



Tutorial 2: Global demography

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Color Index

- Doctor notes
- Extra
- Important

[Editing File](#)

Question



Country: Kingdom of Demographia (Fictional)

Total population: 1200000

Females: 499000

Male: 701000

➤ Deaths

Total: 83000

infants(less than one year): 13000

Females, childbirth: 3000

Live births: 82000

Population between 0-14 years: 230000

Population between 14-65 years: 789000

Population above 65: 181000

from the information above calculate the following:

1 Infant mortality rate

$$\frac{\text{Number of death infant in 1 year}}{\text{Number of live infant born in year}} \times 1000 = \frac{13000}{82000} \times 1000 = 158$$

There were 158 deaths of infant under age 1 per 1000 live births

2 Maternal mortality rate¹

$$\frac{\text{Number of maternal death}}{\text{Number of live infant born in year}} \times 100000 = \frac{3000}{82000} \times 100000 = 3658$$

There were an estimated 3658 maternal deaths per 100,000 live births

3 Sex Ratio

$$\frac{\text{Male}}{\text{Female}} = \frac{701000}{499000} = 1.4 : 1 \quad \text{*could be per 1 or per 100, If so multiply by 100}$$

1. In practice, a maternal death is most often defined as the death of a woman while pregnant or within 42 days of termination of pregnancy from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes.

Cont'

4 Dependency Ratio

$$\frac{\text{Pop under 15 + pop over 65}}{\text{Pop age 15-64 (the working age)}} \times 100 = \frac{(230000+181000)}{789000} \times 100 = 52.09 \text{ per } 100$$

0.52 Per 1

5 Crude birth rate

$$\frac{\text{Number of live birth}}{\text{Mid year population}} \times 1000 = \frac{82000}{1200000} \times 1000 = 68.3$$

6 Crude death rate

$$\frac{\text{Number of death}}{\text{Mid year population}} \times 1000 = \frac{83000}{1200000} \times 1000 = 69.1$$

7 Natural increase ratio

$$\text{CBR-CDR} = 68.3-69.1 = -0.8$$

Positive > increase in population

Negative > decline in population

What strategies have been successful in reducing birth rates:

- 1-family planning & contraceptive
- 2-Educate and empower women

Today 4% of the population is above 65 years in Saudi Arabia, This population portion will increase to 12% in 2040, List three challenges and three solutions to deal with increase of the aging population in Saudi Arabia?

Challenges:

- 1- Co-morbidities
- 2- expensive healthy lifestyle

Solutions:

- 1- Primary prevention (awareness)
- 2-The system need to be proactive