Basic public health Medical questions

1) Sexually transmitted infections

- Are disorders spread principally by intimate contact:-sexual intercourse, close body contact, kissing, transplacental spread, passage through the birth canal and lactation during the neonatal period.
- **Five key points about all STIs today**
- ✓ STIs affect men and women of all backgrounds and economic levels
- ✓ The incidence of is rising
- ✓ Most of the time, STIs cause no symptoms, particularly in women
- ✓ STIs tend to be more frequent and severe for women than men.
- ✓ STIs can be passed from a mother to her baby before, during or immediately after birth

- Organisms transmitted sexually
  - Bacteria-N.gonorrhoea, T. pallidum, H. ducreyi
  - Viral- HIV, HSV,HBV,HPV

2) tuberculosis

- Is a disease caused by mycobacterium tuberculosis
- Commonly affects the lungs(pulmonary tuberculosis) but it can be systemic.
- Medications are available to treat TB, although the medication must be taken every day for at least six months, it remains a leading cause of death.
- **Epidemiology**
  - **Prevalence of infection: 1.7billion worldwide**
  - **Incidence of infection: 8-10 million worldwide**
  - **1.6 million deaths each year**

- **Transmission**

person to person-via inhalation of droplet nuclei

Animal to person- cow’s milk

- Dx (clinical findings)

1. Skin testing-also called the purified protein derivative or PPD(most commonly used test)

If the person is newly infected, the skin test usually becomes positive with in 4 to 10 wees after exposure.

2. Chest x-ray

tuberculin skin test



treatment

- Consists of acombination of drugs that are considered to be first line therapy, including isoniazid, rifampin,etc…
- Second line antituberculosis therapy drugs are reserved for the treatment of TB in special situations in which there is drug intolerance or resistance to first line therapy(**MDR-TB)** or **XDR-TB**

3) malaria

- Is a protozoan disease transmitted by the bite of infected anopheles mosquitoes.
- 75% of the country is malarious (<2000m),with about 50 million people at risk.
- Five species of the genus plasmodium cause nearly all malarial infections.

1) P.*falciparum*
2) *P. vivax*
3) *P. ovale*
4) *P. malariae*
5) *P. knowlesi*

Clinical manifestations

- Malaise, headache, vomiting, fever, cough, diarrhea, jaundice
- Tender hepatosplenomegaly, anemia
- In severe cases:-ARDS, renal failure, hepatic failure

Predisposing factors

- Extremes of age, pregnancy
- Immunosuppressed patients:- patients on steroids, anti cancer drugs
- Immunocompromised patients:-patients with advanced TB, HIV, cancer

Dx

- Epidemiology and clinical pictures
- Microscopic thin and thick blood films
  - Thick smears-detect parasite…….high sensitivity
  - Thin smears…….for low sensitivity
- Extremely high ESR.

Treatment

- Quinine and quinidine

Prevention

- Mosquito vector control
- ITN(insecticide treated net)
- IRS(indoor residual spraying) like DDT
- Larval control
- Mosquito repellents

4) Maternal and child health

- Sexual assault

Any sexual act performed by one or more person(s) on another without consent.

It may include the use of threat of force.in some cases, the person doesn’t give consent to have sex because he/she is unconscious or other wise incapacitated.

Rape:- is a legal term and in USA it refers to any penetration of a body orifice(mouth, vagina or anus) involving force, the threat of force or incapacity(i.e associated with young or old age, cognitive or physical disability, or drug or alcohol intoxication) with out consent.

- Sexual assaults are facilitated by the use of alcohol and drugs, which in some cases ingested voluntary by the victim and are more common than classic forcible assaults among college students.
- The following steps are recommended after sexual assault
  - Find a safe environment away from the assailant
  - Call a close friend or relative
  - Seek a medical care:- do not change any clothes, bath, douche, or brush your teeth until evidence is collected.
- A complete medical evaluation includes evidence collection, physical examination, treatment and/or counselling.

Clinical presentation

- The majority of rape victims who come to emergency rooms don't openly admit to having been sexually assaulted. they may complain of having been mugged or may voice concerns about AIDS or other STIs. Others may present with psychiatric symptoms including depression, anxiety, or a suicide attempt.
- **SEEK MEDICAL CARE**-it is important to seek medical care ASAP.
- The best chance of collecting accurate information is with in 24hrs of the sexual assault.
- **Preventive treatments**
- Prophylactic medical treatment may be indicated for prevention of STIs and pregnancy.

5) ABORTION

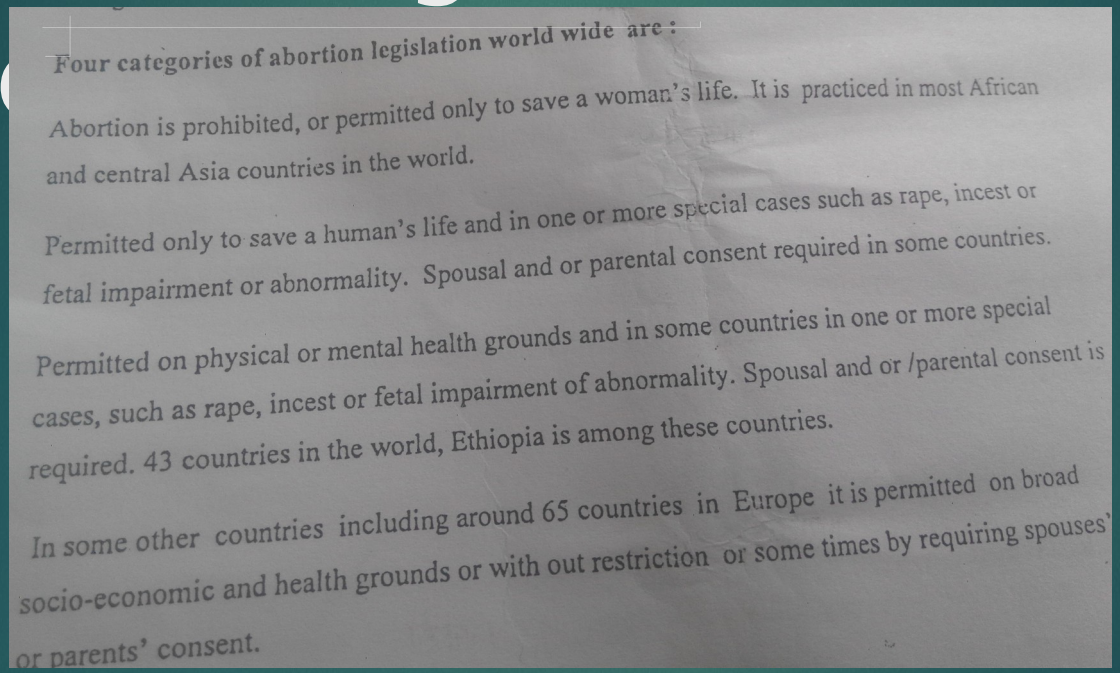
- It is termination of pregnancy before the foetus reaches the stage of viability
- **TYPES OF ABORTION**
- **Spontaneous abortion**:-also known as miscarriage, is the unintentional expulsion of an embryo or foetus before the 24th week of gestation
- **Induced unsafe abortion:-**a procedure for terminating unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking the minimal medical standard or both(WHO)
- **(Induced safe abortion) therapeutic abortion:-** An abortion is medically referred to as a therapeutic abortion when it is performed to save the life of the pregnant woman; prevent harm to the woman's physical or mental health.

- studies indicate that unsafe abortion accounts for up to 25-35% of maternal deaths In Ethiopia. Therefore, it is critical public health concern in Ethiopia.
- Between 10-50% of all women who undergo unsafe abortions need medical care for complication, like incomplete abortion, haemorrhage, shock, genital tract injuries and infections.

Major reason for abortion

- **High prevalence of unwanted pregnancy from unmet need for family planning.**
- **Unable to raise that child.Ex. students, youngsters**

Four categories of abortion legislation world wid



Four categories of abortion legislation world wide are :

Abortion is prohibited, or permitted only to save a woman's life. It is practiced in most African and central Asia countries in the world.

Permitted only to save a human's life and in one or more special cases such as rape, incest or fetal impairment or abnormality. Spousal and or parental consent required in some countries.

Permitted on physical or mental health grounds and in some countries in one or more special cases, such as rape, incest or fetal impairment of abnormality. Spousal and or /parental consent is required. 43 countries in the world, Ethiopia is among these countries.

In some other countries including around 65 countries in Europe it is permitted on broad socio-economic and health grounds or with out restriction or some times by requiring spouses' or parents' consent.

Penal code of Ethiopia Regarding abortion

- The deliberate termination of pregnancy, at whatever stage or how ever affected, is punishable except otherwise provided.
- However termination of pregnancy is not punishable where it is done to save pregnant women from grave and danger to her life or health. These include pregnancy resulting from rape or incest when the pregnancy risks the **health** or **life** of the women in case of foetal abnormality and for other physical, psychological and social factors.

6) Harmful traditional practices

- Early marriage
- Promissory marriage
- Child marriage:-usually the girl is less than 10 years.
- “Madego” the girl is given to in-laws after wedding ceremony to serve until maturity.these is worse bcause of sexual and physical abuse
- “Melesles” The girl does frequent visits to the in-laws to serve till maturity
- Early adolescent marriage:- age of the girl is 10-15 years

7) Health related problems of early marriage

- Sexual abuse, vaginal, anal and perineum tear, early pregnancy, child bearing and unwanted pregnancy
- Maternal morbidity due to fistula, Haemorrhage, obstructed labour.
- Denied education and own choices, illiterate mother usually raise illiterate child.
- Urban migration, fistula patients
- psychological trauma from first sexual experience, many children(early pregnancy)

Abduction

- It is defined as unlawful kidnapping or carrying away a girl for marriage
- In almost all cases rape follows it

FGM(FGC)

All procedures that involve partial or total removal of the external female genitalia, or other injury to the female genital organs for non-medical reasons

- Complications:- excess bleeding, infection, pain, loss of sexual stimulation and orgasm, infertility

8) Immunization

- The process of inducing immunity against specific disease.
- Two types
- Active immunization:-stimulation of immune system to produce antibodies and cellular/humoral immune response against infectious agent.
- Passive immunization:- providing temporary through administration of exogenously produced anti bodies.
- Vaccination:-administration of whole or part of a microorganism to prevent infectious disease.

When	Vaccines
At birth	BCG OPV 0
At 6 week	OPV 1 DPTHibHb 1
At 10 week	OPV 2 DPTHibHb 2
At 14 week	OPV 3 DPTHibHb 3
At 9 month	Measles +Vit A Pneumococcal

9) Public health

- Health is a state of complete physical, mental and social well being and not merely absence of a disease
- Disease indicates
  - Indicates a wrong stage of physiology or anatomy
  - Interferes with normal functions of the body

Health care system in Ethiopia

- Eth. Is a country having the poorest health system in the world.
- Maternal and infant mortality rates are among the highest
- It comprises four tiers

1. Primary Health Care Unit
2. District/zone hospitals
3. Regional referral hospitals
4. Central referral or teaching hospitals

Public health terminologies

- EPIDEMIC:-the occurrence of health related condition in excess of the usual frequency in a given area or among a specific group of people over a particular period of time.Ex. Cholera, influenza,small pox, measeles

- PANDEMIC:-an epidemic involving several countries or continents and affecting a large number of people.For Ex. HIV/AIDS

10) First Aid



- **First aid –** is the temporary & immediate care given to a person who is injured/sick.
- It includes recognizing life threatening conditions & taking effective action to keep the injured/sick person alive & in the best possible condition until medical treatment can be obtained.
- It does not replace permanent medical treatment.

- In primary survey the first thing to do is to make sure the scene is safe
  - Electrical shock
  - Active haemorrhage
  - Fire
  - And other related cases

In primary survey identify threatening situations like

- Airway obstruction, chest injuries with breathing difficulties , severe internal or external haemorrhages
- What's the ABCDE survey
- **A=airway obstruction…** asses he airway. Can the patient talk and breath freely?? If obstructed the steps to follow are…chin lift jaw thrust, suction, intubation
- Always be aware for cervical injuries

- **B=breathing…**adequate or not?? If in adequate he steps to follow are decompression, closure of open chest injuries
- **C=circulation…**asses the circulation, stop external haemorrhage, administer blood if available ,in cade of cardiac failure CPR(cardiac pulmonary resuscitation)
- **D=disability…** rapid neurological assessment

A=awake P=painful response V=verbal U=unresponsive

- **E=exposure…**undress the patient and look for any injuries


A
H
I
V
D
S

11) HIV AND AIDS

- **HIV** is the name of the virus that depress the body’s immune system
- **AIDS** is the last stage of HIV infection when the immune system is very weak
- What are the **symptom** of hiv??
- Non specific like fever, sore throat, headache etc.
- Infection like eye infection oral yeast infection

HIV TESTING METHODS

- **RAPID TEST**… sample is taken from saliva or blood from a finger prick. Result available with in 5-40 mints.
- A positive test always require another test
- **STANDARDIZED TEST**… sample taken from vein. result available within a few days.
- **Treatment** … HAART allow body to re build its immune system

What if I am pregnant or want to become pregnant??

- Baby can become infected too… during pregnancy breastfeeding or birth
- Talk to your doctor about ways to reduce the chance of spreading infections.

Can I lower my chance of getting HIV even after being exposed to the virus

- In cases like rape unprotected sex or unfortunately the condom broke???
- There are medicines called preventive medicines that you should start within 3 days of being exposed
- Will not work in someone who always get involved in risky business
- Or if you have wounds or sores on your genitalias risk gets high.

Staging

- Measure t cell or CD4
- T cell or CD4 count below 200 …AIDS develops
- Stage **1.>**200

  2.200-499

  3.50-199

  4.<50


DIABETES
bad diet
lifestyle
stress
no exercise

12) Diabetes mellitus

- Term describe several diseases of abnormal carbohydrate metabolism that are characterized by hyperglycaemia
- Two types of diabetes
- Type 1… pancreas does not make enough insulin
- Type 2…combination of peripheral resistance to insulin action and an inadequate compensatory response of insulin secretion by the pancreatic β cells ("relative insulin deficiency").
- Insulin is a hormone that helps body to absorb and us glucose

- DX- symptoms and blood tests
- Symptom…high blood sugar levels which manifest with excessive thirst, feeling tired, needing to urinate frequently, loosing weight and blurred vision.

Dx

- 1.random blood glucose level 200 and above
- 2.a fasting glucose level of 126 and above
- 3. after OGTT(oral glucose tolerance test) a carbohydrate load blood glucose rises up to 200 and high.
- Normal blood glucose level is between 70-120

13) Hypertension



Hypertension

- Elevated blood pressure…blood pressure the pressure the blood applies to the walls of the arteries.
- Although hypertension is a common health problem with occasionally devastating outcomes, it typically remains asymptomatic until late in its course
- Common symptoms are occipital headache dizziness visual difficulty

Blood pressure: 4 Categories, in mmHG

Normal	Pre-hypertension	Stage 1 HTN	Stage 2 HTN
<=120/80	Systolic 120-139	Systolic 140-159	=>160/100
	Diastolic 80-89	Diastolic 90-99	

- Has to be a sustained one

- Complication of HTN
- Heart disease and stroke … variety of disorders
- Treating HTN usually stars with life style changes which include reduce amount of salt in diet, lose weight, avoid drinking too much alcohol, stop smoking.
- Medications are also available.

- Read about **food poisoning**, **alcohol intoxication**(alcohol abuse ,dependence) **marijuana addiction** and **smoking**.
- How they are treated

- These are most likely to appear on the interview and written exam.

14) Cholera

- Diarrehal illness caused by gram negative bacteria V.cholera.
- Cholera is characterized by severe, watery diarrhea which can rapidly lead to dehydration an death in un treated patients.
- Complication is through massive fluid and electrolyte loss.
- Treatment is correction of hypovolemic dehydration.
- Oral or intravenous volume repletion.
- Antimicrobial therapy…antibiotics
- Prevention…contaminated food and water is the main root of transsmition

Oral rehydration solution

- Composed od odium chloride, trisodium citrate or bicarbonate, potassium chloride, and glucose.
- Effective in all types of diarrhea.
- cheap and easy to administer.

15) Oral hygiene care

- Brushing thoroughly after every meal of twice daily
- Use dental floss.
- Replace toothbrush once you have a=had cold to prevent re infection.
- Fluoride containing toothpaste good or bad?


49





16) Nutrition

- Nutritional problems in Eth. Include
- 1.macronutrient deficiency…protein energy malnutrition
- 2.miicronurient deficiency iron deficiency disorders, VitD deficiency (rickets) etc.

Two types of nutritional deficiency

- Primary …inadequate protein calorie and nutrient intake.
- Secondary…malnutrition following infections, injury, chronic disease, excessive nutrient loss due t diarrhoea, HIV, Malnutrition syndromes.
- Marasmus and kwashiorkor
- Malnutrition diseases characterized by wasting of muscle mass and depletion of body fa stores.
- Treatment for severely affected children REMOSAL
- Consists of modified ORS, glucose, Na, K, Mg, Z, and Cu
- Commercially available

Millennium development goals

1. Eradicate extreme poverty and hunger
2. Promote gender equality
3. Achive universal primary education
4. Reduce child mortality
5. Improve maternal survival
6. Combat HIV, malaria and other diseases
7. Ensure environmental susceptibility

Develop a goal partnership for development

17) Obesity



obesity

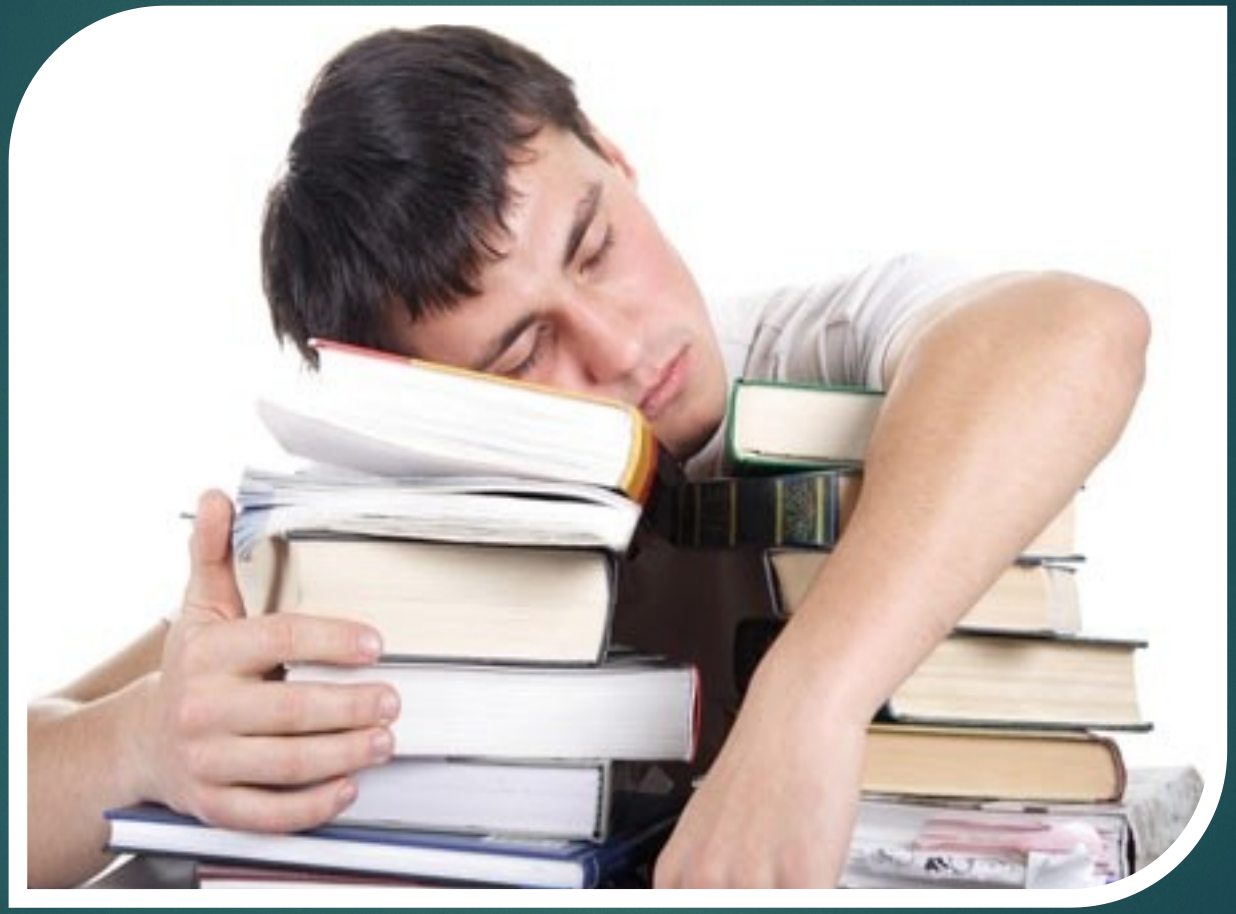
- Obesity is a chronic disease that is increasing in incidence.
- It is called a disease because it is a causative factor for a whole lot of diseases including hypertension, diabetes mellitus, heart disease, dyslipidaemia, stroke, sleep apnoea...
- The distinction between overweight and obesity is made on the basis of body mass index
- Body weight ÷ (height in meters)2

Classification

- Underweight BMI<18.5
- Normal weight ,, 18.5-24.9
- Overweight ,, 25.0-29.9
- Obesity class I ,, 30.0-34.9
- Obesity class II ,, 35.0-39.99
- Obesity class III ,, >40

- Etiology…sedentary life style, increased calorie intake, some medication like insulin, smoking cessation, although uncommon some obese patents have endocrine disorders such as Cushing syndromes.

Read…




ANY
QUESTIONS
?