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# COMMUNITY OSPE

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Community Medicine



**AZRA NAHEED MEDICAL COLLEGE**  
**Taimoor Asghar (F16-072)**

# Community Medicine OSPE ★

## \* Pic-1

- 1- Chicken Pox
- 2- Causative Agent:  
Varicella-zoster virus
- 3- Prevention:

○ isolation of cases ✓

○ Disinfection of fomites

○ Vaccination → live attenuated, ~~live~~  
(Varivax 0.5 ml - 12 months to 12 years)

Anum Zaher

Roll # F15-061

4th year

## \* Pic-2 ✓

1- Oedematous (moon face)



2- Cause:

Protein Energy Malnutrition

3- Management:

✓ High quality food

✓ immunisation

✓ Control of infection



Pic-3

1- Atmospheric Pollution

2- Global effects develop from it:

- Green House
- Global warming
- Ozone depletion
- Acidic Rain

Pic-4

1- Mixing of polluted water with main water body

2- Risk associated with this activity:

- Infectious (Bacteria, viral, parasite) and
- Non-infectious problems (Chemicals, poisoning, cancers)

3- Prevention:

- ⊙ Not allowing the mixing of polluted waste water to main water reservoir
- ⊙ Large scale purification of water before human consumption.



## Farmer working in field

2- Risk in such situation:

- ✓ - Effects of hot climate
- ✓ - Chances of mechanical injuries
- ✓ - Zoonotic disease
- ✓ - Effects of sprays
- ✓ - Respiratory Problems

CRÉEZ

3- Prevention:

- ✓ - Training
- ✓ - Use of safety equipments  
(head covers, masks, gloves, goggles)

## Pic-6

1- Anopheles mosquito

2. What disease it can transmit:

Malaria

Filaria

3- Prevention:

environmental sanitation

(eradication of breeding places)



## Pic-7 ✓

\* ✓

1- Fungal skin infections

2- Causative agent ?

Tinea corporis

3- Prevention:

① → improved personal hygiene

② → Strict avoidance of use patient's fomites

③ → Avoid animal contact.

## Pic-8 ✓

\* ✓

1- Forrest Fire

2- Damage be minimized?

- Disaster preparedness plan
- Organising the staff and community
- Training of staff
- Coordination in various departments
- Resources
- Finance

Planning  
Organization  
Training  
Coordination  
Resource  
Finance  
POST-CORP

Pic-8



1- Glossitis and dental Carries

2- Cause of it?

Vitamin A deficiency

3- Prevention:

Vitamin A Rich Foods

(dairy products, liver, eggs,  
green or yellow vegetables)

Pic - 10

1- Flood

2- manage situation:

- ✓ - Rescue of victims
- ✓ - First Aid
- ✓ - shifting to safe place
- food
- shelter
- Rehabilitation.



## Pic-11

1- Vaccination of Dog for Rabies

2- Name this vaccine

BPL vaccine

3- Rabies immunization products

→ Vaccines (NTV, HDC, DE vaccine)

→ Anti-Rabies Serum

→ Rabies immunoglobulin human (RIG)

## Pic-12

1- Person is given Citrus

2- Problem for which its done

Scurvy

3- Complaints of this problem:

• Bleeding Gums

• Echinosis

• delayed wound healing

(BED)

## Pic-13

- 1- Polluted water falling in main water stream.
- 2- Risks of such ~~process~~ process:
  - Risks of infections (bacterial, viral, Protozoal diseases)
  - Non-infectious (Chemical poisoning)
  - Cancers
- 3- Govt. action for prevention:
  - ✓ Legislation for throwing waste
  - ✓ water after detoxication.

## Pic-14

- 1- IUCD intra uterine Contraceptive devices.
- 2- Copper T 380 A
- 3- Complications of its use:
  - ✓ pain
  - ✓ Bleeding
  - ✓ ectopic pregnancy
  - ✓ Pregnancy
  - infections.



44, 32, 22, 55, 66, 77, 88,  
99, 56, 42

$$\text{mean} = 581/10$$

$$= 58.1$$

$$\text{Standard Deviation} = \underline{27.8}$$

Treatment: ① Allaying anxiety & Fright

② First Aid

- Immobilisation
- Apply tourniquet
- Cut & Suck technique
- Wash wound with plenty of water

③ Antivenom → Polyvalent antivenin



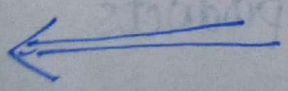
C-15 ✓  
1- Risk of Rabies

Q- Give Dose, Route & Schedule of one vaccine used:  
2- Human diploid cell vaccine, IM 1ml  
on 0, 3, 7, 11, 28 day &  
booster on 90th day.

Pic- 16 ✓

Snake Bite Management

- ① History: - Time of Bite  
- Description of snake  
- Signs & symptoms since Bite
- ② Examination: - Examination of Bite site  
- Repeated check up of natural orifices for Bleeding
- ③ Diagnosis of Bite: - finding of fang marks  
- Lab Tests: (i) Elapid Bites → Cholinesterase present  
(ii) Viper Bite → Thromboplastin present  
(iii) Sea snake bite → Hyperkalemia at ECG.





## Pic-17

1- Name disease phenomenon

- ice Berg phenomenon

2- Name 3 disease which present this phenomenon in community

- Hypertension

- Diabetes

- Anemia

- Cancers

3- 3 Types of screening methods

- High Risk

- Multiphasic

- Mass screening

## Pic-18

1- Iodine Deficiency Goiter

Cause:

2- Impaired fetal growth

- Cretinism

- impaired brain development

Prevention:

- 3- Use of iodized salt & dairy products
- Sea foods
  - Water
  - eggs

1C-19

1- Name hazards to which these beauty parlor worker are exposed?

Chemical allergy

Steam burning

Cut from sharp equipments

Infection from customers

2- How these hazards be prevented?

Proper Training

Protective equipments.

Pic-20

1- Identify diagram. which type of country it exhibit?

Population pyramid - developing country

2- Label :

A → Male

B → Female

C → Age



## Pic-21

- 1- Hard Tick
- 2- what <sup>Disease</sup> disease it can transmit?
  - Rocky Mountain Spotted Fever (RMSF)

## Pic-22

- 1- Point A → Formation of chloramines  
Point B → Breakdown of Chloramines  
Point C → Break point chlorination
- 2- Test to detection of residual chlorine
  - Orthotolidine Test

## PIC-23

- 1- Coal mine workers
- 2- Anthraco-sis / coal worker pneumoconiosis
- 3- Use of mask # (most common)  
mechanization of process

# Scenario Questions - Ospe

Ibs = x.730  
Inches = Divided.

40 years lady weigh 80 Kg & her height is 1.8m.

1- Calculate BMI

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m)}^2} = \frac{80}{(1.8)^2} = 24.6$$

2- Interpret her nutritional status

She has normal weight

Q21. A primigravida gave birth to male baby. Mother is diagnosed case of TB.

What advice is necessary regarding:

1- Immunization of child

BCG vaccine to baby, 0.05 ml I/D

2- Breast feeding

1- Breast feeding will start

2- Mother should use mask while feeding

3- Regular treatment - INH



Q3) 23, 20, 43, 76, 76, 65  
42, 24, 46, 85

1- Calculate mean

$$500/10 = 50$$

2- Calculate standard deviation

$$\sqrt{\frac{\sum (x - \bar{x})^2}{n}} = \underline{22.88}$$

Q4)

Food manager of restaurant comes to you for counselling. How the food sanitation of restaurant can be improved? What Advice you will give?

- ✓ ① - Clean habits & personal hygiene of food handlers
- ✓ ② - Any food handler suffering from a disease should be restricted from food handling
- ✓ ③ - Clean cooking utensils
- ✓ ④ - Clean cooking environment



According to survey in village, mid year population was 10,000 & total no. deaths were 250, out of which 5 were attributed to accidents & 20 to maternal mortality in the same year.

1- Calculate Crude death rate:

$$\begin{aligned} \text{CDR} &= \frac{\text{no. of deaths}}{\text{mid year pop.}} \times 1000 \\ &= \frac{250}{10000} \times 1000 \\ &= \underline{12.5} / 1000 \text{ mid year } \underline{\text{population}}. \end{aligned}$$

2- Can this rate be used to compare mortalities of any 2 localities?

→ NO, CDR do not mention specific age death rate,

first standardize to compare two localities



Q6 An investigator, test 200 individuals to determine the prevalence of iron D. anemia

Test	Anemia present	Anemia Absent
+	100 (a)	20 (b)
-	20 (c)	60 (d)

1- Calculate the:

✓ (i) Sensitivity =  $\frac{a}{a+c} \times 100 = \frac{100}{100+20} \times 100 = 83.3\%$

✓ (ii) Specificity =  $\frac{d}{b+d} \times 100 = \frac{60}{20+60} \times 100 = 75\%$

2- Calculate the

(i) PPV =  $\frac{a}{a+b} \times 100 = \frac{100}{120} \times 100 = 83.3\%$

(ii) NPV =  $\frac{d}{c+d} \times 100 = \frac{60}{80} \times 100 = 75\%$



In a closed community consisting of 6000 people, 30 cases of upper respiratory tract infections were reported during month of June.

1- Calculate Incidence rate URTI for month of June = 
$$\frac{\text{no. of new cases}}{\text{pop. at risk}} \times 1000$$
$$= \frac{30}{6000} \times 1000$$
$$= 5/1000 \rightarrow$$

2- 2 uses of incidence rate:

- (i) For knowing the etiology
- (ii) For knowing efficacy of preventive measures & control of diseases.

Q.8 A school teacher comes to you with problem that increasing no. students from his class are complaining for teeth problem & asking for leave. He also narrated that the teeth of most of students are decayed.

1- What could be main cause of problem?

- ⊙ Deficiency of fluoride
- ⊙ Use of (candies) sticking carbohydrates.
- ⊙ Lack of oral hygiene

2- Advice for prevention:

- ⊙ Regular teeth brushing
- ⊙ Test local water for fluoride level. If low, use fluoride added tooth paste.
- ⊙ Less use of candies



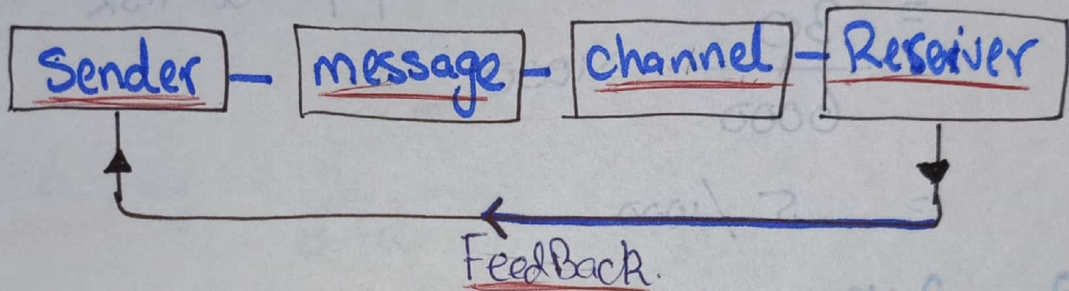
Q99 98, 62, 38, 90, 87, 32, 12, 21, 44, 56

$$\frac{\text{Total sum}}{n} =$$

1- Calculate mean =  $540/10 = 54$

2- Calculate std. Deviation = 28.42

Q10



1- Identify indicated process in above diag?

- Communication process.

2- Six principals of this process:

(i) interest

(ii) Participation

(iii) Motivation

(iv) Known to unknown

(v) Comprehension

(vi) Learning by doing

(vii) Reinforcement

9) - Good human relationship

10) Feedback.



Age	No. of people in community	no. of deaths from a disease 'x' in the community
Young	8000	69
old	11000	115

Calculate age specific death rate for (ASDR) young & old from disease 'x' in community.

$$\text{ASDR in young} = \frac{69}{8000} \times 1000 = 8.6 / 1000$$

$$\text{ASDR in old} = \frac{115}{11000} \times 1000 = 10.45 / 1000$$

Q.12- A 45 year old man is sitting in your clinic. His cholesterol levels is high. What counselling you will do?

- Use of Balanced diet ✓
- Reduction in Fried items ✓
- increase in dietary fiber ✓
- more exercise ✓
- no alcohol ✓
- no smoking ✓
- Regular check up ✓



Q13- A mother is sitting in front of you with her child. She is known case of pulmonary TB. What Advice you will give to prevent transmission of disease to her child?

- Cover mouth when child is near

- Treatment

- Vaccination of child

- Periodic examination of child

Q14- During a measles out break, out of 400 students 100 became absent from school. Within a week additional 150 students were diagnosed with measles.

1- Calculate Secondary Attack Rate (SAR)

$$\text{SAR} = \frac{150}{300} \times 100$$

$400 - 100 = 300$

$\frac{50}{300}$

50

2- Give two limitations of SAR

(i) only used for infectious disease

✓ (ii) Difficult, if primary cause is infected.  
since long

COAL MINES LUNG DISEASE





# Vaccine vial monitor



A vaccine vial monitor (VVM) is a label containing a heat-sensitive material which is placed on a vaccine vial to register cumulative heat exposure over time. The combined effects of time and temperature cause the inner square of the VVM to darken, gradually and irreversibly.

## Pneumoconiosis

- ◆ Silicosis
  - Most common, inhalation of quartz dust
- ◆ Asbestosis
  - Inhalation of asbestos fibers, "ground glass appearance" on CXR
- ◆ Berylliosis
  - Beryllium metal dust inhalation
- ◆ Anthracosis
  - Coal workers "black lung" disease

# Polio



**Poliomyelitis** or infantile paralysis, is an infectious disease caused by the **poliovirus**. In about 0.5 percent of cases there is muscle weakness resulting in an inability to move. In areas with poor sanitation, the virus easily spreads from feces into the water supply, or, by touch, into food. There is no cure for **polio** infection, but it can be prevented by vaccination.

# Snow storm Silicosis

## Silicosis



- Caused by inhalation of dust containing free silica or silicon dioxide
- Snow storm appearance in X ray





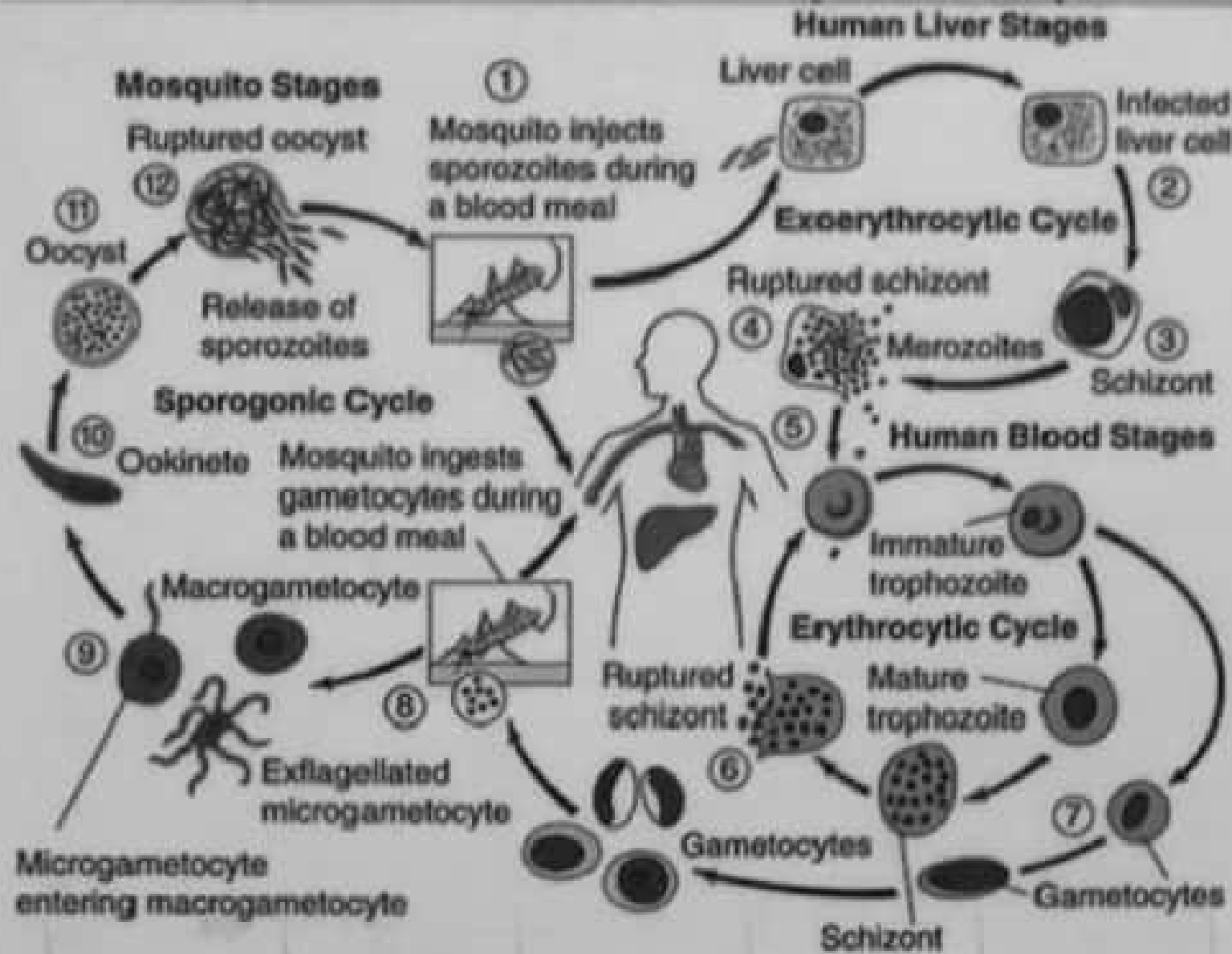


# VITMIN A DEFFICIENCY





# Lifecycle of malaria parasite (Vivax and Falciparum)



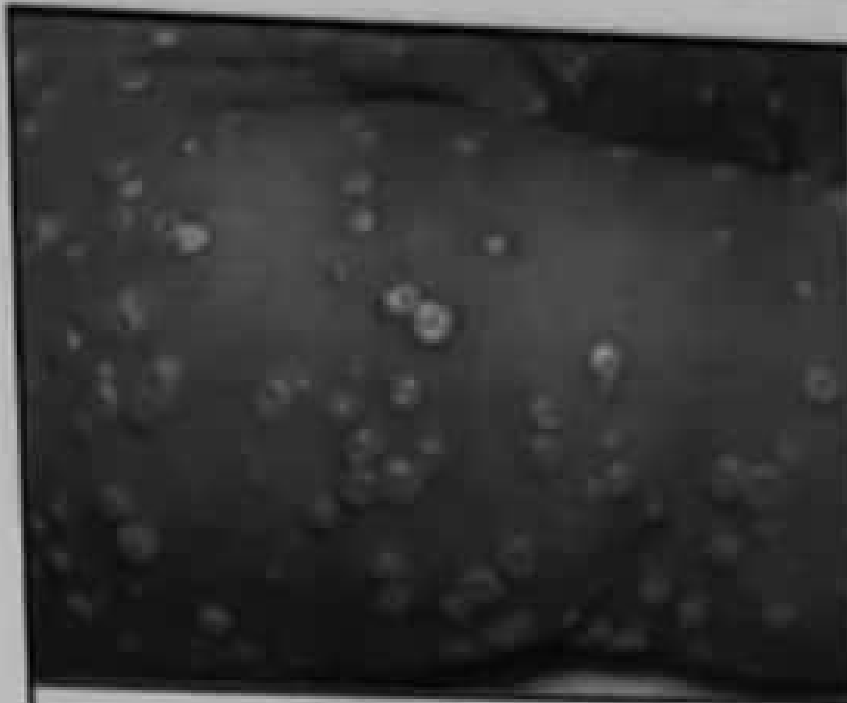
# Measles



**Measles**, also called **rubeola**, contagious viral disease marked by fever, cough, conjunctivitis, and a characteristic rash. Measles is most common in children but may appear in older persons who escaped it earlier in life. Infants are immune up to four or five months of age if the mother has had the disease. **measles** can now be prevented with a vaccine. Immunity to measles following an attack is usually life long.



## Pustular eruption in smallpox and chickenpox

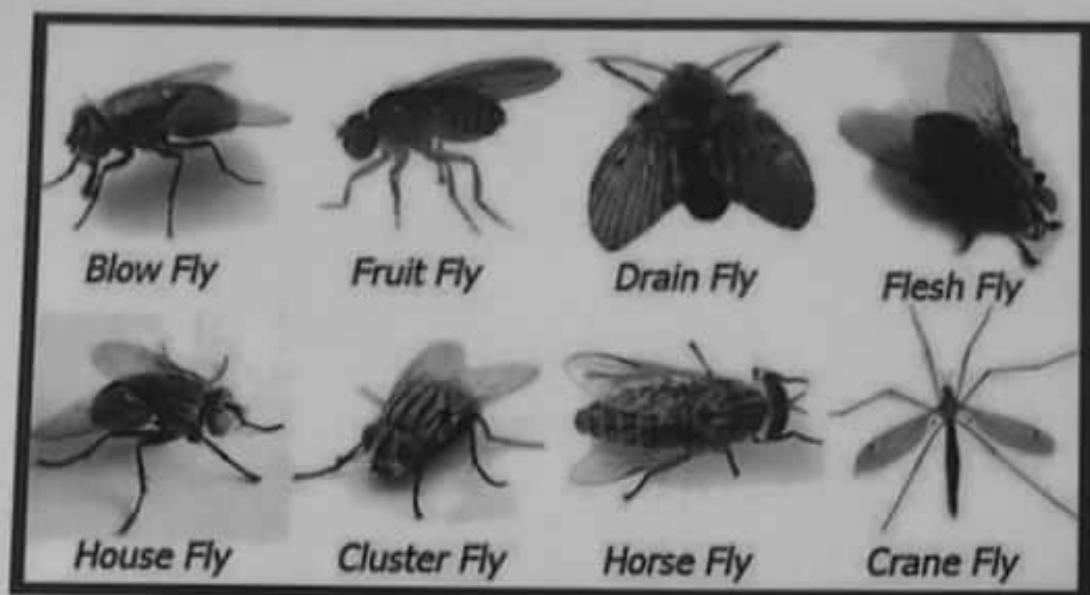


*(Smallpox rash)*



*(Chicken pox rash)*

- A pustule is a vesicle or bulla containing purulent material



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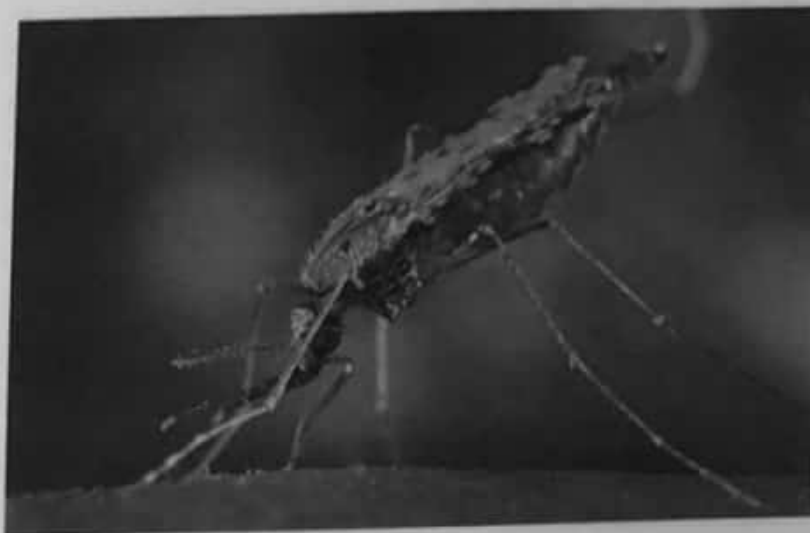
## Polio



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## Anopheles mosquito



Anopheles is a genus of mosquito. About 460 species are recognised; while over 100 can transmit human malaria, only 30–40 commonly transmit parasites of the genus *Plasmodium*, which cause malaria in humans in endemic areas. Only female **mosquitoes** take **blood**. They use the protein and iron found in **blood** to make their eggs. When resting, the stomach area of the **anopheles mosquito** species points upward, rather than being even with the surrounding surface like most **mosquitoes**. The CDC advises that **mosquitoes** are active from dusk to dawn, but especially in the early morning and evening.

## Sand fly



Size : 1.5 to 2.5 mm in length

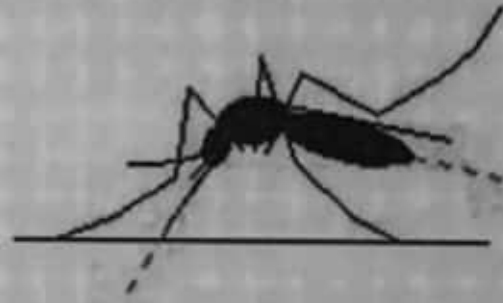
30 species in India

Kala azar : *P. Argentipes*

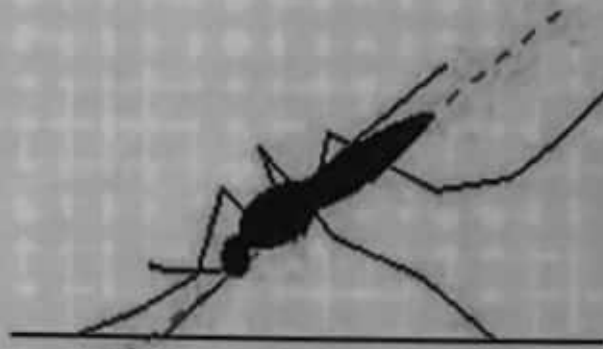
It bites during night, lower extremities

Blocked sand fly ( epidemiologically danger)

Flight range : hopping movement ( not more than 3 feet) , it can fly for shorter distance



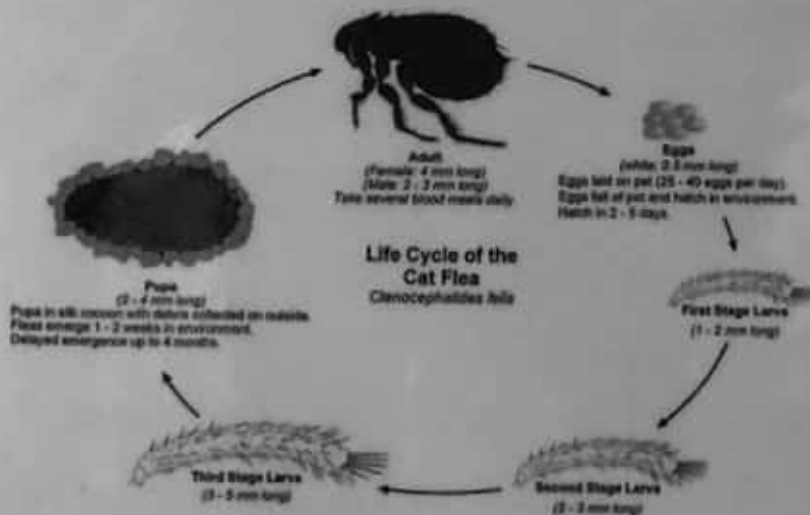
Culex / Aedes



Anopheles

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# Flea



Flea are ectoparasitic (survive as external parasites of mammals and birds). Fleas live by consuming blood or hematophagy, from their hosts. They are the chief agent transmitting the Black Death (bubonic plague) in the Middle Ages.





# MOSQUITO VECTORS

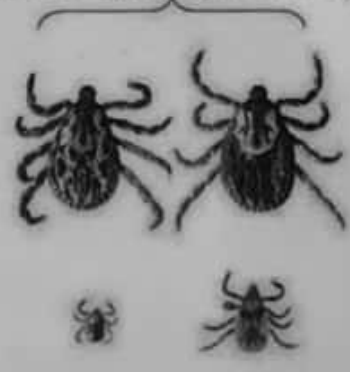
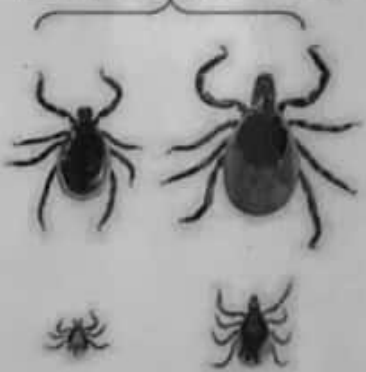


# Tick

## TICKS

**Blacklegged Tick**  
 (deer tick)  
 (can spread Lyme disease)

**American dog tick**  
 (wood tick)  
 (does not spread Lyme disease)



Tick Bites Disease Symptoms & Signs. Infection with a bacterium called a spirochete (*Borrelia burgdorferi*) causes Lyme disease, which infected ticks transmit to humans.



**SLOW SAND**

**WATER FILTER**

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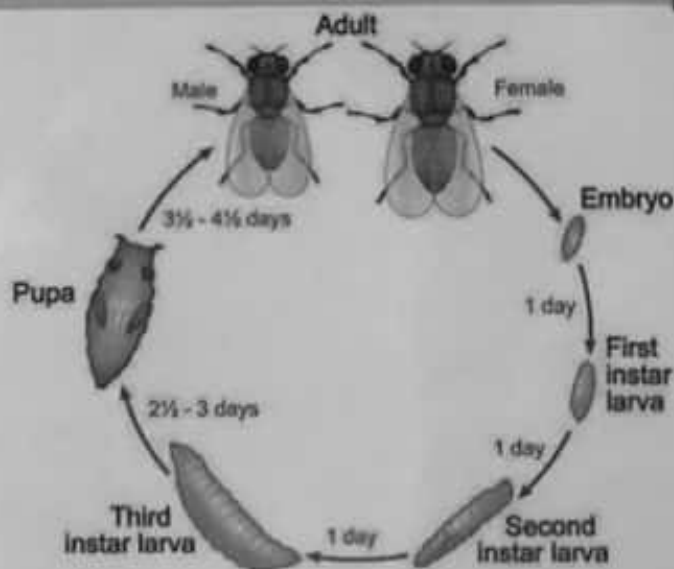


# Aedes Mosquito



**Aedes aegypti**, the yellow fever mosquito, is a mosquito that can spread dengue fever, chikungunya, Zika fever, Mayaro and yellow fever viruses, and other disease agents. The mosquito can be recognized by white markings on its legs and a marking in the form of a lyre on the upper surface of its thorax.

# House fly



House flies can fly in from any near by area that is conducive for them to develop such as a farm, road kill, trash bins, compost piles or other areas where decaying organic matter exists. Adult house flies are attracted the decaying matter and will fly in to lay their eggs.



# Dental fluorosis



**Fluorosis**, also called **dental fluorosis**, is a condition that changes the appearance of **tooth** enamel in young children as a result of being exposed to too much fluoride. Children are only at risk for **fluorosis** while their permanent **teeth** are still forming. Adults and children older than 8 do not get **fluorosis**.

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# Ground glass anthracosis



Source: D. L. Kasper, A. S. Fauci, D. L. Harrison, B. J. Longo, J. L. Loscalzo, J. Liberman, Harrison's Principles of Internal Medicine, 19th Edition, www.accessmedicine.com Copyright © McGraw-Hill Education. All rights reserved.

**Ground-glass nodule (GGN)** is defined as a nodular shadow with ground-glass opacity that is generally associated with the early-stage lung adenocarcinoma. Nowadays, GGNs of the lung are increasingly detected with thin-section computed tomography scan.

# Bleeding gums



## PERIODONTITIS INFLAMMATION OF THE GUMS



**Bleeding gums** are caused by inadequate plaque removal. Plaque contains germs which attack the healthy tissue around the teeth. If plaque build-up occurs, **gums** become inflamed and irritated, which may cause them to **bleed** when brushing or flossing. This is called gingivitis and is the first stage of gum disease.

# Coal miners lung



**Black lung**, also called **Black-lung Disease**, or **Coal-workers' Pneumoconiosis**, respiratory disorder, a type of pneumoconiosis caused by repeated inhalation of coal dust over a period of years. The disease gets its name from a distinctive blue-black marbling of the lung caused by accumulation of the dust.





**BITOT SPOT**

# Mosquitos

Repellent





**VACCINATION**

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SC. TV. COM.MED

**ICE BERG**





ARTHOPODS

1040 SC. TF. COM. MED

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**Weight Machine**



# XEROPHTHALMIA

1000 SC 77 CORNELL



MODEL OF TETNUS

1027 SC 15 CORNARD



# MODEL GOITER







**MALNUTRITION**



**MERASMUS**



FROM DR. Y. COMAR

**COBRA SNAKE**

LEPROSY STAGE 3<sup>RD</sup>





COM MED

# CHIKEN POX



# MUMPS







OSW  
PAKISTAN

1021 SC\_TF.COM.MED

# LEPROSY STAGE 2<sup>ND</sup>



and answer the following questions:



6

1. Identify the problem

✓  
✓\*

# 1- Fungal SKIN infections

2- Causative agent?

Tinea Corporis

3- Prevention:

→ improved personal hygiene

→ Strict avoidance of use patient's  
fomites

→ Avoid animal contact.



Task:

Carefully observe the given diagram/photograph and answer the following questions:



25



6-15 ✓

1- Risk of Rabies

Q= Give Dose, Route & Schedule of one vaccine used:

2- Human diploid cell vaccine. I/M 1ml

on 0, 3, 7, 11, 28 day &  
booster on 90th day.



# Pic-16 ✓

## Snake Bite Management

- 1) History: - Time of Bite  
- Description of snake  
- Signs & symptoms since Bite
- 2) Examination: - Examination of Bite site  
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(iii) Sea snake bite → Hyperkalemia at ECG.



Treatment: (1) Allaying anxiety & Fright

(2) First Aid

- Immobilisation
- Apply tourniquet
- Cut & Suck technique
- Wash wound with plenty of water

(3) Antivenom → Polyvalent antivenin

10-11 ✓  
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2- Name 3 disease which present this phenomenon in community

- Hypertension

- Diabetes

- Anemia

- Cancers

3- 3 Types of Screening methods

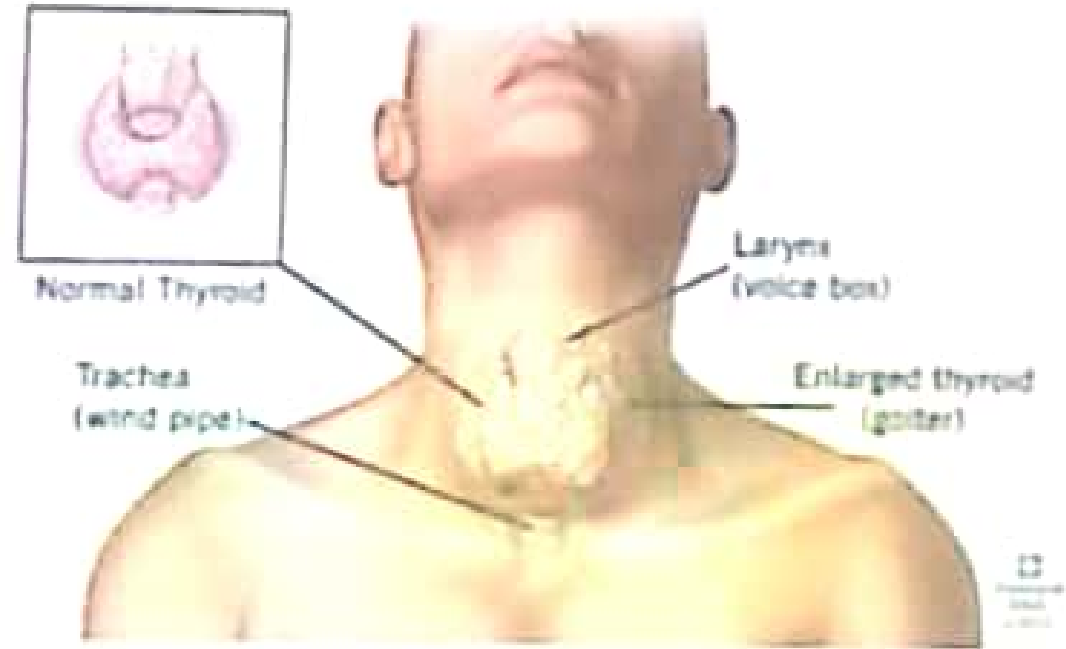
- High Risk ✓

- Multiphasic ✓

- Mass screening ✓



# Goiter



**Goiter** is an enlargement of the thyroid gland in the neck. A **goiter** can be caused by a variety of factors and conditions, and treatment ranges from watchful waiting (no treatment) to surgery.

Pic-18 ✓

1- Iodine Deficiency Goiter

**Cause:**

- 2- ✓ Impaired fetal growth
- ✓ Cretinism
- ✓ impaired brain development

**Prevention:**

- 3- ○ Use of iodized salt
- dairy products
- sea foods
- water
- eggs

IC-19

1- Name hazards to which these beauty parlor worker are exposed?

Chemical allergy

Steam burning

Cut from sharp equipments

Infection from customers

2. How these hazards be prevented?

Proper Training

Protective equipments.



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Regular treatment - INH

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- Cover mouth when child is near
- Treatment
- Vaccination of child
- Periodic examination of child

Q4 Food manager of restaurant comes to you for counselling. How the food sanitation of restaurant can be improved? What Advice you will give?

✓ ① - Clean habits & personal hygiene of food handlers

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✓ ② - Any food handler suffering from a disease should be restricted from food handling

③ - Clean cooking utensils

✓ ④ - Clean cooking environment

According to survey in village, mid year population was 10,000 & total no. deaths were 250. out of which 5 were attributed to accidents & 20 to maternal mortality in the same year.

1- Calculate Crude death rate:

$$\text{CDR} = \frac{\text{no. of deaths}}{\text{mid year pop.}} \times 1000$$

$$= \frac{250}{10000} \times 1000$$

$$= 12.5 / 1000 \text{ mid year population.}$$



In a closed community consisting of 6000 people, 30 cases of upper respiratory tract infections were reported during month of June

1- Calculate Incidence rate URTI for month of June =  $\frac{\text{no. of new cases}}{\text{pop. at risk}} \times 1000$

$$= \frac{30}{6000} \times 1000$$

$$= 5/1000$$

2- 2 Uses of incidence rate:

(i) For knowing the etiology

(ii) For knowing efficacy of preventive measures & control of diseases.

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2. Can this rate be used to compare mortalities of any 2 localities? ✓

→ NO, CDR do not mention specific age death rate.

First standardize to compare two localities

Q.121- A 45 year old man is sitting in your clinic. His cholesterol levels is high. What counselling you will do?

- - Use of Balanced diet -
- - Reduction in Fried items -
- - increase in dietary fiber
- - more exercise ✓
- - no alcohol ✓
- - no smoking ✓
- - Regular checkup ✓

Q 14- During a measles outbreak, out of 400 students 100 became absent from school. Within a week additional 150 students were diagnosed with measles.

1- Calculate Secondary Attack Rate (SAR)

---

$$\begin{aligned} \text{SAR} &= \frac{150}{300} \times 100 \\ &= 50 \end{aligned}$$

2- Give two limitations of SAR

(i) only used for infectious disease

(ii) Difficult, if primary cause is infected.  
since long





Q) On addition of chlorine in water, which reactions take place at points A, B, and C.

- Ans → Formation of chloramines  
 → Break down of "  
 → " point chlorination

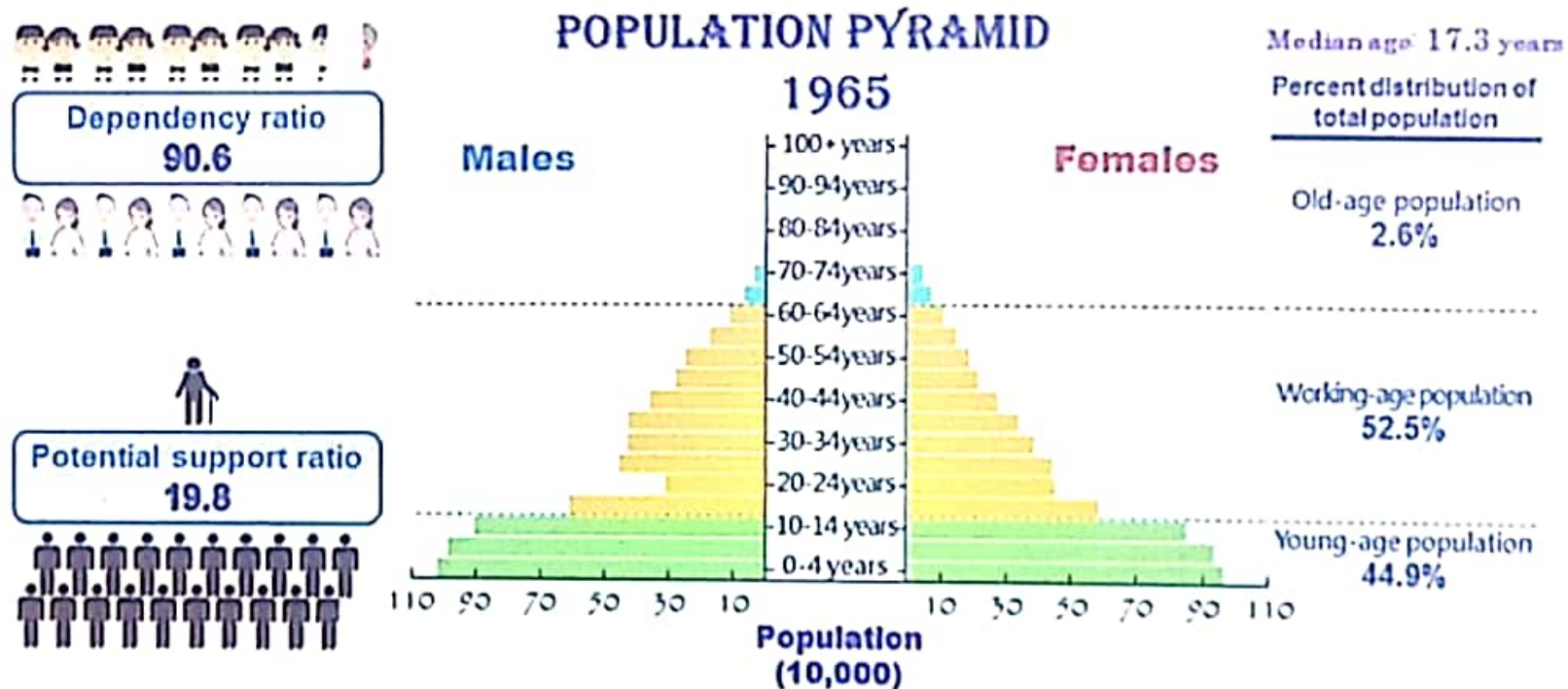


Q Name test for detection of residual chlorine?

Ans Orthotolidine test.



# Population pyramid



A **population pyramid**, also called an "**age-sex-pyramid**", is a graphical illustration that shows the distribution of various age groups in a **population** (typically that of a country or region of the world), which forms the shape of a **pyramid** when the **population** is growing.

## Pic-20

1- Identify diagram. which type of country it exhibit?

Population pyramid - developing country

2. Label :

A → Male

B → Female

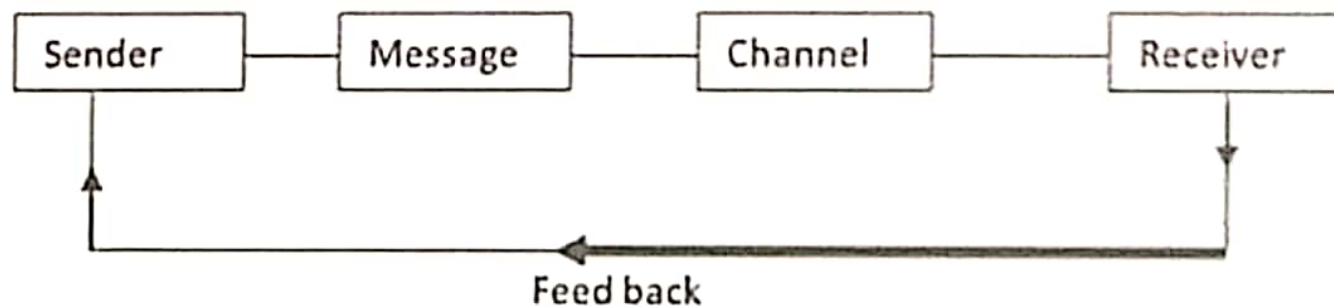
C → Age

Station # 01

For Candidate:

Task:

Carefully observe the given diagram/photograph and answer the following questions:



1. Identify the indicated process in the above diagram 1
2. Give six principals of this process 3



For Examiner

Key

1. Communication process
2.
  - i. Interest
  - ii. Participation
  - iii. Motivation
  - iv. Known to unknown
  - v. Comprehension
  - vi. Learning by doing
  - vii. Reinforcement

Carefully observe the given diagram/photograph and answer the following questions:



- |                                     |   |
|-------------------------------------|---|
| 1. Identify the scenario            | 1 |
| 2. Enlist risks from such situation | 2 |
| 3. How these can be prevented       | 1 |

- |                                     |   |
|-------------------------------------|---|
| 1. Identify the scenario            | 1 |
| 2. Enlist risks from such situation | 2 |
| 3. How these can be prevented       | 1 |

For Examiner

Key

1. Farmer working in field
2. Effects of hot climate, chances of mechanical injuries, some zoonotic disease, effects of sprays, respiratory problems
3. Training, use of safety equipment (head covers, masks, gloves, goggles)

Carefully observe the given diagram/photograph and answer the following questions:



- |   |   |
|---|---|
| 1. Identify the situation                         | 1 |
| 2. What are the risks of this process             | 2 |
| 3. What Govt. action is needed for its prevention | 1 |



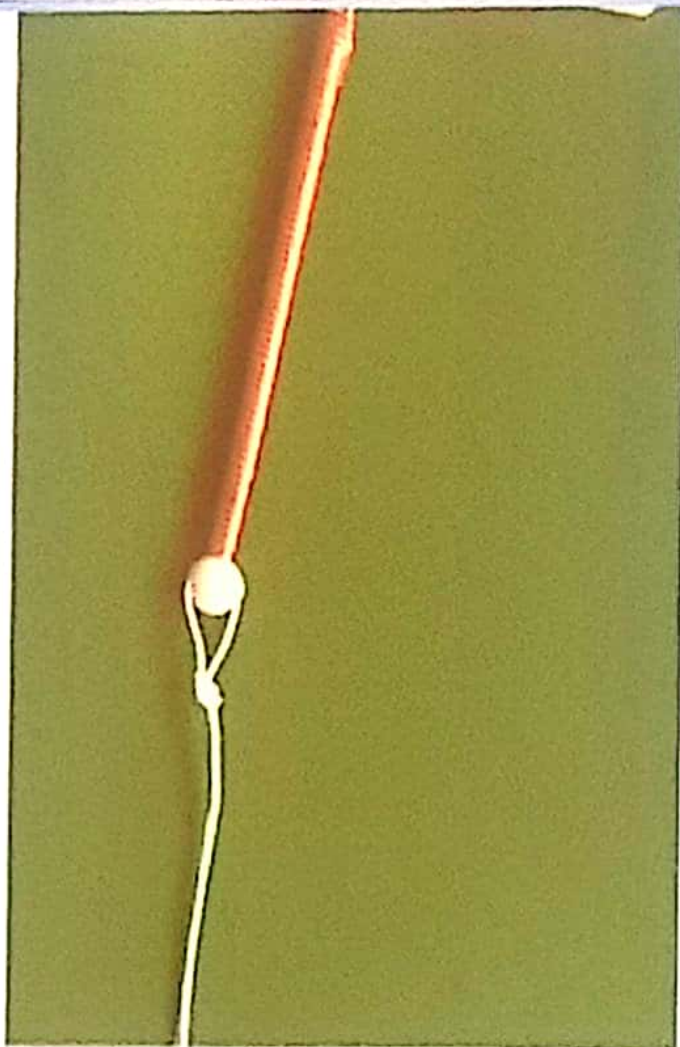


1. Identify the situation 1
2. What are the risks of this process 2
3. What Govt. action is needed for its prevention 1


For Examiner

Key

1. Polluted water falling in main water stream
2. Risk of infectious (bacterial, viral, protozoal diseases), non infectious (chemical poisoning) and cancers
3. Legislation for throwing waste water after detoxication



1. Identify the item 1
2. What is its name 1
3. What are the complications of its use 2

- 
1. Identify the item 1
  2. What is its name 1
  3. What are the complications of its use 2

Key:

1. IUCD
2. Copper T 380 A
3. Pain, bleeding, ectopic pregnancy, pregnancy, infection



1. Identify the process going on 1
2. Name the problem for which it is done 2
3. What are complaints of this problem 1

**Key:**

1. Person is given citrus
2. Scurvy
3. Bleeding gums, ecchymosis, delayed wound healing



Carefully observe the given diagram/photograph and answer the following questions:

Age	No of people in community	No of deaths from a disease 'x' in community
young	8000	69
old	11000	115

Calculate age specific death rate for young and old from disease 'X' in community

4

Key

$$\text{ASDR in young} = \frac{69}{8000} \times 1000 = 8.6/1000$$

Calculate age specific death rate for young and old from disease 'X' in community

4

Key

$$\text{ASDR in young} = \frac{69}{8000} \times 1000 = 8.6/1000$$

$$\text{ASDR in old} = \frac{115}{11000} \times 1000 = 10.45/1000$$



- |  |   |
|--|---|
| 1. Identify the problem                        | 1 |
| 2. What is the causative agent of this problem | 1 |
| 3. How it can be prevented                     | 2 |

### Key

1. Chicken pox
2. Varicella-zoster virus
3. Isolation of cases  
Disinfection of fomites  
Vaccination (Varivax 0.5 ml S/C 12 months to 12 yrs)



- |                                      |   |
|--------------------------------------|---|
| 1. Identify the problem              | 1 |
| 2. What is the cause of this problem | 1 |
| 3. How it can be managed             | 2 |

Key

1. Oedematous (moon face)
2. Protein Energy Malnutrition
3. High quality food, immunization, control of infection





1. Identify the scenario 1
2. What problem can arise from this process 1
3. What are preventive measures 2

For Examiner

Key

1. Coal mine workers
2. Anthracosis
3. Use of mask
4. Mechanization of process

Task:



1. Identify the situation 1
2. What global effects can develop from it 3

Key

1. Atmospheric pollution
2. Green house  
Global warming  
Ozone depletion  
Acidic rain



1. Identify the organism 2
2. What disease it can transmit 2

Key

1. Hard tick
2. Rocky Mountain spotted fever (RMSF)





- |                                       |   |
|---------------------------------------|---|
| 1. Identify the scenario              | 1 |
| 2. How will you manage such situation | 3 |

For Examiner

Key

1. Flood
2. Rescue of victims, first aid, shifting to safe place, food, shelter, rehabilitation



A 40 years old lady weighs 80 kg and her height is 1.8 meter.

1. Calculate her BMI 3
2. Interpret her nutritional status 1

Key:

$$1. \text{ BMI} = \frac{\text{Wt. (Kg)}}{\text{Ht. m}^2} = \frac{80}{(1.8)^2} = 24.6$$

2. She has normal weight



1. Identify the organism 1
2. What disease it can transmit 1
3. What community measures are needed to prevent these diseases 2

Key

1. Anopheles mosquito
2. Malaria, Filaria
3. Environmental sanitation (eradication of breeding places)



- |                                     |   |
|-------------------------------------|---|
| 1. Identify the scenario            | 1 |
| 2. Enlist risks from such situation | 2 |
| 3. How these can be prevented       | 1 |

Key

1. Farmer working in field
2. Effects of hot climate, chances of mechanical injuries, some zoonotic disease, effects of sprays, respiratory problems
3. Training, use of safety equipment (head covers, masks, gloves, goggles)



1. Identify the organism 1
2. What disease it can transmit 1
3. What community measures are needed to prevent these diseases 2

Key

1. Anopheles mosquito



Carefully read the given scenario and answer the following question:

An investigator, test 200 individual to determine the prevalence of Iron deficiency anemia.

The results were as follows:

Test	Anemia present	Anemia absent
+	100	20
-	20	60

1. Calculate the Sensitivity and specificity of the test 2
2. Calculate the PPV and NPV of the test 2

Key:

1. Sensitivity =  $a/(a+c) \times 100 = 100/120 \times 100 = 83.3 \%$
2. Specificity =  $d/(b+d) \times 100 = 60/80 \times 100 = 75\%$

+	100	20
-	20	60

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3. PPV =  $a/(a+b) \times 100 = 100/120 \times 100 = 83.3 \%$
4. NPV =  $d/(c+d) \times 100 = 60/80 \times 100 = 75\%$



1. Identify the problem 2
2. What s the cause of it 1
3. How this disease can be prevented 1

### Key

1. Glossitis and dental carries
2. Vitamin A deficiency
3. Vitamin A rich foods (dairy products, liver, egg, green and yellow vegetables).

### Task:

A school teacher comes to you with the problem that increasing No of students from his class are complaining for teeth problem and asking for leave. He also narrated that the teeth of most of students are decayed.

1. What could be the main cause of this problem 2
2. What advice you will for prevention of this problem 2

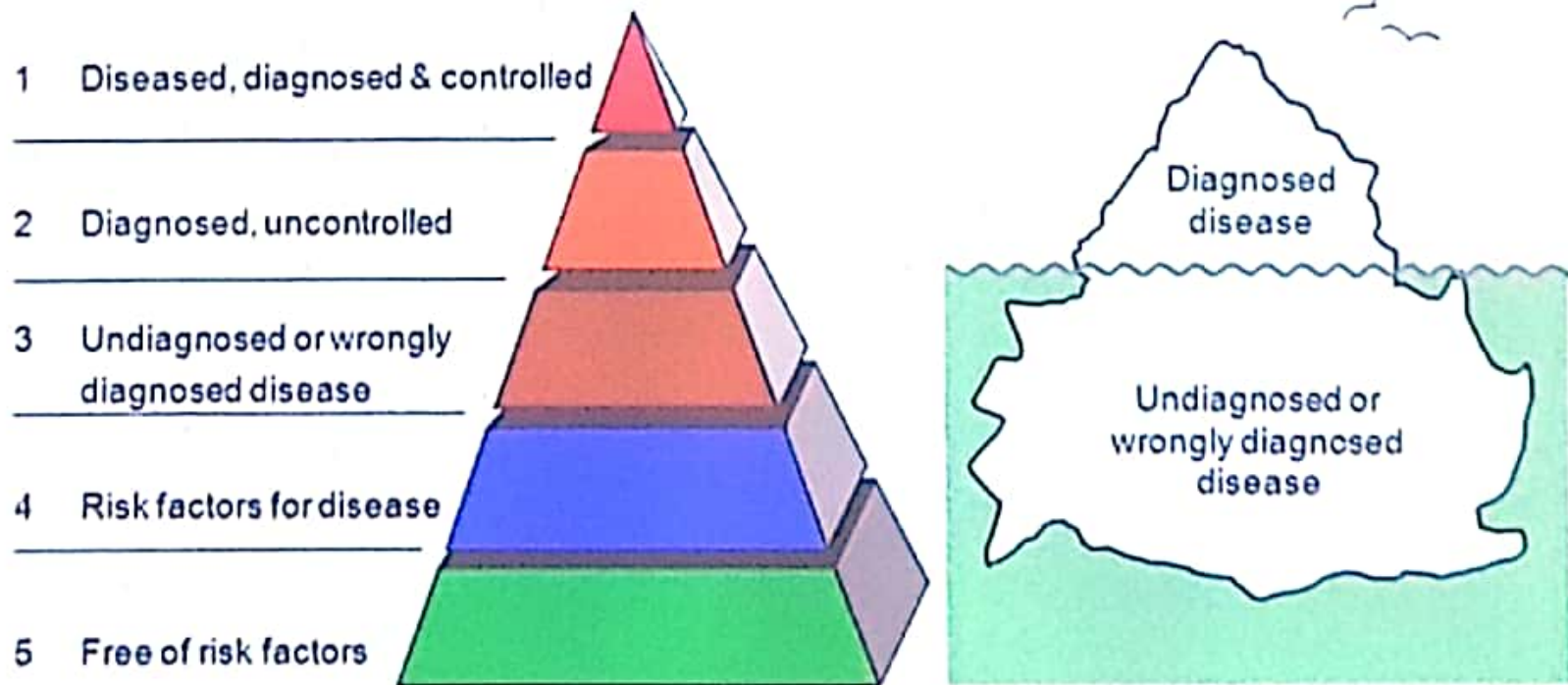
### |Key

1. Deficiency of fluoride I  
Use of sticking carbohydrate (candies)  
Lack of oral hygiene
2. Testing of local water for fluoride level, if less use of fluoride  
added tooth paste  
Regular brushing of teeth  
Less use chocolates/candies



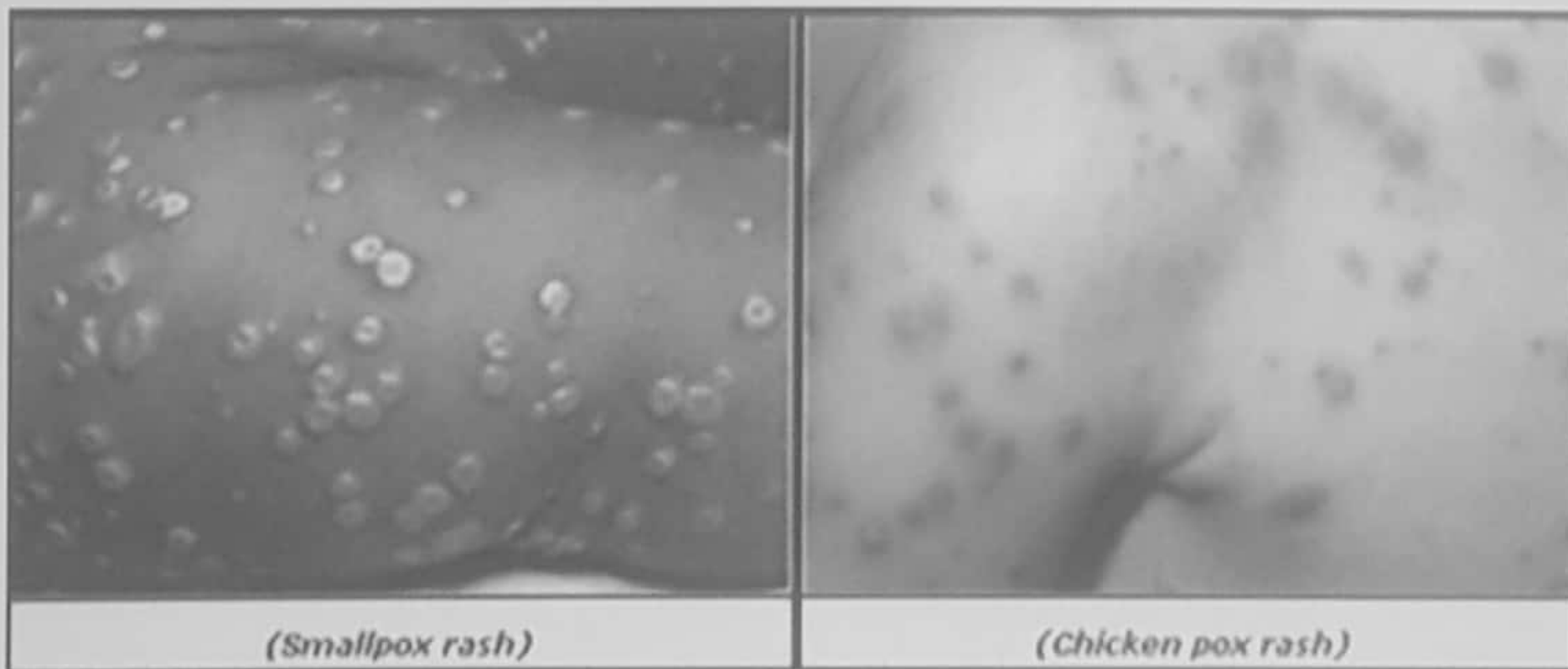
# Iceberg phenomenon of the disease

## Iceberg phenomenon ?



The **iceberg phenomenon** describe a situation in which a large percentage of a problem is subclinical, unreported, or otherwise hidden from view. Thus, only the "tip of the iceberg" is apparent to the epidemiologist.

# Pustular eruption in smallpox and chickenpox



- A pustule is a vesicle or bulla containing purulent material