

FERTILITY

- Fertility
- Actual bearing of a children
- Woman's reproductive period- 30 years (15-45 years) [WHO & NHM 15 to 49 years]

Factors affecting fertility-

- 1. Age at marriage- Female married before 18 years have higher number of children
- 2. Duration of married life- 25 % of all

birth occur within 5 years & 50 % within 5-15 years of married life

- 3. Birth spacing- Reduces the fertility rate
- 4. Education- Inverse association
- 5. Economic status Inverse relationship
- 6. Caste & religion
- 7. Family planning- Decline fertility

Fertility Indicators

- 1. Crude Birth rate
- 2. General fertility rate

(GFR)

- 3. General marital fertility rate (GMFR)

- 4. Age specific fertility rate (ASFR)

- 5. Age specific marital fertility rate (ASMFR)

- 6. Total Fertility Rate (TFR)

- 7. Total Marital Fertility Rate (TMFR)

- 8. Gross Reproductive Rate (GRR)

- 9. Net Reproductive Rate (NRR)

- 10. Marriage rate

- 11. Pregnancy rate

unset;"> • 12. Child woman ratio

• 13. Abortion ratio

• 14. Abortion rate

• $CBR = (\text{number of live birth during the year} / \text{mid year population}) \times 1000$

• It is a simplest measure of fertility because it includes mid year population

* Causes of high birth rate

• 1. Universality of marriage - Everyone gets married & participate in reproduction

• 2. Early marriage - 60% of girls aged 15-19 years are already

married

- 3. Early puberty- Indian girls attain puberty early (12-14 years)
- 4. Low standard of living- Results in high birth rate
- 5. Low level of literacy- Female literacy is still lower in rural areas
- 6. Traditional customs & habits- Woman must marry & Every man must have son
- 7. Absence of family planning habit- Children are considered a gift of god

2. General fertility rate (GFR)

- $GFR = (\text{number of live birth} / \text{mid year})$

population of women of reproductive age group (15-44 years)) $\times 1000$

- Better measure of fertility than CBR
- Its weakness is that not all women in denominator are exposed to the risk of child birth

3. General marital fertility rate (GMFR)

• $GMFR = (\text{number of live birth} / \text{mid year population of married women of reproductive age (15-44 years)}) \times 1000$

4. Age specific fertility rate (ASFR) •

$ASFR = \text{number of live birth in a particular age group} \times 1000 / \text{mid year population of women of same age group}$ • Usually measured in 15-19 years & 20-24 years age group

unset;"> 5. Age specific marital fertility rate (ASMFR) • $ASMFR = \frac{\text{number of live birth in a particular age group} \times 1000}{\text{mid year population of married female of same age group}}$.

• 6. Total Fertility Rate (TFR)

- Average number of children a women would have throughout her reproductive years assuming age specific fertility pattern

- Also k/a Period Total Fertility Rate

- Sum of fertility of all ages- Obtained by summing up single year age specific fertility rates (ASFR) at a given time

- It's a synthetic rate (i.e. not actually

counted)

- Give magnitude of approximately completed family size (i.e. number of alive children in a family)
- Total cohort fertility rate (TCFR) - better estimate of completed family size than TFR
- TFR is best indicator at Administrative Level (CPR is best indicator at grassroots level) India - 2.2 (2017)
- Replacement or Adequate level of TFR = 2.1 (i.e. $NRR = 1$)
- TFR at which newborn girl would have an average of exactly 1 daughter over their lifetimes^o Women have just enough babies to replace themselves

unset;"> • Relation between GRR & NRR
with TFR $TFR = 2 (GRR \text{ or } NRR)$
 $GRR \text{ or } NRR = 1/2 TFR$ (approximately)
Relation between CBR & TFR (Demographic formulae)
 $CBR = (8 \times TFR) + 1$

7. Total Marital Fertility Rate (TMFR)

- Average number of children, a married woman would have throughout her reproductive years

8. Gross Reproductive Rate (GRR) •
Average number of girls that would be born to a woman if she experience current fertility pattern throughout her reproductive span assuming age specific fertility pattern but not mortality pattern • India - 1.1 (2016) •

9. Net Reproductive Rate (NRR) = Number of daughters a newborn girl will bear

during her lifetime taking into account age specific fertility pattern but $\neq$ mortality patterns (i.e. it includes mortality rate in it) • Population is said to be less than adequate requirement when $NRR < 1$ means each generation of women is reproducing itself • To achieve $NRR = 1$, CPR should be $> 60\%$

10. Marriage rate • Marriage rate = $\frac{\text{number of marriage in a year} \times 1000}{\text{Mid year population}}$

11. Pregnancy rate • Pregnancy rate = $\frac{\text{Number of pregnancies} \times 1000}{\text{Women of reproductive age group}}$ • Includes all pregnancies i.e., Live birth, still birth or abortion or not yet terminated

12. Child woman ratio • Child women ratio = $\frac{\text{Number of Children 0-4 years} \times 1000}{\text{Women of reproductive age}}$