the treatment as the full course is essential for complete cure.

Who discontinues

- TB is no more the dreaded disease it once was as there is now a very effective cure that is easily and freely available at all government centers.
- It is however important to note that the drugs are effective only if the course is taken completely as per the instructions of the doctor.

- There are many tablets to take in the beginning and all of them have to be taken together. This is quite inconvenient but to be effective they have to be taken this way. After the initial few months the total number of tablets will be reduced.
- If you do not complete the regular treatment the bacteria becomes used to the drugs and the usual drugs then become ineffective.
- Once this happens then only treatment with a completely different set of drugs for nearly 1-2 years will be effective.
- How ever long you have stopped the treatment you should go back to the doctor and restart the treatment.
- This is important not only for you but also so that the infection is not spread to others in the house and community.

Disposal of sputum

- The ideal is to collect sputum in a cup and burn or bury it deep in the soil.

Self-study

1. Which condition of a patient is favourable to attacks by the microbacterium tubercule 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.
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.

Your responsibility as a health worker is 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.

Exercises

Fill the blanks

(Protein-rich diet/Pollution free air), Bacteria, (Poverty/Mal-nutrition), (Myco bacteria 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 Programmer 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. Contagions
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

Answers

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 7

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

Diarhoea means having loose or watery motions. They are often frequent and are seen as some disorder related to the stomach and intestines. Diarhoea is an important public health problem among children in developing countries. Every year 50 lakh children die due to diarhoea (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 diarhoea 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. Diarhoea 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 diarhoea - into 2 groups

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

Acute diarhoea

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 diarhoea 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.

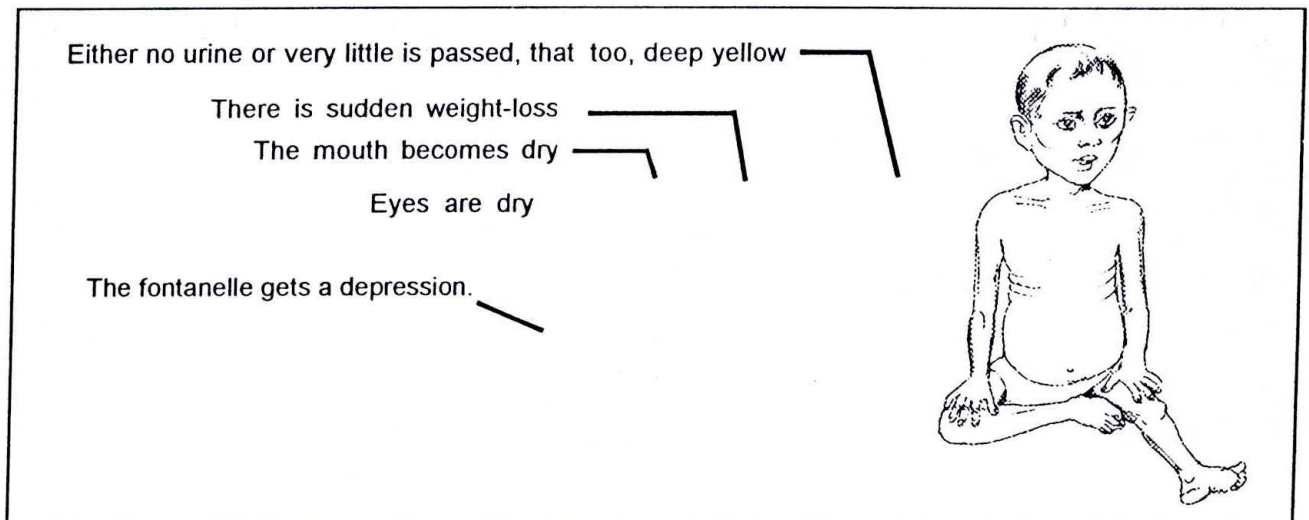
Long - term diarrhoea

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

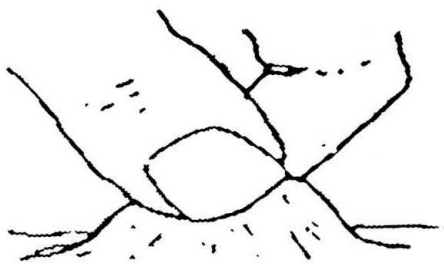
If new-born babies suffer from motions and vomiting, there is a shortage of water content in the body. This condition is called dehydration.

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



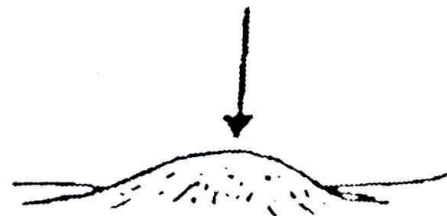
Symptoms of dehydration

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
	Shrunken 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.



Diarhoea 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 Diarhoea

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

NaCl 3.5 gm

NaHCO₃ 2.5 gm

Tri Sodium Citrate 2.1 gm

KCl 1.5 gm



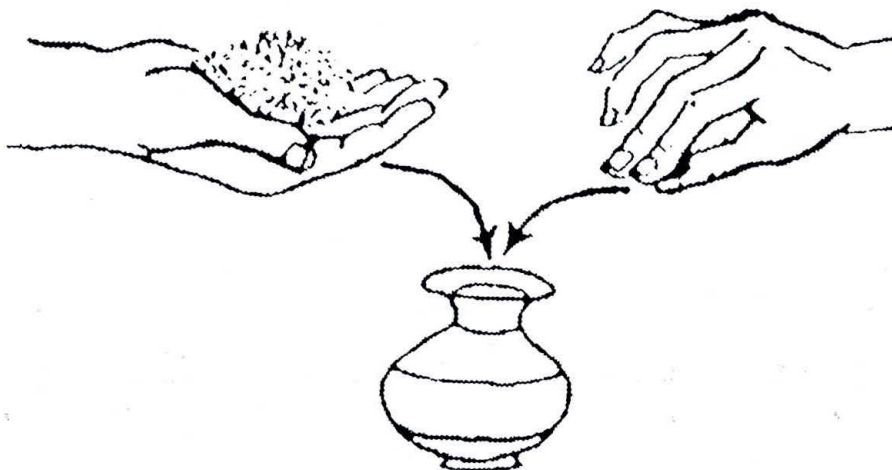
in 1 litre water

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 Rehydration 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.

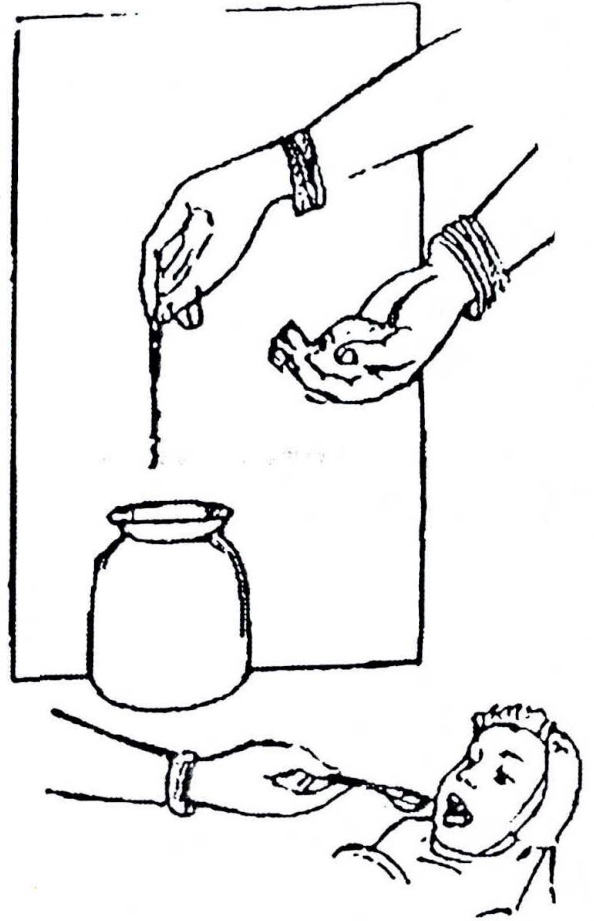
Thus it is important to remember then home-made/ oral solution is safer, quicker and more effective.

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

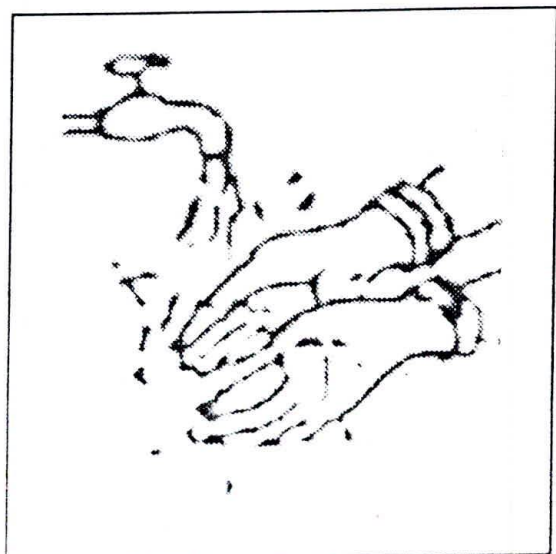
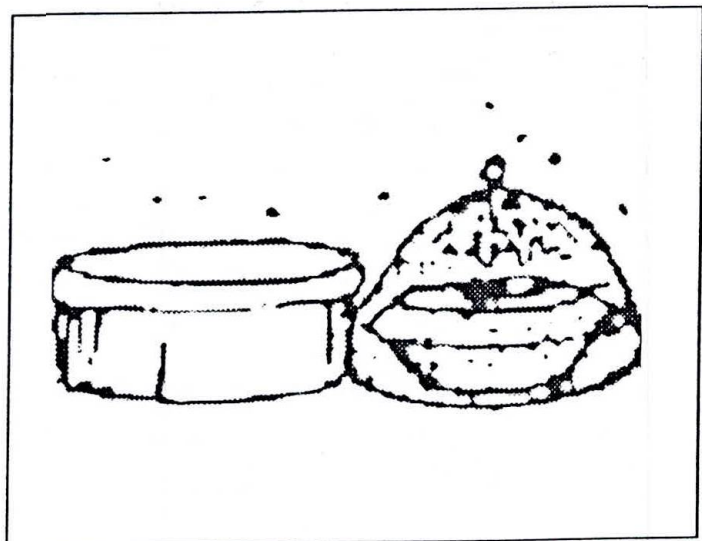
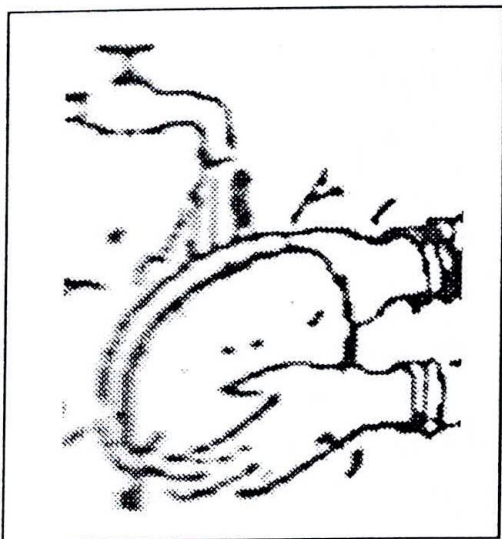
- Diagnose the disease correctly and give treatment suitable to the disease.
- Continue the life saving rehydration solution to compensate for dehydration.
- In case of acute dehydration, the child must be shown to a specialist if it doesn't show improvement. Sometimes it is necessary to administer Intra 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-interested 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.



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.

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.

Diarrhoea			Referral			
Other signs & symptoms or important past history	Likely Diagnosis	Household Remedies	Primary Health Care (PHC)	* Rural Hospital	** District Hospital	***
			Allopathic treatment	What needs to be done if the patient does not respond to the treatment	Other symptoms that can be observed during treatment phase	Likely diagnosis of signs / symptoms
1. Watery stools & vomit, past history of cold and flu	Viral gastroenteritis (Infective diarrhoea)	1. Salt sugar solution in water 2. Fluid intake like starch water, paste made of sagao (<i>sabudana</i>) 3. 6 seeds of fenugreek in 2 spoonful curd	It will stop in 48 hours, patient should resort to allopathic treatment if it does not cease	Even after 8 hrs of administering allopathic treatment if the diarrhoeal episodes do not stop, the patient must be taken to PHC.	1. Lusterless eyes 2. Excessive thirst. 3. Loss of skin turgor 4. In case of infants/children depression of the anterior fontanel. 5. Reduction in urinary output	Dehydration.
2. Abdominal pain, Abdominal cramps, Worms in faeces, foul odour from the faeces	Worm infestation (Worms)	Vidanga supari (<i>Embelia ribes</i>)	A course of Mebendazole	---	---	---
3. Watery stools, persistent, recurrent problem	Mental stress	1. Salt-sugar solution in water 2 & 3. Same as viral gastroenteritis 4. Try to reduce mental stress by sharing emotional problems with family members	---	Take the patient to Rural Hospital if he/she does not respond to the treatment.	---	---

Diarrhoea			Referral			
Other signs & symptoms or important past history	Likely Diagnosis	Household Remedies	Primary Health Care (PHC)	* Rural Hospital	** District Hospital	***
			Allopathic treatment	What needs to be done if the patient does not respond to the treatment	Other symptoms that can be observed during treatment phase	Likely diagnosis of signs / symptoms
4. After initial two or three episodes of diarrhoea mucous discharge with no stools, mild fever	Bacillary dysentery (caused due to bacteria)	1) & 2) as above	A course of co-trimoxazole	The patient must be taken to a PHC, if there is no improvement in 3 days of stunting the course	---	---
5. Diarrhoea with abdominal colic (colicky pain), blood & mucus in stools, cramps in the lower limbs.	Amoebiasis (due to amoeba)	1) & 2) same as above	A course of Metronidazole	----- " -----	---	---
6. Abdominal cramps, yellowish frothy stools in large quantities, many people in the village suffer from this	Giardiasis (due to giardia) protozoa	----- " ----- -----	----- " -----	----- " -----	---	---
7. Vomit & diarrhoea within or 2 hours of food intake, the symptoms repeat on intake of the same food.	Food poisoning (Contaminated food)	---	Medical care should be sought immediately.	---	---	---
8. Rice water stool, severe vomiting, many people get affected at the same time.	Cholera	1) & 2) same as for option 6)	----- " -----	---	---	---
9. Cramps in lower abdomen, intermittent episodes of diarrhoea & constipation	Colitis (Inflammation of the colon intestine)	---	---	---	---	---

Exercises

Fill in the blanks

(Environmental Cleanliness) (long term) (Ampicilin) (ORS) Breastfeeding, intravenous, Mec-
nium

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 8

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.

Fever

The human body generally maintains a steady body temperature. It is 37 °C or 98.4 °F when not influenced by external temperature. This occurs through a particular centre in the brain.

The body can function properly only within the particular temperature range. For example, if the body temperature decreases, the blood flow will not occur smoothly. If the body temperature increases, the blood will expand and burst blood vessels and the blood will ooze out. The body temperature must hence remain within a particular range, even though the external temperature varies.

Let us now see how the body accomplishes such a difficult task.

How is heat generated in the body?

The thyroid glands present near the neck control the metabolic activities of the body. Metabolic activities occur constantly and heat is generated during these activities. The thyroid glands induce changes in the body temperature by accelerating or decelerating the metabolic activities.

Heat is also generated in the body by the movement of the muscles. We all have experienced that we feel hot after a run or a brisk walk. The muscles contract-expand rapidly when heat is to be generated urgently, e.g. getting goose pimples, chills, etc. Heat is generated thus and it aids in maintaining the body temperature within its range.

How does body heat decrease?

Body heat is discharged from the body / consumed in different ways. Some of the heat is used up for heating the consumed food or drink. It is discharged from the body through the respiratory system. Some of it is also discharged from the body through urine, excreta and sweat.

Maximum heat is discharged from the body when the skin comes in contact with the surrounding environment. Body heat is mainly controlled by reducing or increasing blood flow towards the skin, e.g. when a person has fever, blood flow towards the skin increases and heat is discharged through the skin. When a person is feeling cold, blood flow towards the skin decreases and the heat is trapped in the body.

Sweating reduces heat. We store water in a clay pot in the summer. The more the pot leaks, the more the water cools. The drained water turns to vapour. Heat is used while water is being converted to vapour.

The same process takes place when we sweat. Body heat is consumed when sweat dries or evaporates. Body temperature decreases. You must have noticed that when you keep cold water strips on a body of a person having fever, the strips dry within a short time. Why would this be happening and what could its benefit be? Here, water evaporates and body heat is consumed to evaporate this water. The fever recedes.

The temperature of a healthy body always remains within a particular temperature range. Normal body temperature is generally considered to be 98 °F. But, in some cases it could also be 96.5 °F or 99 °F.

It is normal for the body temperature (morning and evening) of a healthy person to vary slightly. The temperature is highest in the evening, between 6 and 10 O'clock and is the lowest at dawn, between 2 and 5 O'clock.

This phenomenon can be observed even during fever. Most types of fever increase in the evenings and decrease in the mornings.

An infant's body temperature increases if the surrounding temperature increases, e.g. body temperature rises sharply in the summer. A similar rise in body temperature is observed after playing or walking for long periods or in case of increased movement.

All movements and functions of our body are controlled by the brain. The nervous system is perpetually ready to help the brain in this activity. A network of nerve fibres that receive sensation are spread everywhere in the body. They record the changes in our body. These changes are informed to the brain in the form of impulses. This information is analysed and inferred in the brain and the brain then sends an order to the nervous system regarding any action to be taken, the nervous system relays it to the organ that must carry out the action.

The brain has to oversee the functions of the entire body. This is an extremely complex and complicated process. Hence, particular parts of the brain perform particular tasks.

The hypothalamus in the brain regulates body temperature. Sensation-receiving nerve fibres that measure temperature are spread across the body. These nerve fibres record any malfunctions in the body, e.g. they record a decreased temperature in case of infection. (This does not necessarily mean that the body temperature has decreased). The brain now tries to increase the temperature by increasing muscle movement. We call this muscle movement as feeling cold or shivering.

This subsequently leads to fever. If the cause of fever is eliminated the temperature reading nerves will read the temperature correctly.

The functions of the body are not disrupted if the body temperature increases by 5 °F or 3.5 °C, but any higher and it may cause convulsions.

Fever is not a disease but is a symptom of one. We do not have to fight the fever; we must instead try and change the environment due to which the fever arises.

Form the medical science viewpoint, fever commonly occurs when the body is trying to destroy the virus that is causing the infection in the body. Fever is a symptom of the fact that the body is fighting against the virus.

In order to find out whether a person has fever or not, we can use both our hands to compare temperatures. Keep one palm on your forehead and the other on the person's forehead and observe whether there is any difference in the temperatures. However, you cannot measure the exact temperature using this method.

Regular thermometers are used for taking temperature by placing it in the mouth, the armpit or inserting it in the rectum using a rectal thermometer for one minute.

Another important factor about fevers is that the temperature must be taken two to three times in a day if the temperature oscillates. The disease can be diagnosed by observing when and by how much the fever increases or decreases.

The pulse rate increases along with increasing temperature. Generally, if the fever increases by 1 degree Fahrenheit, the pulse rate increases by 10 per minute. Barring one or two exceptions, this presumed pulse rate is observed in all diseases.

Why does one get fever:

The white blood corpuscles in the blood are constantly fighting against microbes. The constituents resulting from this battle give rise to fever. There are a few more reasons of fever, e.g. if the temperature-control-centre of the brain is injured.

It is hence not necessary to administer medicines at the onset of fever. But, treatment to get the temperature down to normal is necessary in case of high fever that leads to hindrances in physical functions as mentioned above. **The two important points in the treatment of fever are, 'Getting the temperature down to normal' and the cause of fever.**

Ask the following questions to all patients having fever.

1. Since when do you have fever?
2. Is the fever constant, or does it occur at particular times?
3. Do you have a cold and cough?

4. Do you experience pain in any part of the body?
5. Do you have any other complaints? Do you get a burning sensation while urinating, diarrhoea, etc.?
6. Have you undergone any operation, been pregnant or had an abortion in the recent past?

Decide on type of physical examination depending on the answers to the above questions.

Treatment:

- In case of high fever, sponge the body with room temperature water; just placing water strips on the forehead is not enough. Do not use ice water for the same.
- Do not cover the patient with blankets in case of fever. Instead, remove all clothes from the body if possible. Keep the room airy and well ventilated by opening all doors and windows.
- Give the patient lots of water and fluids to drink.
- Ask the patient to take rest.
- Give the patient a light diet, but do not starve him/her.

For getting the temperature down to normal

- Administer juice of the coral tree leaves, 2 tsp for adults and 1 tsp for children, to the patient thrice a day.
- Administer Paracetamol tablets to adults and Paracetamol syrup to children (up to 5 years). (Refer to the medicine carton for dosage.)
- Sometimes, household remedies can also be used for getting the temperature down, e.g. giving the patient a hot decoction of cinnamon, ginger powder, cloves and pepper corns induces sweating and the fever decreases.

Ayurveda:

There are various stages of fever. At the onset of fever, one experiences a loss of appetite.

There is a separate investigation for a fever of the definite (diagnosis) type. Administering 200 to 300 mg of Godanti mixture (Godanti and Jahar Mohara Pishti) is found to be effective. Stop the dose as soon as the fever goes down. In case of fever at specific times with the chills, administer 2 tablets of Chirakin or Ayush 64 thrice a day for seven days. Fever with chills is brought under control with these tablets.

High fever is mostly brought under control with other treatments, but usually a fever of around 99 remains constant. Administer four to eight tablets of 64 mg Guduchighanvati Sanshamtivati three to four times in a day. Chronic fever can be cured within three to four

days with this medicine.

The skin becomes dry and the body is dehydrated in chronic fever. Oils of bitter medicines are useful in this case. Administer 15-20 ml oil on an empty stomach for four to six days.

It is not necessary to take injections in case of ordinary fever.

Sometimes, using all your available medicines, equipment of examination and knowledge is insufficient. In such a case, get medical help immediately.

The following would be the symptoms.

1. In case fever is higher than 105 °F.
2. In case of high fever that does not decrease even with medicines.
3. In case of fever along with vomiting and stiffness of the neck.
4. In case of convulsions, unconsciousness and fits.
5. In case of breathlessness, cramps in the stomach
6. In case of high fever within fifteen days of an operation, pregnancy or abortion.
7. Incoherent speech.
8. Acute stomach ache, tautness of the abdomen.

Fever does not only occur due to microbial infections, it can also occur due to a brain injury, cancer, etc. It is hence necessary that medical help be taken if fever persists even after eight days of treatment.

The people who come to you with maximum complaints would be patients. If you note the number of patients who came to you with complaints of fever and how many had to be sent to the doctor, you will observe that you can examine many patients having fever.

One mostly gets fever due to microbial infections. Fever is caused due to the reaction of certain chemicals, produced due to microbial infections, on the temperature-control-centre of the brain. The speed of the chemical processes in the body increases due to fever, this shows that, to some extent, fever must be necessary for treating the root disease. It is not necessary to get the temperature down in case of low fever. But the brain may be affected in case of high fever. Some children may get convulsions due to fever.

Types of fever

Hadi fever: This fever has been named thus by mistake. When a person has low fever for a long period, we call it 'fever seeping into the body' or 'Hadi fever'. A person who is afflicted with a chronic disease, like Consumption, will permanently have a low fever.

Oscillating fever: Fever that rises rapidly and comes down to normal (or decreases) as rapidly can be ascertained by asking questions to the patient. Fever with the chills comes under the same category. In this case the patient first feels cold and then gets fever. Such oscillating fever also exists in case of fever with ague, pneumonia, kidney infection and in case of abscess or lumps anywhere in the body.

Constant fever: Fever that does not decrease and always remains constant can be observed in cases of remittent fever, hepatitis, etc.

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?

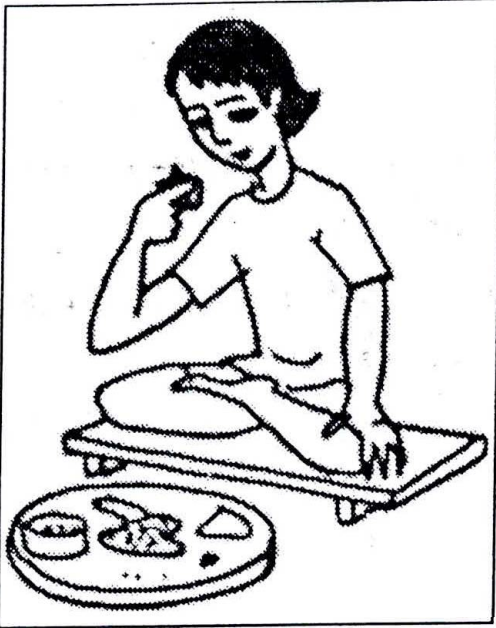
What will you diagnose after observation?

Which medicines will you recommend?

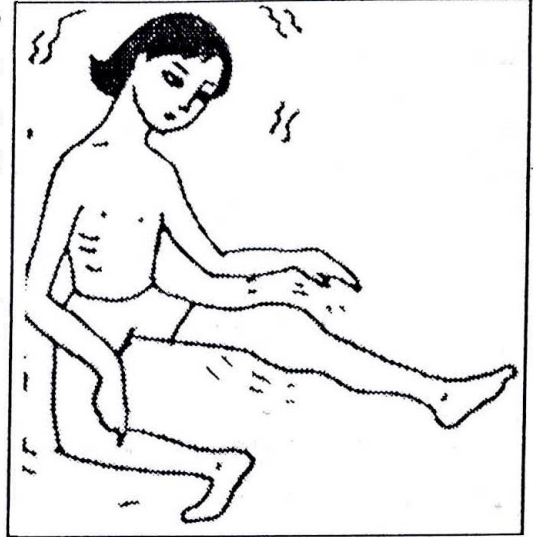
What advice will you give the family members of the patient? Give reasons.

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.

Rheumatic arthritis is also known as Rheumatic fever. One comes across this serious illness in children (5 to 15 years). First, the throat swells up due to particular bacteria (streptococcus). The body produces antibodies against these bacteria. It then affects the joints and the joints swell up. It can also affect the heart. There is a swelling in the children's joints and heart and they get fever. This fever poses a risk to life. The complaints occur in the following sequence: first there is throat pain, next is joint pain and then is the malfunction of the heart's valves. For the first few years there is intermittent throat pain and swelling in the joints. Fever is low or medium. The swelling and pain in the joints occur mostly in the large joints – knees, elbows, ankle, wrist, and the joints swell up one after the other. Many joints can also pain as well as redden at the same time. Sometimes, symptoms of lumps under the skin, pain in the joint that is not swollen can also be observed. Symptoms like pain in the left side of the chest in case of swelling of the heart, breathlessness and palpitations can be observed and the heart's valves can malfunction due to frequent swelling causing hindrances in the heart's functioning. A malfunctioning valve necessitates an expensive surgery.

Things to be done in such a case -

1. Suspect all patients less than 20 years of age who have fever and shifting joint pain and swelling and refer them to a specialist.
2. The adverse effects on the heart's valves can be avoided by beginning treatment at the proper time. You can do the important job of sending the patient to the doctor on time.

Preventive measures -

1. This disease can be mostly found in densely populated areas and in malnourished persons. Hence, improvement in the living conditions is the most effective preventive measure.
2. Speedy diagnosis and treatment of this disease is extremely important in preventing an adverse effect on the heart.

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

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. Repeated pain, swelling, fever suggests infection by _____ (Bacteria).
4. Symptoms of _____ are pain, swelling and redness of joints (rheumatic fever)
5. _____ is severely affected due to Rheumatic fever.
6. Penicillin injection is an _____ medicine (anti bacterial)

Sunstroke -

Working in extremely bright sunlight for long periods can have adverse effects on the body. These effects can be classified into two categories depending on their severity.

1. Heat exertion

This is caused by working in the sun for long periods and due to profuse sweating.

Symptoms –

The affected person becomes very weak and listless, and may sometimes experience dizziness. When a physical examination of this person is conducted, it is observed that his/her body is bathed in sweat. The pulse is weak but rapid. Body temperature is normal.

Treatment –

In such cases, the affected person must be brought in to the shade and his/her feet must be elevated and must be given a lot of water to drink. Give this person a salty drink, like lemon sherbet.

2. Sunstroke

Though not very common, it is very dangerous.

Symptoms –

1. In case of sunstroke, the affected person's skin is very red and dry. Even the armpits are not dampened with sweat.
2. The body temperature increases alarmingly.
3. The person may faint.

Treatment

In this case it is extremely important that the treatment be started as quickly as possible. Bring the affected person in to the shade immediately.

Try to bring his/her body temperature down to normal as soon as possible. Sponge his/her body with cold water immediately. While the temperature is coming down, get medical help, as it is imperative that the patient get admitted to the hospital immediately and receive treatment in this state.

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 tract infections are caused due to microbes. The symptoms of this type of infection are - feeling extremely cold and getting fever, acute pain in the sides, nausea and vomiting, extreme weakness, feeling a need to urinate frequently, burning sensation while urinating, smoky greyish coloured urine, sometimes, passing blood or pus through urine and foul smelling urine. There is pain in the lower abdomen as well.

Reasons

1. In the first three months of pregnancy there is pressure on the mouth of the bladder and some of the urine remains inside. In this case infection may occur if the catheter is not used with care.
2. Not drinking sufficient water.
3. The genitals are not kept clean.
4. Controlling the urge to urinate for a long time instead of urinating immediately.
5. Infections through sexual intercourse.
6. Owing to diseases like kidney stone, venereal diseases, consumption, etc.
7. In case a tube is used for draining urine due to an illness or after an operation.

The abovementioned reasons may cause urinary tract infection.

The following are the household remedies for the same –

1. Drinking more water
2. Drinking a sherbet made of sandalwood.
3. Drinking water to which coriander seeds and cumin seeds are added.
4. Take one entire Tribulus Terrestris plant (Gokshur) along with its roots and boil it in one cup of water and simmer till it reduces to half a cup. Advise the patient to take this water twice a day for seven days.

Advise the patient to visit a doctor in case of fever with the chills, side pain, blood in the urine or vomiting, as the infection may spread to the kidneys.

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

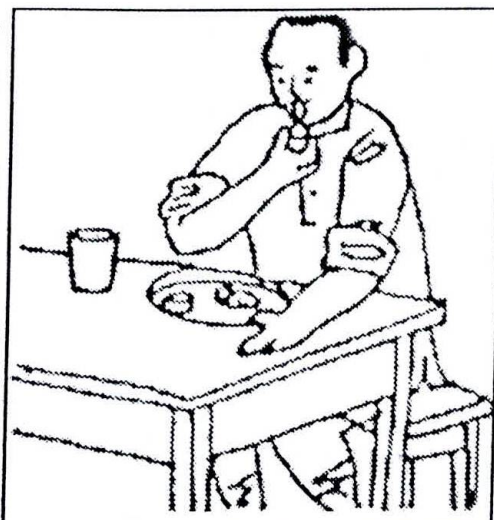
Answer

Choose correct alternatives

1 - 2

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.

What is hepatitis

This is an illness of the liver. Hepatitis is caused when the quantity of yellow bile pigments called bilirubin, which is always produced the body, in the blood increases.

Symptoms of hepatitis –

At the beginning – A constant medium fever, exhaustion, loss of appetite, headache/ body ache, nausea, vomiting, persons who smoke bidis/cigarettes, suddenly have no desire for them.

Later - Yellowness (can be first observed in the eyes), deep yellow coloured urine, pain in the right side of the abdomen (under the ribs), sometimes, the entire body itches.

The causes and types of hepatitis

1. The yellow bile pigments in the blood increases if the regular functioning of the liver slows down. This type of hepatitis is very common and the reason is the hepatitis virus. These viruses are of five types. Of these, the 'A' and 'E' types are more common. Though viral hepatitis is contagious it can be avoided with proper prevention.
 - Hepatitis 'A' and 'E' spreads through contaminated food and water. When we hear of a hepatitis epidemic, it is due to the spreading of these viruses. This type of hepatitis is colloquially known as '**waterborne jaundice**'.
 - Hepatitis 'B' does not spread through contaminated food or water, but through blood. That is why it is also known as the jaundice of the blood. This is a very rare type. This type is sexually transmitted. In some cases, 'B' virus is present in the host's blood and the host does not display any symptoms, but others can become infected.
2. When the red blood corpuscles are destroyed rapidly, the production of yellow bile pigments (bilirubin) increases. This type of hepatitis is frequently observed in two-three day old infants.
3. In case the tube carrying the yellow bile pigments from the liver is blocked, it is accumulated in the liver and its level in the blood also increases, e.g. all symptoms of hepatitis, except that the faeces is whitish, are observed in case of hepatitis due to gallstones, liver cancer.
4. Misuse of certain medicines affects the functioning of the liver adversely and hepatitis occurs. Though this type is rare, it can be avoided by taking proper precautions while taking medicines.

Hepatitis 'A' and 'E' are commonly found in our country and sometimes in the form of an epidemic. This can be avoided with proper preventive measures and hence, we are stressing on these types while providing this information.

What to do when afflicted with hepatitis

1. Hepatitis 'A' or 'E' is mostly cured on its own. But, it may sometimes become severe and lead to death. Hence, observe the patient closely for the first ten days and send him/her to the doctor in case any serious symptom arises.
2. Ask the patient to take complete rest.
3. Keep the patient on a light and simple diet. Preferably sugared water and sugarcane juice.

4. Do not strain the already delicate liver with unnecessary medicines. The health worker (Tai) should not prescribe any medicines unless she is a doctor. Hepatitis is not cured with saline, tonics or injections.
5. It is best for those who consume alcohol to permanently quit drinking. Alcohol must not be consumed at all for six months after hepatitis.
6. Treat with one of the following household remedies.
 - A) Administer one cup of castor leaves juice on an empty stomach for 7-10 days.
 - B) Administer 2 spoons of aloe vera pulp on an empty stomach for 7-10 days.

Hepatitis that is observed in two or three day old infants recedes by the seventh day. Taking the child out in the mild morning sunlight for some time is sufficient. This type does not require treatment. Just monitor the infant closely to ensure that the hepatitis is not increasing.

When would you send the patient to the doctor?: The patient must be immediately sent to the doctor in case the following severe symptoms are displayed.

1. In case of stupor
2. Unconsciousness
3. Distension of the stomach
4. Contracting hepatitis during pregnancy.
5. Dehydration due to excessive vomiting.
6. Discovering hepatitis in a patient who is afflicted or is being treated for another disease.

A newborn infant must be sent to a doctor in case of the following severe symptoms

- Discovering hepatitis in an infant on the day of its birth (in the first 24 hours).
- If hepatitis that is observed in two or three day old infants does not recede by the seventh day or increases.

Preventive measures

1. Waterborne hepatitis

- Disposing excreta using the proper method. This disease can be completely prevented by keeping the food clean and water pure and improving the standard of living.
- If a patient of this type of hepatitis is found in our area, this disease can be prevented from spreading by testing water wherever necessary, by educating the public regarding water purification, cleanliness and by performing the necessary public procedure.

2. Spouses of persons and children of mothers with the hepatitis ('B') virus in the blood must be vaccinated against this disease (Hepatitis 'B') at the advice of a doctor.

A) It is necessary for the doctors, nurses and health workers coming in contact with blood to be vaccinated as a precautionary measure.

B) In order to prevent hepatitis 'B' it must be ensured that there are no traces of this virus in the blood while storing it. Injection/tattoo needles must not be reused or they must be sterilised in the proper manner before being reused. Shaving, cutting blades or shavers must not be shared.

C) The use of condoms prevents sexually transmitted diseases. All sex workers must be vaccinated against hepatitis 'B'.

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

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.

The patient must be immediately sent to the doctor in case the following severe symptoms are displayed.

Uterus infection -

This poses a hazard to the health and must be treated immediately as otherwise the woman may become infertile and in rare cases may also die.

Sever symptoms of uterus infection –

1. Fever with the chills.
2. Pain in the abdomen
3. Foul smelling vaginal discharge.

How can the lives of these mothers be saved –

Women must receive a nourishing and balanced diet not only during pregnancy but also otherwise, and it is essential that the time gap between two children be increased and that pregnant women are cared for. The public must be educated about the same. Avoiding delays in the following three scenarios goes a long way in saving the lives of the mothers.

Identifying the danger signs during pregnancy, delivery and post delivery. Taking her to the health centre in case of any danger signs. Beginning proper treatment immediately on reaching the health centre.

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

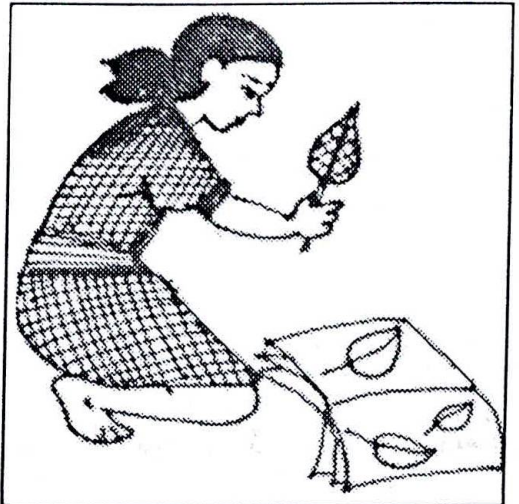
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Wound Infection

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

Lesson - 9 Medicines

Name	Description	Indications	Contra	Side -Effects
1. Amoxicillin	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

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NAME	DESCRIPTION	DESEASE	DO NOT USE / USAGE PROHIBITED	ADVERSE / SIDE EFFECTS
Magnesium Hydroxide	Antacid	Acidity, gastritis	-----	-----
Gentian Violet	Antifungal	Vaginal fungus / infections	-----	Stains clothes
Mebendazole	Anti-worms	Worm- infection	Pregnancy, lactating mothers, children below 2 years of age	Dysentery, mild headache, stomach-ache, dizziness
Metronidazole	-----	Amoebiasis, Trichomoniasis, Giardiasis, bacterium Vaginosis	Pregnancy, Lactating mothers, Alcohol-drinkers damaged liver	Indigestion, rash, headache, dizziness, metallic taste in mouth
Paracetamol	Anti-fever, Pain-reliever	All types of fevers, bodyache,	-----	uneasiness, vomiting, anaemia headache, menstrual pains
Pyrantel Pamoet	Anti-worms	worm-infection	Pregnancy, children below 1 year of age	Loss of appetite, vomiting, dysentery, headache, dizziness, rash
Primaquine	Anti-malarial	Malaria	Pregnancy, Lactating mothers, children below 1 year of age, G6PD -deficiency	Palpitation, vomiting, anaemia
Sabutamol	Anti-Asthma	Asthma / bronchitis	Thyrotroxichosis, pregnancy	Increased heart-rate, palpitation, vomiting, blocked urine
Atropine	counters toxics	-----	Heart patients, elderly patients (with enlarged prostate gland), disturbed vision, patient suspected of poisoning must be taken to a doctor immediately	dimmed vision, rapid pulse, sudden feeling of warmth, elderly people find passing of urine difficult, flushing of skin
Gamma Benzene Hexachloride (Linden)	-----	Scabies, itching	Do not apply on face and neck. Do not apply on babies below 1 year of age	If taken orally can make one unconcious
Calamine Lotion	Anticeptic lotion	Insect bites and stings	Do not apply on an open wound or a wounds with pus in them	External application is totally safe
Chlorhexidine	Anticeptic medicine	To clean boils, alcer, wound etc. for washing hands before surgery for cleaning of vulva and perenium during labour	Do not mix with soap. Do not bottle. Do not apply on a patient's perforated ear-drum.	Allergic rash (multiple occurrence)
Ispaghula	-----	Constipation	1Do not take dry 2 Do not give to a patient developing sudden constipation	Rare bloating of abdomen, formation of gas

NAME	DESCRIPTION	DESEASE	DO NOT USE / USAGE PROHIBITED	ADVERSE / SIDE EFFECTS
Neomycin - Bacitracin	Anti-bacterial	Skin infections such as open wounds, scabies, alcer	Avoid contact with eyes	Rare rash
Oral Rehydration Salts (ORS)	A mix of salt and sugar	Dehydration due to dysentery	-----	-----
Oral Contraceptive Pills	Hormonal pills	Consult a doctor - not a health advisor - before taking the pill. Menstrual pains or Magnesium Hydroxide (preventing pregnancy)	Pregnancy, lactating mothers, female heart patients, smokers, jaundiced women; women suffering from irregularity, contraception bleeding	-----
Penicilin	Antibiotic	Toncilitis, Infectious sexual deseases (administered by injection)	People sensitive/allergic to penicilin	Rash; injection can sometimes bring on severe allergicreaction
Ampicilin	Antibiotic	Infections of respiratory organs, Pneumonia, infection of external respiratory organs, bacterial dysentery, washinghands before surgery, for cleaning burns and wounds, treating ringworms	White cells, lactating mothers, renal failure, Iodine allergy, large-scale skin-burns, pregnancy	Dysentery, stomach-ache, gastrisis, rash, Allergy, stained clothes
Ringworm ointment	Antifungal	Ringworms	Avoid contact with eyes	Skin irritation, rash
Senna	-----	Constipation	Do not use to treat sudden constipation. Do not give to children below 3 years' of age. Pregnancy, Fever	Abdominal pain / colour of stools an durine changing to yellowish red
Sulphadmidine	Antibacterial	Dysentery, fever, urinary infections with blood and mucus, toncilitis, infection of inner throat, skin infections	Allergy to sulpha drugs. Do not apply on skin. Pregnancy, lactating mothers	Gastitis, palpitation, rash, fever, joint pains. Long term application may cause anaemia
Tetracycline	Antibiotic for eyes	Conjunctivitis, Trachoma (scarring of tissues inside the eyelids)	Do not apply on skin	Localised skin rash
Vitamin A	vitamin	Deficiency of vitamin A, malnutrition, measles	take proper dose in pregnancy, do not exceed	Loss of appetite, dry skin, loss of weight' liver irritation / damage

NAME	DESCRIPTION	DISEASE	DO NOT USE / USAGE PROHIBITED	ADVERSE / SIDE EFFECTS
Vitamin D	Vitamin	Rickets in children, as per requirement in pregnancy	-----	Uneasiness, vomiting, loss of appetite, constipation, burning sensation in kidneys, bone deformity after long-term administration
Aspirin	pain-reliever, anti-fever, anti-swelling	Fever, body-ache, headache, spondylitis, ostio-arthritis	Peptic ulcers, pregnancy, lactating mothers / children below 12 years' of age	Administer carefully on asthmatic patients. Abdominal ulcers, bleeding, stomach-ache