

- Object - Compute the Crude and Standardized death rates of two populations A and B, regarding A as standard population from the following data:

Age group	A		B	
	Population	Deaths	Population	Deaths
under 10	20,000	600	12,000	312
10-20	12,000	240	30,000	660
20-40	50,000	1250	62,000	1612
40-60	30,000	1050	15,000	525
above 60	10,000	500	3,000	180

- Formula used - i) Crude Death Rate for population A

$$= \frac{\sum_x D_x^a}{\sum_x P_x^a} \times 1000$$

- ii) Crude Death Rate for population B =  $\frac{\sum_x D_x^b}{\sum_x P_x^b} \times 1000$

- iii) Standard Death rate - If population A is taken as a standard population then standardized death rate for A = C.D.R for A

$$\text{i.e. STDR}_{(a)} = \frac{\sum_x m_x^b \cdot P_x^a}{\sum_x P_x^a}$$

• Calculation:

Calculation Table:

Age group	Population $P^a_x$	death $D^a_x$	Mortality $M^a_x$	Population $P^b_x$	Death $D^b_x$	Mortality $m^b_x$	$P^a_x \times m^b_x$
under-10	20,000	600	30	12,000	372	31	620,000
10-20	12,000	240	20	30,000	660	22	264,000
20-40	50,000	1250	25	62,000	1612	26	1300,000
40-60	30,000	1050	35	15,000	525	35	1050,000
above 60	10,000	500	50	3,000	150	60	600,000
Total	122000	3640		122000	3349		3834000

∴ Now Crude Death Rate for population A

$$(CDR)_A = \frac{3640}{122000} \times 1000 = 29.84 \approx 29.8$$

Similarly, Crude Death Rate for Population B

$$(CDR)_B = \frac{3349}{122000} \times 1000 = 27.45 \approx 27.5$$

Therefore, the Standardized Death Rate

$$(STDR)_A = CDR \text{ for } A$$

$$\text{and (STDR) B} = \frac{\sum m_{3c}^b \cdot P_{3c}^a}{\sum P_{3c}^a}$$

$$= \frac{3834000}{122000}$$

$$= 31.43 \approx 31.4$$

- Result - The Crude Death Rate for the population A and B are respectively 29.8 and 27.5. And the Standardised Rate for populations A & B are 29.8 and 31.4 respectively. A as standard population.

CBCS course

S. S. in Statistics  
Vikram university, Ujjain

M.A./M.Sc. Statistics Second Semester  
Practical Based on all theory  
Papers.

Lecture - 1

Title: Crude and Standardized  
death rate of two population

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