

Community Medicine

World of Revision

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Instructions

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Contents

Community Medicine

Demography	1
Demographic stages/phases • Fertility indicators • Survey methods • Demographic variables & statistics	
Contraception and Family Welfare Program	5
Family planning methods (FPM)/ contraception • Natural methods & barriers • Intrauterine devices • Oral contraceptive pills (OCPs) • Other temporary methods • Tubectomy & vasectomy • Contraceptive of choice (CCOC) • Recent advances	
Health Care System in India	12
National health mission • Types of centres • Integrated child development services scheme • Ayushman bharat • Miscellaneous	
Preventive Obstetrics	18
MCH Indicators • RMNCAH+N • Maternal Health Interventions	
Preventive Paediatrics	25
Mission indradhanush • Vaccine storage & viability • Immunization status • Maturation indicators • Nutritional rehabilitation centres (NRC) • Growth charts • Mother & child services	
NTEP and NACP	35
NTEP : Key components • Diagnosis under NTEP • Management under NTEP • NTEP : Framework • Tuberculin skin testing and BCG vaccination • NACO : Key components • Diagnosis under NACO • Treatment under NACO • NACO : Framework	
National Vector Borne Disease Control Programme	45
Entomology • Integrated vector management • NVBDCP : 2004 • Malaria • Japanese encephalitis • Kala azar • Lymphatic filariasis • Dengue	
Other National Health Programs	54
National polio surveillance program (NPSP) • National program for control of blindness & visual impairment (NPCBVI) • National leprosy eradication program (NLEP) • National iodine deficiency disorder control program (NIDDCP) • Integrated disease surveillance program (IDSP) • Non-communicable diseases (NCD) program • School health services • Poshan programs	
Epidemiology	64
Basics • Observational studies • Experimental/interventional studies • Evidence based medicine • Clinical trials, levels of evidence • Errors in epidemiology • Miscellaneous	
Screening of Disease	72
Types of screening • Properties of screening tests	

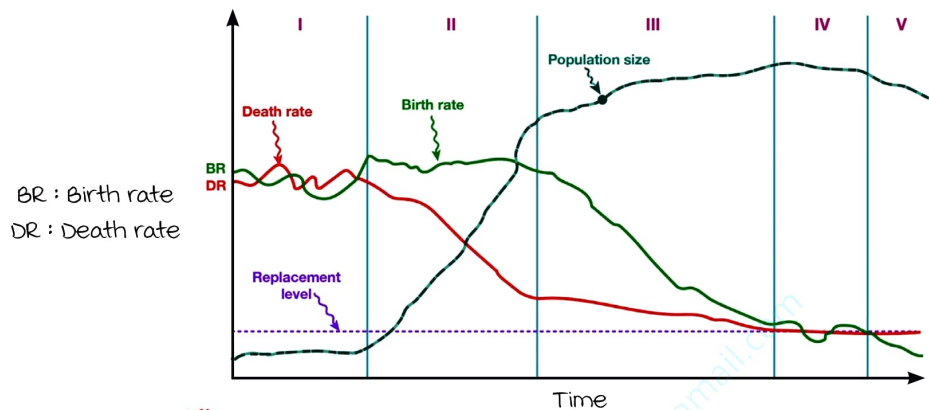
Biostatistics	74
Data • Measures • Distribution curves • P-value, errors & test of significance • Sampling methods • Graphical presentations	
Infectious Disease Epidemiology	81
Basics of epidemiology • Infection time variables • Source variables • Cases & carriers • Mode of transmission & precautions • Epidemic Variables	
Communicable Diseases	88
Chicken pox and measles • Rubella • Diphtheria • Hepatitis B • Soil transmitted helminthic infections • Rabies • Tetanus and rickettsia • Naegleria fowleri	
Nutrition	97
Nutritional requirements • Proteins • Fatty acids (FA) • Vitamins & minerals • Eggs and milk • Food intoxicants • Food legislation & guidelines	
Environment	105
Air pollution • Water quality • Sand filter • Housing & light • Sewage & waste • Bio medical waste (BMW) management • Occupational health • Employee state insurance scheme (ESI) • Factories act (1948)	
Miscellaneous Topics in Community Medicine	114
Health indicators • Disability indicators • Healthcare, socio-economic indicators & utilization rates • Health communication • Family, socio-economic scales & social medicine • Disaster medicine	
Recent Updates in Community Medicine & Health Care Planning	121
Management designs • Health care planning • Legislative lists • International health agencies • Newer policies by GOI • Miscellaneous topics	

DEMOGRAPHY

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Demographic Stages/Phases

00:00:45



Characteristics :

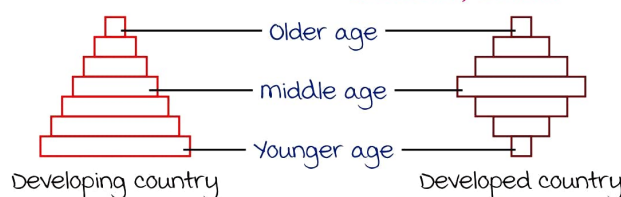
Stages	Phase	Birth rate (BR)	Death rate (DR)	Demographic gap (BR - DR)	Countries & features
I	High stationary	High	High	Narrow	-
II	Early expanding	High	Start declining	<ul style="list-style-type: none"> Starts \uparrow (D/t \downarrow in DR) max in late II 	Demographic trap \oplus : \uparrow BR \rightarrow Hard to \downarrow population
III	Late expanding	Start declining	Slow declining	Starts \downarrow (D/t \downarrow in BR)	<ul style="list-style-type: none"> India, China Demographic gift \oplus
IV	Low stationary	Slow declining	Slow declining	Low stable	<ul style="list-style-type: none"> Demographic gift \oplus Developed countries
V	Declining	Slow declining	Very low declining/stable	minimum, negative value, BR < DR	<ul style="list-style-type: none"> Japan, Norway Demographic liability \oplus

Age Pyramids :

X axis : Population ; Y axis : Age.

Broadbase pyramid :

\uparrow BR



Broad belly/Constricting pyramid :

- \downarrow BR.
- Economically productive.
- \uparrow middle age group.
- max demographic gift/dividend, bonus.

Inverted pyramid :

- \uparrow Older population : \uparrow Dependency
- Demographic burden/liability
- \downarrow DR

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Annual Growth Rate :

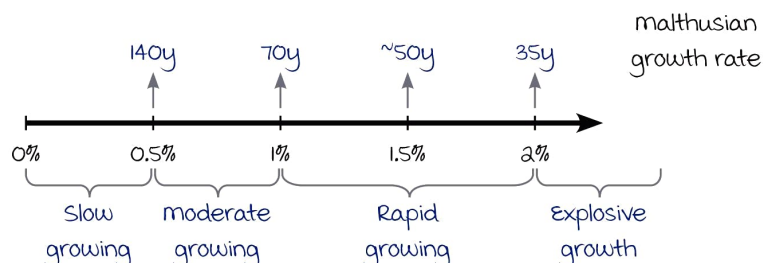
$$\frac{BR - DR}{10}$$

10

Population doubling in :

Annual growth rate :

Category :

**Fertility Indicators**

00:15:35

Fertility & Reproductive Rates 🌐 :

	Description
General fertility rate (GFR)	<ul style="list-style-type: none"> No. of children a female bears during her reproductive years $\frac{\text{Total no. of live births}}{\text{WRA}} \times 1000$
Total fertility rate (TFR)	<ul style="list-style-type: none"> No. of children a female bears during her reproductive years taking ASFR into consideration $5 \times \frac{\sum \text{ASFR}}{1000}$ Best indicator for complete family size Epidemiological, planning, budget indicator Target : < 2.1
Gross reproduction rate (GRR)	<ul style="list-style-type: none"> No. of daughters a female will bear during her reproductive years in ASFR $5 \times \frac{\sum \text{ASFR for female live births}}{1000}$
Net reproduction rate (NRR) : Best indicator	<ul style="list-style-type: none"> No. of daughters a newborn child will bear during her reproductive years in ASFR and ASMR Best indicator for impact of national family planning programme Target : 1 (Replacement level)

WRA : Women in reproductive age group (15 to 49 years) in same area & same year.

ASFR : Age specific fertility rate.

ASMR : Age specific mortality rate.

Couple Protection Rate (CPR) :

- Contraceptive methods to be provided for eligible couples.
- Field/operational indicator.

Eligible couples : Couples with women in reproductive age (15 - 49 yrs).

Targets of national family planning/welfare program :
 $CPR > 60\% \rightarrow TFR < 2.1 \rightarrow NRR = 1 \rightarrow$ Stable population.

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Survey Methods

00:25:55

Civil Registration System (CRS) :

- Birth & death :
Register **within 21 days**.
- Under ministry of Home Affairs (MOHA).

National Family Health Survey (NFHS) :

- Conducted by MOHFW (Ministry of Health & Family Welfare).
- Evaluated **every 5 years**.
- Latest NFHS : **NFHS-5**, 2019 - 2020.

Sample Registration System (SRS) :

- Under ministry of Home Affairs (MOHA).
- **Annually reporting**.
- Most sensitive.

Uses :

- Prevalence of diseases :
 - Anemia.
 - DM.
 - HTN.
 - Malnutrition.
- Sex ratios.
- Utilization rates :
 - ANC coverage.
 - Immunisation coverage.
- Literacy rates.

Components evaluated :

- Fertility : Crude birth rate (CBR).
- Mortality :
 - Crude death rate (CDR).
 - Infant mortality rate.
 - Maternal mortality ratio.
- Natural growth rate of country/state.

Census :

- Evaluates demographic structure.
- Evaluated every 10 yrs.

1st census : 1881 (Completed & officially documented).

Last census : 2011.

Next census : 2026.

- Methods :
 - De facto : Based on as & where a person is present.
 - **De jure** (m/c) : Based on jurisdiction.
- Completely online.
- Also includes : Homeless, unorganised section.

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Demographic Variables & Statistics

00:33:35

Demographic Variables :

- Births & deaths.
- migrations.
- Age at marriage.
- Female literacy.
- **Social mobility** : movement across socio - economic classes.

Demographic Statistics of India :

	Current status	Reference
CBR	18.4/1000 mYP	SRS Sept 2025
CDR	6.4/1000 mYP	
Natural growth rate (CBR - CDR)	12	
Total dependency ratio	48.17%	Park Ed. 28
Sex ratio	1020 (Skewed)	NFHS-5
	917	Child sex ratio at birth
Eligible couple rate	15 - 18%	2011 census
Literacy rate	72 - 85%	NFHS-5
Couple protection rate	67%	NFHS-5
Total fertility rate	1.9	-

} Achieved targets

mYP : midyear population

Dependency ratio 🌐 :

$$\frac{\text{Total dependent}}{\text{Total independent}} = \frac{\text{No. of persons aged } < 14 \text{ \& } > 65 \text{ years}}{\text{No. of persons aged } 15 - 64 \text{ years}} \times 100$$

Potential support ratio :

$$\frac{\text{No. of working age population (15 - 64 yrs)}}{\text{Dependent population}}$$

Population Statistics :

- Population size.
- Sex ratio :
No. of females for every 1000 males.
- **Dependency ratio.**
- **Density.**

Vital Statistics :

- Birth, death rate.
- Natural growth rate.
- Life expectancy at birth.
- mortality.
- Fertility rates.

CONTRACEPTION AND FAMILY WELFARE PROGRAM

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Family Planning Methods (FPM)/ Contraception

00:00:36

Eligible Couple vs. Target Couple 🌐:

	Eligible couple	Target couple
Definition	Female : Reproductive age (15 - 49 yrs)	Completed family + atleast 1 live child + adopts permanent FPM
Ideal FPM	Contraceptives	Sterilization



Failure Rate 🌐:

Life table analysis :
Gold standard.

Pearl's index (PI) :

- m/c.
- $PI = \frac{\text{No. of accidental pregnancies}}{\text{Total women years of exposure}} \times 100$
 $= \frac{\text{Total no. of accidental pregnancies}}{\text{Total women months of exposure}} \times 100 \times 12.$

Contraception	PI (Per 100 women years) 🌐
Condoms	2 - 20
IUD	0.5 - 1.5
OCP	< 0.1
Implants	< 0.05

Types of Contraceptives :

Reversible/temporary methods :

- Natural methods.
- Barriers.
- IUD.
- OCP.
- Implants.
- Gossypol.
- Centchroman.
- Emergency contraception.

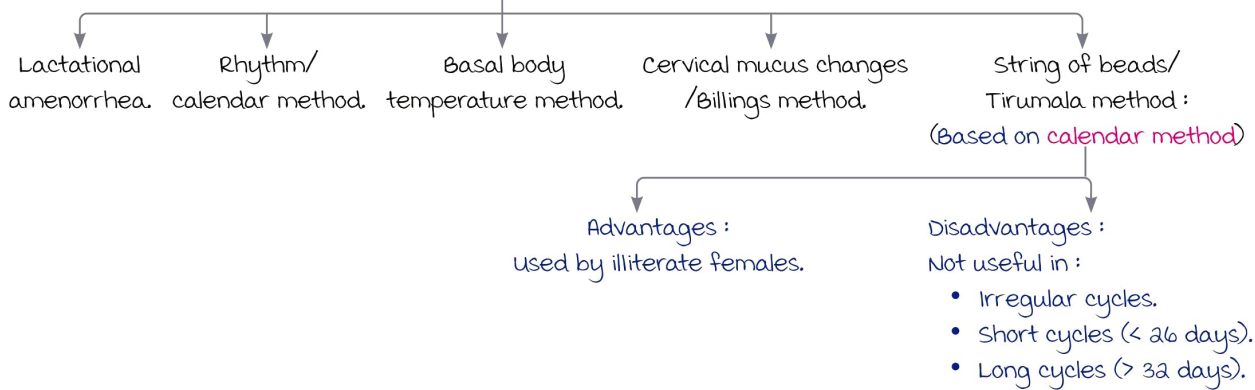
Irreversible/permanent methods :

- male sterilization (vasectomy).
- Female sterilization (Tubectomy).

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Natural Methods & Barriers

00:07:03

Natural methods 🌐 :**Barriers :**

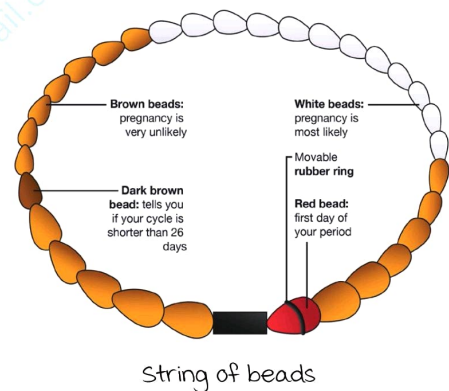
	male condom	Female condom
material	Latex	<ul style="list-style-type: none"> Latex Polyurethane (Earlier)
more common use	Contraception	STI prevention



Female condom



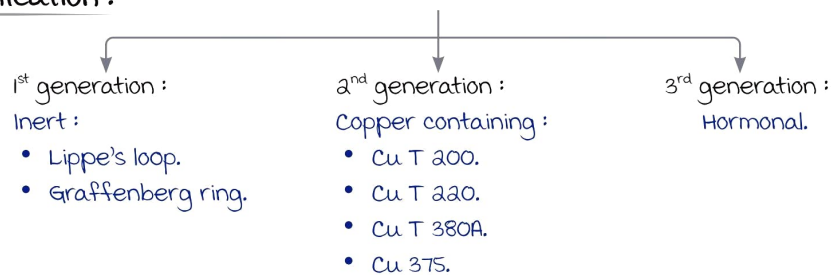
male condom



String of beads

Intrauterine Devices

00:12:11

Classification :**mode of Action 🌐 :**