

Original Article

A STUDY OF MORBIDITY AND MORTALITY PROFILE IN GENERAL POPULATION OF HOSANGABAD DISTRICT (MADHYA PRADESH)

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ABSTRACT

Objective: The study was conducted to estimate the morbidity and mortality status of general population in the Hoshangabad District.

Methodology: This is a community-based cross-sectional (descriptive) study carried out in the Hosangabad district of Madhya Pradesh covering of 509 families comprises of 2985 population. Sample was selected by multistage sampling technique.

Result - A total of 2985 respondents, 725 (24%) were from Rural areas and 2260 (76%) from Urban areas. Major cause 640 (21%) of morbidity were due to acute illnesses. In acute illnesses most common was Acute Respiratory Infection 241 (8.07%) followed by worm infection 84 (2.81%) and gastroenteritis 58 (1.94%). Prevalence of ARI was higher in rural areas but gastroenteritis was higher in urban areas. Most common cause of chronic morbidity among studied population was cataract 42 (1.37%) followed by arthritis 24 (0.80%) and chronic amoebiasis 21 (0.70%). Acute morbidity in urban areas was higher in females (20%) than males (15%). Age specific mortality rate for age group 0-1 and 46-60 & above were significantly higher in rural areas than urban areas. Mortality rate were higher in females (9.7/1000) than males (7.2/1000). Most common cause of mortality in rural areas were diarrhoea, vomiting and dehydration (DVD) 7 (38%) followed by cardiac diseases 3 (17%) and in contrast urban areas were cardiac diseases 3 (43%) followed by 1 (14%) DVD.

Keywords - Acute Morbidity, Chronic Morbidity, Mortality, Urban, Rural

INTRODUCTION

Madhya Pradesh, as its name implies, is located at the geographic centre of India, with Bhopal as the state capital. Till recently, the state was

divided into 61 administrative districts grouped into seven geopolitical regions, Hoshangabad is coming in South Western geopolitical regions. In terms of demographic indicators too, Madhya Pradesh performs poorly relative to most other

states. According to the Sample Registration System (SRS), the crude birth rate in Madhya Pradesh was 30.7 per 1,000 populations in 1998 and the total fertility rate was 4.0 children (10). These rates are both fourth highest in the country, lower only than those for Uttar Pradesh, Rajasthan, and Bihar. Both the crude birth rate and the total fertility rate in the state are well above the national average for the same years. According to government service statistics, Madhya Pradesh, along with Orissa, had the highest crude death rate and infant mortality rate in the country in 1998. According to SRS estimates for 1998, the crude death rate was 11.2 per 1,000 populations and the infant mortality was 98 per 1,000 live births. The corresponding rates for India were 9.0 per 1,000 population and 72 per 1,000 live births. The life expectancy in the state was 54.7 for males and 54.6 for females for the period 1991-95, which is lower than that for all of India (59.7 for males and 60.9 for females). Age-specific death rates for each of the broad age groups 15-49 and death rates for age 50-59 increased between the two surveys and those for the oldest age group were decreased. This comparison suggests a slight reduction in the age at death since 1990-91, if the completeness of reporting of deaths is the same in the two surveys. In most countries, male death rates are higher than female death survey. Infant mortality in Madhya Pradesh declined from 118 deaths per 1,000 live births during 1984-88 and 86 deaths per 1,000 live births during 1994-98.

Objectives - 1) To study the burden of disease in Hoshangabad district in terms of morbidity and mortality and influence of various socioeconomic factor on morbidity. 2) To study the cause of death in community.

MATERIALS AND METHODS

This is a community-based cross-sectional (descriptive) study was carried out in 2004 in the Hosangabad district of Madhya Pradesh covering of 509 families comprises of 2985 population. Sample was selected by multistage sampling technique. In the first stage two blocks were selected randomly, Kesla and Piperia. In second stage- Two sectors from each block selected randomly. Kesla Sukhtawa Sandia Matkuli, In third stage -Two sub-centers village from each sector selected randomly, -Doudi Jhunkar; Saheli; Malni; Podar. Semaritala; Dhanshree; Arjandana; and Pagara. Criteria for

selection of families- Families had to be selected from rural 75% and urban 25% are as a representative sample, equal proportions of families were interviewed from all four quadrants of selected villages. Classifications of socioeconomic status were done by using B.G. Prasad classification (13), verbal autopsy were obtained for calculation of mortality rates and cause of deaths, and detailed physical examination were done. Blood pressure was measured by health staff (PG students) using calibrated mercury sphygmomanometer and recorded. Peripheral smear were collected of all fever cases during survey and examined for malarial parasites.

RESULT & DISCUSSION

Table 1: Distribution of Respondents according to overall Morbidity in surveyed Area

Morbidity	Urban (n=725)	Rural (n=2260)	Total (n=2985)
Acute	127 (17.5)	513 (22.6)	640 (21.4)
Chronic	63 (8.6)	148 (6.5)	211 (9.84)

Figure in parenthesis indicate percentage

Table 2: Distribution of respondents according to acute morbidity status

Disease code	Acute Disease	Urban	Rural	Total
006	Amoebiasis	7 (0.97)	22 (0.97)	29 (0.97)
009	gastroenteritis	16 (2.21)	42 (1.86)	58 (1.94)
033	Whooping Cough	1 (0.14)	0 (0.00)	1 (0.03)
052	chicken pox	0 (0.00)	6 (0.27)	6 (0.20)
055	Measles	0 (0.00)	3 (0.13)	3 (0.10)
084	Malaria	6 (0.83)	26 (1.15)	32 (1.07)
098	Leucorrhoea	9 (1.24)	49 (2.17)	58 (1.94)
099	UTI	1 (0.14)	7 (0.31)	8 (0.27)
129	Worm infestation	17 (2.34)	67 (2.96)	84 (2.81)
133	Scabies	6 (0.83)	23 (1.02)	29 (0.97)
372	Conjunctivitis	1 (0.14)	21 (0.93)	22 (0.74)
381-383	Otitis Media	0 (0.00)	8 (0.35)	8 (0.27)
460-466	ARI	50 (6.90)	191 (8.45)	241 (8.07)
461	Sinusitis	1 (0.14)	0 (0.00)	1 (0.03)
463	Acute Tonsillitis	4 (0.55)	1 (0.04)	5 (0.17)
521	Dental caries	0 (0.00)	3 (0.13)	3 (0.10)
535	Gastritis	2 (0.28)	3 (0.13)	5 (0.17)
625	Dysmenorrhoea	0 (0.00)	2 (0.09)	2 (0.07)
682	Abscess	0 (0.00)	1 (0.04)	1 (0.03)
686	Multiple Boils	4 (0.55)	15 (0.66)	19 (0.64)
690-698	Dermatitis	0 (0.00)	12 (0.53)	12 (0.40)
707	Ulcer	0 (0.00)	5 (0.22)	5 (0.17)
724	Backache	0 (0.00)	3 (0.13)	3 (0.10)
784	Headache	0 (0.00)	2 (0.09)	2 (0.07)
784	Epistaxis	0 (0.00)	1 (0.04)	1 (0.03)
917	Soft Tissue injury	2 (0.28)	5 (0.22)	7 (0.23)
940-949	Burn	0 (0.00)	1 (0.04)	1 (0.03)

Figure in parenthesis indicate percentage

Table -3: Distribution of respondents according to chronic Morbidity status

Disease code	Chronic Disease	Urban	Rural	Total
006	Ch.Amoebiasis	8 (1.10)	13 (0.58)	21 (0.70)
011	Pulmonary TB	8 (1.10)	11 (0.49)	19 (0.64)
084	Ch. Malaria	1 (0.14)	4 (0.18)	5 (0.17)
129	Ch.Worm infest.	2 (0.28)	13 (0.58)	15 (0.50)
240	I.D.D.(Goiter)	1 (0.14)	0 (0.00)	1 (0.03)
250	Diabetes	1 (0.14)	0 (0.00)	1 (0.03)
295	Schizophrenia	1 (0.14)	3 (0.13)	4 (0.13)
345	Epilepsy	0 (0.00)	3 (0.13)	3 (0.10)
365	Glaucoma	0 (0.00)	1 (0.04)	1 (0.03)
366	Cataract	7 (0.97)	34 (1.50)	41 (1.37)
368.6	Night blindness	2 (0.28)	1 (0.04)	3 (0.10)
369	Cong. Blindness	1 (0.14)	0 (0.00)	1 (0.03)
372.4	Ptyregium	0 (0.00)	4 (0.18)	4 (0.13)
382.3	Ch.Supp.Otitis Media	0 (0.00)	10 (0.44)	10 (0.34)
386.4	Vertigo	1 (0.14)	0 (0.00)	1 (0.03)
401	Hypertension	4 (0.55)	1 (0.04)	5 (0.17)
420-429	Cardiac Disease	1 (0.14)	0 (0.00)	1 (0.03)
455	Hemorrhoids	0 (0.00)	1 (0.04)	1 (0.03)
463	Tonsillitis	3 (0.41)	0 (0.00)	3 (0.10)
491	Bronchitis	6 (0.83)	13 (0.58)	19 (0.64)
493	Asthma	5 (0.69)	7 (0.31)	12 (0.40)
573	Hepatitis	3 (0.41)	2 (0.09)	5 (0.17)
610-611	Breast lump	1 (0.14)	0 (0.00)	1 (0.03)
690-698	Eczema	2 (0.28)	9 (0.40)	11 (0.37)
702	Leukoplakia	1 (0.14)	0 (0.00)	1 (0.03)
710-719	Arthritis	3 (0.41)	21 (0.93)	24 (0.80)
720	Cervical Spondylitis	1 (0.14)	0 (0.00)	1 (0.03)

Figure in parenthesis indicate percentage

According to SRS estimates for MP in 1998, the crude death rate was 11.2 per 1,000 populations and the infant mortality was 98 per 1,000 live births. The corresponding rates for India were 9.0 per 1,000 population and 72 per 1,000 live births both are higher in surveyed areas (11). The life expectancy in the state was 54.7 for males and 54.6 for females for the period 1991-95, which is lower than that for all of India (59.7 for males and 60.9 for females). The NFHS-2 CDR estimate of 10.2 is virtually unchanged from the corresponding NFHS-1 estimate of 10.3 (covering roughly 1990-91). Age-specific death rates for each of the broad age groups 15-49 and below are almost identical in NFHS-1 and NFHS-2, but death rates for age 50-59 increased between the two surveys and those for the oldest age group decreased. This comparison suggests a slight reduction in the age at death since 1990-91, if the completeness of reporting of deaths is the same in the two surveys. In most countries, male death rates are higher than female death survey.

Table - 4: Morbidity Status According to their socio economic status

Socio-economic class	Person	Morbidity -Urban		Person	Morbidity -Rural	
		Acute (%)	Chronic (%)		Acute (%)	Chronic (%)
I	48	5 (10)	7 (15)	29	2 (7)	0 (0)
II	171	22 (15)	25 (17)	118	28 (24)	10 (8)
III	199	39 (19)	18 (9)	219	49 (22)	13 (6)
IV	210	45 (21)	7 (3)	800	207 (26)	47 (6)
V	97	16 (16)	6 (6)	1094	227 (21)	78 (7)
Total	725	127 (17)	63 (9)	2260	513 (23)	148 (6)

Infant mortality in Madhya Pradesh declined from 118 deaths per 1,000 live births during 1984-88 (10-14 years before the survey) to 86 deaths per 1,000 live births during 1994-98 (04 years before the survey), an average rate of

decline of over 3 infant deaths per 1,000 live births per year. All other measures of infant and child mortality presented have also declined during the past 15 years.

Table -5: Age Specific Mortality in surveyed Population

Age in yrs	Urban			Rural			Total		
	Person	Mortality	Per 1000	Person	Mortality	Per 1000	Person	Mortality	Per 1000
0-1	42	1	24	150	8	53	192	9	47
1-5	149	0	0	470	1	2	619	1	2
6-15	162	0	0	483	0	0	645	0	0
16-30	211	1	5	676	1	2	887	2	2
31-45	108	1	9	316	2	6	424	3	7
46-60&>	53	4	73	165	6	36	218	10	46
Total	725	7	10	2260	18	8	2985	25	9

Table-6: Mortality status of studied area according to Gender

Sex	Urban			Rural			Total		
	Person	Mortality	Per 1000	Person	Mortality	Per 1000	Person	Mortality	Per 1000
M	366	2	5	1172	9	7.7	1538	11	7.2
F	359	5	14	1088	9	8.3	1447	14	9.7
Total	725	7	10	2260	18	18	2985	25	8.4

A comparison with the corresponding mortality rates derived from NFHS-1, however, suggests no significant change over the six and one-half years between the two surveys. For example, the infant mortality rate of 86 for the period 4 years before NFHS-2 is almost unchanged from the infant mortality rate of 85, in NFHS-1. The under-five mortality rate of 138 for the period 4 years before NFHS-2 is somewhat higher than the under-five mortality rate of 130 for the period 4 years before NFHS-1, but this apparent increase is not statistically significant.

Table - 7: Mortality according to Disease

Disease	Mortality		
	Urban(%)	Rural(%)	Total (%)
ARI & Diphtheria	0 (0)	3 (17)	3 (12)
Pre maturity	1 (14)	2 (11)	3 (12)
DVD*	1 (14)	7 (38)	8 (32)
Cardiac disease	3 (43)	3 (17)	6 (24)
Renal disease	1 (14)	0 (0)	1 (4)
Accident	0 (0)	1 (6)	1 (4)
Suicide	0 (0)	1 (6)	1 (4)
Cancer	1 (14)	1 (6)	2 (8)
Total	7 (28)	18 (72)	25 (100)

*DVD (Diarrhoea, Vomiting and Dehydration)

CONCLUSION

It is concluded from the study that acute morbidity load was higher in rural area as compared to urban area, it may be due to poor sanitary condition, illiteracy and low socioeconomic status but chronic morbidity load was higher in urban area as compared to rural area. Acute morbidity decreases with increase in age and chronic morbidity increases with increase in age. Malaria is a chronic problem of Hoshangabad District, Survey revealed 31% slide positivity rate. Acute morbidity was higher in schedule cast, female and illiterate persons, lower socioeconomic class & chronic morbidity was higher in males, general caste & upper socioeconomic class. Mortality in Hoshangabad district was found to be 8.37 /1000 population which is less than national figure, main cause of mortality in urban area was cardiac disease while rural area was Diarrheal disease.

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