

ANNUAL 2020

Define & give at least three characteristics of normal distribution curve:

It is smooth, bell shaped, perfectly symmetrical curve based on an infinitely large number of observations.

Characteristics:

- It is bell shaped.
- Mean, mode, median coincide at center.
- Total area is one.
- The mean is zero.
- Standard deviation is one.
- Curve never touches baseline.
- It is unimodal.
- Right & left halves are equal.

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

$$\text{Mean: } \frac{51}{13} = 3.9$$

Median: 4

Mode: 2

162 Females were studied. 64 delivered preterm babies out of these 53 were belongs to low S.E.s. 40 Female belong to high S.E.s. delivered normal babies.

① Make 2x2 Table :

② Calculate measure of result :

③ Interpret your results :

Discuss determinants of health?

① Hereditary : • A number of diseases are known to be genetic in origin.
e.g: chromosomal anomalies.

② Environment :

→ Internal : • Internal body systems must be working harmoniously within the system.

→ External : • Those things to which man is exposed after conception.

③ Lifestyle : • CHD, obesity, lung cancer are associated with lifestyle change.

④ Socio-economic conditions :

• Education, Employment, Housing.

⑤ Health services :

• Immunization, safe water supply.

⑥ Other Factors.

• Food

• Agriculture

• Social welfare

• Rural development.

Principle of Primary Health Care:

- community participation.
- Equitable distribution.
- Inter-sectoral Coordination.
- Appropriate Technology.

Components of Primary Health Care:

- Proper food supply & nutrition.
- Basic Sanitation & safe water supply.
- Safe Family Family Planning.
- Immunization against ~~inf~~ inf. diseases.
- Education about prevailing health problems.
- prevention & control of locally endemics.
- Treatment of common diseases & injuries.
- provision of essential drugs.
- Prom of mental Health.

A comparative study was conducted to assess the haemoglobin level at start and towards end of pregnancy. in gynae OPD.

① which Test of Significances should be used for analysis of such data and justify your answer?

② How will you interpret the results on basis of p value if α is kept 0.05.

Define Herd Immunity.

"Level of resistance of a community or group of people to a particular disease is called as Herd Immunity."

Elements of Herd Immunity:

- Occurrence of clinical & subclinical infection in herd.
- Immunization of herd.
- Herd structure.

Recombinant protein vaccine:

"A vaccine which is produced through recombinant DNA technology. This involves inserting the DNA encoding antigen that stimulates an immune response into bacterial or mammalian cell, expressing antigen in these cells and then purify it from them." e.g: Primavax

Advantages:

- Rapid generation.
- Thermostability
- No risk of pathogenicity
- defined composition.

Disadvantages:

- Multiple doses needed
- Adjuvants needed.

Vector Involved in transmission of dengue :

→ *Aedes aegypti*

"It is the principal dengue vector responsible for dengue transmission & dengue epidemics."

Prevention & Control of Dengue:

- Travellers should sleep under impregnated nets and use repellents.
- Use of Sprays.
- Breeding sites should be eradicated.
- Apply mosquito repellents lotion on uncovered body parts.
- Wash water containers daily.
- Keep them cover.

Modifiable risk factors for GHD.

- Obesity
- Lack of exercise
- Heavy Alcohol Intake
- Cigarette Smoking.
- Salt Intake
- Stature Fat
- Oral contraceptives

Levels of prevention for GHD.

① Primary Prevention:

- Health education on all risk factors.
- weight reduction.
- Alcohol reduction.
- Stop Smoking.
- Reduction of salt intake.
- Avoid stress.
- Exercise promotion.

② Secondary preventions:

- Early case detection. by screening.
- Treatment: The aim of treatment should be to obtain BP below 140/90 mmHg.
- Patient Compliance: General Treatment of HTN will be lifelong.

Complications of Hypertension:

- Heart Failure
- GHD
- Stroke
- Renal Failure.

Personal Hygiene during pregnancy:

- Light work is advised.
- Heavy weight not recommended.
- 8 hours sleep with 2-hour after mid-day meals.
- Avoid smoking.
- Proper Dental Hygiene.
- Sexual intercourse is restricted.
- Keeping body clean helps to prevent infection.

which conditions can develop from physical Agents:

Uses & information a population pyramid provides:

* It provides a demographic statement of current age & sex distribution of a population.

- males on left side
- Females on right side
- children at basement
- Elderly at top.

Uses:

- male to female ratio
- Population changes
- Dependency ratio can be calculated.

Define population momentum:

$$\text{Momentum} = mv$$

"It is defined as greater the growth rate; the greater would be population and difficult would be to stop population momentum".

Stages of population transition:

"Moving from a stage of high birth rate and a high death rate to a low birth rate and low death rate is called demographic transition".

- Old balance
- New balance
- Imbalance.

Components of Kangaroo mother care?

→ Kangaroo position:

- Skin to skin on mother chest secured with a wrap.

→ Kangaroo ~~position~~ Nutrition:

- Exclusive Breastfeeding whenever possible.

→ Kangaroo discharge:

- Mother continues KMC practice at home after discharge.

→ Kangaroo Support:

- Health care staff provide support to mother to take care of her infant in hospital.

- Family support of mother in practicing KMC at home.

Prevention of LBW Babies:

- Nutrition of mother looked after properly.

- High risk mothers are identified and then cared accordingly.

- Birth spacing.

- Proper antenatal monitoring.

Factors & Principles while planning a balanced diet:

Factors:

- Age: More food in younger than old.
- Gender: Male require more calories.
- Physical Activity: Laborer requires more calories.
- Physiological Factors: Female require more iron.
- Climate: More energy in cold.

Principle:

Good Nutrition means

Maintaining a nutritional status that enables us to grow well and enjoy good health.

Primary Functions of WHO Secretariat?

- To promote standard of education.
- To improve nutrition, housing sanitation & working conditions.
- To promote activities in field of mental health.
- To promote and conduct research.
- To obtain data on vital statistics.
- To promote family health.

Areas in field of health where WHO has specific responsibilities for establishing and promoting international standards:

- Prevention & control of specific disease.
- Development of comprehensive health services.
- Family Health.
- Environmental Health.
- Health Statistics.
- Bio-medical Research.
- Health literature & information.
- Cooperation with other organizations.

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what is data. Types + Examples:

"Collection of observations in a scientific way is called as data!"

Types:

① Categorical / Qualitative

(i) • Nominal Data

Data is divided into two groups.

→ Male | Female

→ Black | white

→ Rural | urban.

(ii) • Ordinal Data.

Putting data into some order or rank.

→ upper class

→ middle class

② Numerical / Quantitative.

(i) • Discrete Data

when only numbers are counted.

→ 10% of live birth in hospital.

(ii) • Continuous Data.

→ Measured on scale: No ends.

Research:

"Scientific way of finding answer to a question or solution of a problem and it depends on observation and interpretation of data."

Steps in Research:

- Title of Research
- Introduction
- Objective of Study.
- Literature review
- Materials & Methods.
- Results.
- Discussion.
- Conclusion.
- Suggestion.
- Reference.
- Annexure.
- Abstract | Summary.

Coal-mine workers develop bronchitis,
dyspnea, cough etc.

Condition:

Anthraxosis - coal workers pneumoconiosis.

Management:

NOTES →

→

→

Annual 2019

Selective primary Health care approach proposed by UNICEF for mother & child health.

- Child - mother Health.
- Child - Mother Nutrition.
- Family and child welfare.
- Education.

Enumerate ways by which vector transmits the infectious Agent:

Direct Transmission

- Direct contact → ~~_____~~ (AIDS, STD's)
- Droplet infection → (Diphtheria)
- Contact with soil → (tetanus) (Rabies)
- Inoculation into skin or mucosa.
- Transplacental → (Herpes virus)

Indirect

- Vehicle borne (Cholera)
- Vector borne (Malaria)
- Airborne (T-B)
- Fomite borne (Diphtheria)
- Unclean hands
- Unclean fingers.

Factors which influence ability of vector to transmit disease:

Role of health care provider in Health education:

- Provide opportunities for people to learn about health related problems.
- Make health and health related information easily accessible to community.
- Indicate to people alternative sol. for health problems.
- People must have access to proven preventive measures.

Define motivation & its stages:

"It is the power that drives a person from within to act"

→ Stages:

Characteristics of occupational
Cancer.

Control measures for industrial cancer?

Protein Energy malnutrition:

"Range of pathological conditions arising from simultaneous deficiency of protein and calories and commonly associated with infections."

Types:

- Kwashiorkor
- Marasmus.

Difference:

Features	Marasmus	Kwashiorkor
• Muscle wasting	Obvious	Hidden
• Fat wasting	Severe loss	Retained
• Oedema	None	lowe legs
• Weight for height	very low	low
• Mental changes	Quiet	Irritable
• Skin changes	Usually none	Diffuse pigm.

Drug addiction:

"state of periodic or chronic intoxication detrimental to individual and society produced by repeated intake of habit forming drugs."

Drug Dependence:

"A state, psychic and sometime also physical, resulting from interaction between a living organism and a drug characterized by behavioural and other responses that always include a compulsion to take drugs on a continuous and periodic basis in order to experience its psychic effects and sometimes to avoid discomfort of its absence is called drug dependence."

Drug Abuse:

"Self administration of a drug for non-medical reasons which may result in social, physical or emotional harm is called drug abuse."

Prevention:

→ Legal Approach.

- Prohibition of sale of tobacco.
- Smoking in school.
- Smoking in public.
- Public health education.

→ Educational Approach:

→ Community Approach:

Define domestic accidents:

Causes of domestic Accident:

Risk factors & preventions:

Methods of water purification:

Large scale:

- Storage
- sedimentation
- Filtration:
- chlorination.

Small scale:

→ House hold purification of water

- Boiling
- Chemical disinfection -
 - * Bleaching powder
 - * Chlorine solution
 - * chlorine Tablets
 - * Sodaline
 - * Copper sulphate
- Domestic water Filters.

→ Disinfections of wells.

Properties.

Area

operation

Rem. of colr

Rem. of Bac.

Filter cleaning

Rapid Sand Filter

Small

more skilled

Good

98-99%

Backwashing

Slow

Large

less skilled

Better

99.9% - 99.9%

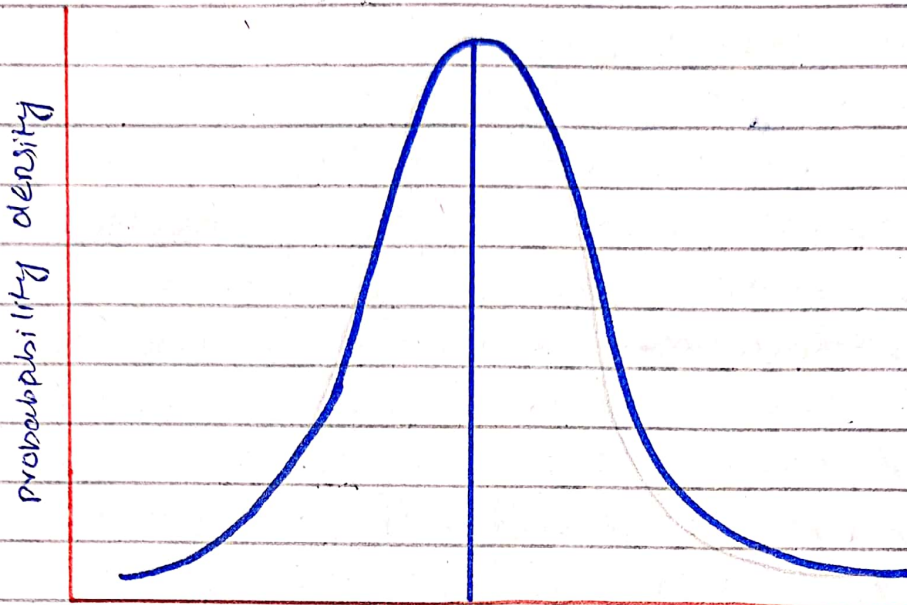
Scraping.

Role of School Teacher in School health service:

- He can give lecture on health and personal hygiene.
- He can give nutritional education.
- He attends parent teacher meeting.
- He actively participates in school meal services.
- He can vaccinate the children.
- Render First aid Treatment.
- He can supervise cleanliness of classroom.

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Normal Distribution Curve:



z-score.

which levels are applicable during pre-pathogenesis stage of disease:

Water-borne Diseases:

Non-Infectious:

- Iodine deficiency: Goiter
- Dental Fluorosis: Excess of Fluoride.
- Dental Caries: Deficiency of Fluoride.
- Lead poisoning: Lead pipes.
- Infant Methemoglobinemia: High conc. nitrates.

Infectious:

- Feco-oral: diarrhea.
- water borne: cholera
- water washed: Trachoma
- water based: Liver Fluke
- water related insect: Mosquito → malaria.
- water dispersed: Legionella.

Term "HOME BOUND"

"Unable to leave one's house typically due to illness or older age."

Enlist 3- geriatric linked Diseases:

- Arthritis
- Osteoporosis
- Heart Disease
- Alzheimer Disease
- Diabetes.

In a case control study of ~~100~~
 88 smokers, 22 ischemic heart Disease.
 whereas 100 non smokers, 5 developed
 IHD.

Contingency Table:

	Data Type 1	Data Type 2	Total
category 1	a	b	a+b=e
category 2	c	d	c+d=f
Total.	a+c=g	b+d=h	a+b+c+d=N

For given Data.

Smoker	Ishemic	Non-Ishemic	Total
	22	66	88
Non-smoker	5	95	100
Total	27	161	188

ODD ratio :

$$\frac{ad}{bc} = \frac{(22)(95)}{(66)(5)}$$

$$= \frac{2090}{330}$$

$$= 6.33\%$$

What is communication process for health?

It refers to countless ways that human have to keep in touch with one another.

Components:

- Sender
- Receiver
- Message
- channels of communication.

Barriers:

- Physiological: Difficulties in hearing & Expression.
- Psychological: emotional disturbance.
- Environmental: Noise, Congestion
- Cultural: Literacy, understanding.

Stages of Health education:

- Stage of sensitization
- Stage of publicity.
- Stage of education.
- Stage of motivation & Action.
- Stage of community transformation.

Define Malnutrition:

- Pathological state resulting from a relative or absolute deficiency or excess of one or more nutrients.

Define Pneumoconiosis:

"It is a group of disease which may result from inhalation of different chemical dusts leading to irreversible fibrosis. This condition is called as pneumoconiosis."

- Silicosis
- Anthracosis
- Asbestosis
- Bergassosis
- Byssinosis
- Farmer's lungs

Factors responsible for pneumoconiosis:

- Silica
- Coal dust
- Asbestos
- Cane fiber
- Cotton dust
- Tobacco
- Grain dust

Major Air Pollutants:

- Lead
- Dust
- Sulphuric Acid
- Nitrogen Dioxide
- Carbon Dioxide
- Carbon Monoxide
- Benzene
- Chlorine.

Effects of Air Pollution:

→ Immediate Effects:

- Nausea
- Vomiting
- Fever
- Headache

→ Late effects.

- Tuberculosis
- Anemia
- Primary Lung disease
- Pneumoconiosis.

→ Effects on plants & Animals:

- Burning of leaves
- Retarded growth of plants
- Destruction of crops.

→ Global Effects:

- Ozone depletion
- Acid rain
- Green House effect.

Enlist causes of maternal mortality:

- Hemorrhage due to abortion.
- Ectopic pregnancy.
- Sepsis
- Placental Abruption.
- Rupture of uterus.
- Pregnancy induced hypertension.
- Anemia in pregnancy.
- Pulmonary embolism
- Malnutrition.

Advantages of Breast feeding:

For Baby:

- Breast milk is safe, clean & hygienic.
- It fully meet requirements of infants in first few months.
- Less chances of malnutrition.
- It is easily digestible.
- It reduces the risk of allergies.
- It helps in growth of infant.
- It reduces infant mortality rate.
- It prevents development of neonatal hypoxal.

For Mother:

- It helps in child spacing.
- It promotes involution of uterus.
- It prevents mastitis.
- It decreases chances of Breast cancer.
- It forms close relationship between m & c.
- It gives physiological satisfaction to mother.

① what is vital index?

② Number of live Births in a village in 2012 was 450 and 300 deaths occurring same day/period. Calculate vital index & interpret data.



Ratio between number of live birth to the number of deaths at same time, place & period.



No. of live birth = 450

No. of deaths in that village & year = 300

$$\text{vital index} = \frac{450}{300} \times 100$$

$$\text{vital index} = 150$$

Term "DASH" in context to hypertension.

DASH stands for.

- Diabtese
- Atherosclerosis
- Smoking
- Hypertension.

Dietary approach to stop hypertension.

DASH is rich in fruits, vegetables, whole grains and low in fat dairy foods include meat, Fish and is limited in sugar sweetend foods

and red meat.

Define Obesity :

"An abnormal growth of adipose tissue due to enlargement of fat cell size or an increase in fat cell no. or both"

Public Health Importance :

① mortality : Increased risk of premature death.

② morbidity :

- D.M
- Hypertension
- CHD
- Renal disease.

Classification :

- Under weight
- Normal range.
- Over weight
- Pre-obese
- Obese - class I
- Obese - class II
- obese - class III

ANNUAL 2018

School Health Services:

"It is a branch of preventive medicine which deals with the medical inspection of school children to their health protection, primarily in environment of school."

Effects of Global warming:

→ Health:

- Healthy persons complain of chest pain, nausea and pulmonary congestion.

- Damages lung tissues.

Heart patients at more risk.

- Increase O_3 at ground level.

→ Water Resources:

- Dry soil
- poor water quality
- overall dec. water quantity.

→ Deforestation:

→ Agriculture soil erosion.

→ Temp. rise

→ Raising sea level

→ Loss of wildlife

Principles of Chlorination:

- water should be clean & free from turbidity.
- Chlorine demand of water should be estimated.
- At least one hour is essential as a contact period of free residual chlorine for killing bacteria & viruses.
- Minimum recommended conc. of free chlorine
- The sum of chlorine demand of the specific water plus the free residual chlorine of 0.5 mg/l constitutes the correct dose of chlorine.

Prevention of Yellow Fever:

① Jungle Yellow Fever:

- Uncontrollable
- Vaccination of humans with 17D vaccine.

② Vector Control:

- Source reduction method
- Elimination of breeding places
- Use of repellants
- Mosquito repellent / nets
- Mosquito coils

③ Surveillance:

- WHO uses Aedes aegypti index
- It should be less than 1%

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Characteristics of case control study:

- ① Selection of cases & control
- ② Matching
- ③ Measurement of Exposure
- ④ Analysis & Interpretation

Enlist mode of intervention:

- ① Primary: Prevention
 - Health protection.
 - Specific protection.
- ② Secondary: "
 - Early diagnosis & prompt treatment.
- ③ Tertiary: "
 - Disability limitation.
 - Rehabilitation.

which levels are applicable during pre-pathogenesis phase of disease:

Primary prevention:

(i) Health promotion: (Health promotion)

* Individual Approach: → personal contact

* Group Approach:

- lectures

- Demonstrations

- Group discussions

- Workshop Seminars

* Mass Approach:

- TV
- Newspaper

- Radio
- Internet

- Films

(Environmental Sanitation)

- wash your hand
- Avoid spitting
- Clean articles

(Nutrition)

- Proper diet lower the risk of
- infection.

(Genetic counselling)

(ii) Specific Protection:

- Immunoprophylaxis
- Chemoprophylaxis
- Specific Nutrients
- protective equipments
- Environmental protection.
- cover your mouth.
- Stay home when sick.

} # Spectrum of Health:

- Positive Health.
- Better Health.
- Freedom From Sickness
- Unrecognized Sickness
- Mild Sickness
- Severe Sickness
- Death.

Management of Snake Bite:

History:

- Time of Bite
- Description of Snake
- Signs & symp. since bite.

Examination:

- Bite Site
- Repeated Neurological Exam
- Repeated Exam. of orifices for bleeding

Diagnosis:

- Finding of fang marks
- Lab. tests
- Cholinestrase → elapid bites
- Thromboplastins → viper bites
- In sea snakes → Hyperkalemia
- Clotting time are helpful.
- Bleeding time " "

Treatment:

① Allaying Anxiety & Fright: Reassure patient that all snakes are not poisonous.

② First Aid

- Immobilization
- Tourniquet → If bite on limb.
- Cut & Suck Technique → Face, neck, trunk
- Wash wound with plenty of water.
- Cold pacie method.

③ Shift victim to medical center

④ Use of specific Antivenom.

Q ANNUAL 2017

A mother reported with 2-year old child difficulty in walking. On exam. knock, knee, pot belly, curving of legs:

① Diagnosis:

Rickets

→ Factor responsible:

Vit. D deficiency:

→ Measures: to combat disease:

• Vit. D Stoss Therapy

Adequate dietary calcium & phosphorus provided by milk, formula & other dairy products.

Exposure to sunlight.

In PINUM, radioactive material being used. which Harzels worker of Lab. is exposed:

① Somatic Effects:

(i) Immediate:

Nausea, vomiting, diarrhea, Acute radiation syndrome

(ii) Delayed:

Leukemia, Carcinogenesis, Malignancies, Shortening of life, Fetal developmental Abn, Death

② Genetic Effects:

• These effects are produced in next generation. e.g.

• Deformed limbs of neonates in effected parents.

A 4th class student of a school seen by SHMO, cough, conjunctivitis, maculopapular rash behind her ear:

Diagnosis: Measels.

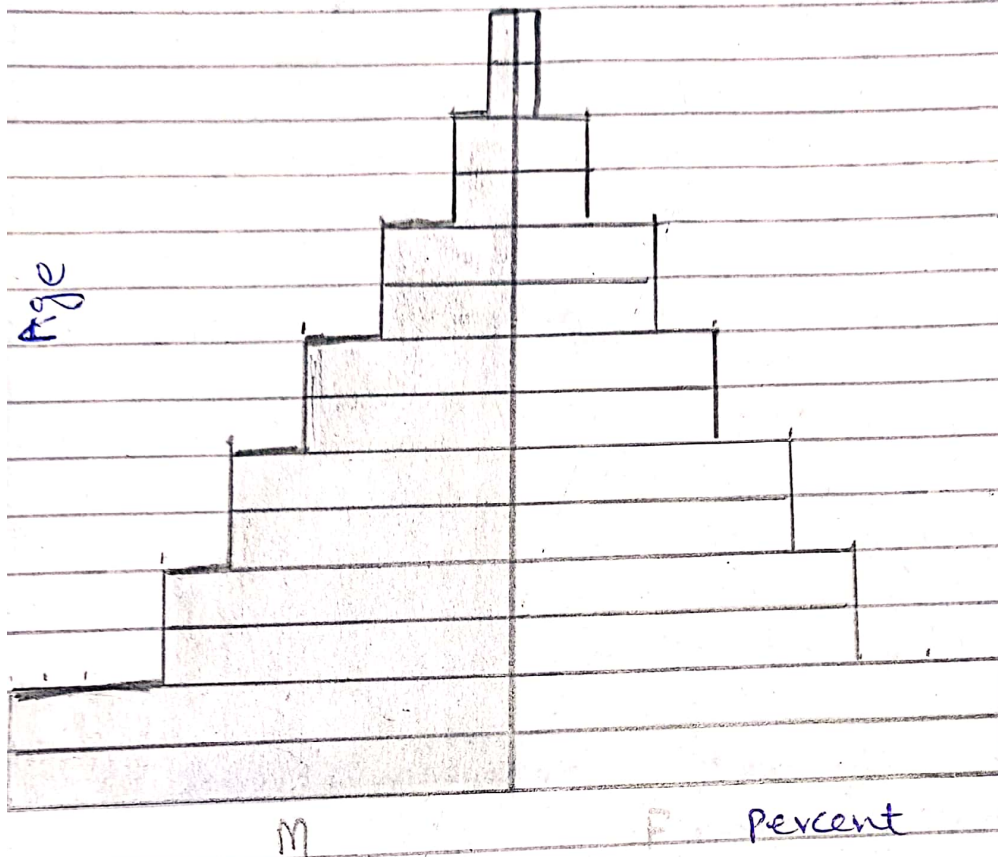
Preventions: Active } immunization.
passive }

Treatment:

- Notification to health authorities
- Isolation for 7-days
- Disinfection of articles soiled by discharges.
- Thorough cleaning of room.
- Immunization of contacts within 2-days.
- Investigations of contacts under 3-years age.
- Investigations of source of infection.

Sendup 2017

Population pyramid graph.



Total Sendup Repeated:

Epidemiology:

"It is study of distribution & determinants of health related states or events in specified populations & application of this study to control of health problems."

Components:

Dynamics of disease
Distribution of disease
Determinants of disease.

Three different ^{Types} determinants of mortality rates:

① Crude Death rate:

$$CDR = \frac{\text{No. of deaths at a place in a year} \times 1000}{\text{Mid year population}}$$

② Specific Death rate =

$$= \frac{\text{No. of deaths from specific disease in a year} \times 1000}{\text{Mid. year population}}$$

③ Case Fatality Rate:

$$\frac{\text{Total No. of deaths due to particular disease} \times 100}{\text{Total No. of cases of same disease}}$$

Risk of Cohort's Study?

① Relative risk:

$$RR = \frac{\text{Incidence of disease among exposed}}{\text{Incidence of disease among non-exposed}}$$

$$R.R = \frac{a/(a+b)}{c/(c+d)}$$

Impact of HGR on Pak Economy:

- Decreased per capita income
- Inadequate shelter
- Poverty
- Unemployment
- Exhaustion of natural Resources.

Other Impacts:

- Social evil
- Crimes
- Accidents
- Epidemic
- Global warming
- Environmental pollution
- Lack of education
- Lack of health.
- Housing problems.

Smoking related Disorders :

- Cardiovascular diseases
- Chronic obstructive pulmonary Disease
- Lungs cancer
- Throat cancer
- Diabetes
- Tuberculosis
- Infertility
- Impotency
- Alzheimer's disease

What is the broader concept of child abuse?

- Physical Abuse
- Sexual Abuse
- Neglect
- Maltreatment

Remedial Measures for child abuse?

- Increased legal help.
- More case worker
- Educating young couples to not have child until they dont have proper resources to feed.
- Attempts to strengthen the individual and his family.
- Invest on kids.

Measures to control Noise ?

- Careful planning of cities
- Control at source
- Control of transmission.
- Protection of exposed person
- Legislation
- Education.