

A STUDY OF SHEOPUR TOWN AND ADJACENT VILLAGES WITH REFERENCE TO HUMAN HEALTH

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ABSTRACT

Various types of diseases are transmitted through contaminated water and poor sanitation. Hygienic status of population is closely related to low socio-economic status of people. In Sheopur town and adjacent villages 52.58% and 67.29% of the surveyed population was affected by waterborne and other common diseases respectively.

INTRODUCTION

The proposed study was made in Sheopur town and adjacent villages. Tribal communities make an important component of human population in these villages. The area is situated in the north-west part of M.P. It is almost surrounded by forests. Many wards of this town have been declared Gandhi Basti by the Municipal Corporation due to lack of drainage system. Global findings reveal that, in general, ground water is the source of one-third of drinking water, and less than two-third is obtained from surface waters (Masters 1994).

In smaller towns, the problems are more severe due to ill conception of modern facilities. In such places water distribution system is developed but drainage is poor which reduces its developmental efforts to zero. Therefore, this study is focused on the status of people with reference to the waterborne diseases.

MATERIALS AND METHODS

In the present study survey of the urban and village population was made to find out the sanitary habits of the people and condition of the sources. For this, a questionnaire was prepared based on the National Council of Applied and Economic Research, New Delhi.

RESULTS AND DISCUSSION

Defecation habits: In villages, most of the people use agriculture land (99.88%) as the site of defecation (Table 1, Fig 2). House toilets connected with septic tank were found only in Raipura village (1.6%). Community type of latrines were not present there. House toilets were not common in villages due to lack of sanitation knowledge about hygiene and low level of literacy. People seemed to be influenced by the centuries old cultural practices.

In Sheopur town, the defecation habits were observed just opposite to adjacent villages (Table 1 and Fig 1). Maximum number of people used house toilets (66.65%) which were connected with septic tank. The highest percentage of pit type of latrines were observed in Ward No. 2 (35%) followed by Ward No. 18 (34.7%) and Ward No. 19 (34.9%). In these Wards labour class is dominant in number. Open field type of defecation was also observed in Ward No. 7 (59.89%) followed by Ward No. 1 (41.73%) and Ward No. 15 (34.88%). In the present study, community type of latrines

Table 1: Hygienic and defecation status of surveyed population in Sheopur town and adjacent villages.

S. No.	Ward. No./ Villages	Defecation habits				Connection of house toilet		Hygienic habits after defecation		
		Open Field	Community	Home	Pit Type	Septic Tank	Open Drains	Ash	Soil	Soap
1	1	103 29.86%	34 9.86%	122 35.36%	86 24.93%	122 35.36%	110 31.88%	34 9.86%	103 29.86%	208 60.29%
2	2	39 15.00%	62 20.00%	78 30.00%	91 35.00%	78 30.00%	143 55.00%	39 15.00%	78 30.00%	143 55.00%
3	3	0 0.00%	0 0.00%	397 95.20%	20 4.80%	397 95.20%	20 4.80%	0 0.00%	0 0.00%	417 100.00%
4	4	0 0.00%	0 0.00%	264 100.00%	0 0.00%	264 100.00%	0 0.00%	0 0.00%	0 0.00%	264 100.00%
5	5	35 10.00%	0 0.00%	315 90.00%	0 0.00%	315 90.00%	0 0.00%	35 10.00%	7 2.00%	308 88.00%
6	6	3 0.83%	0 0.00%	340 94.18%	18 4.99%	340 94.18%	18 4.99%	0 0.00%	0 0.00%	361 100.00%
7	7	221 59.89%	0 0.00%	130 35.23%	18 4.88%	130 35.23%	18 4.88%	51 13.82%	59 15.99%	259 70.19%
8	8	108 30.00%	0 0.00%	252 70.00%	0 0.00%	252 70.00%	0 0.00%	18 5.00%	0 25.00%	252 70.00%
9	9	96 25.81%	0 0.00%	276 74.19%	0 0.00%	276 74.19%	0 0.00%	11 2.96%	18 4.84%	343 92.20%
10	10	49 13.80%	0 0.00%	306 86.20%	0 0.00%	306 86.20%	0 0.00%	17 4.79%	28 7.89%	310 87.32%
11	11	154 41.73%	0 0.00%	186 50.41%	29 7.86%	186 50.41%	29 7.86%	18 4.88%	66 17.89%	285 77.24%
12	12	95 24.87%	0 0.00%	249 65.18%	38 9.95%	249 65.18%	38 9.95%	15 3.93%	61 15.97%	306 80.10%
13	13	27 7.30%	0 0.00%	303 81.89%	40 10.81%	303 81.89%	40 10.81%	51 13.78%	70 18.92%	249 67.30%
14	14	0 0.00%	47 15.06%	234 75.00%	31 9.94%	234 75.00%	78 25.00%	15 4.81%	46 14.74%	251 80.45%
15	15	90 34.88%	25 9.69%	64 24.81%	79 30.62%	64 24.81%	89 34.50%	64 24.81%	79 30.62%	115 44.57%
16	16	0 0.00%	0 0.00%	212 70.20%	90 29.80%	212 70.20%	90 29.80%	90 29.80%	0 0.00%	212 70.20%
17	17	0 0.00%	0 0.00%	236 70.24%	100 29.76%	236 70.24%	100 29.76%	0 0.00%	7 2.08%	98 29.17%
18	18	31 11.83%	0 0.00%	140 53.44%	91 34.73%	140 53.44%	91 34.73%	20 7.63%	52 19.85%	190 72.52%
19	19	39 11.96%	49 15.03%	176 53.99%	62 19.02%	140 42.94%	111 34.05%	26 7.98%	74 22.70%	226 69.33%
20	20	62 19.94%	47 15.11%	140 45.02%	62 19.94%	140 45.02%	109 35.05%	77 24.76%	77 24.76%	157 50.48%
21	21	11 3.74%	0 0.00%	184 62.59%	99 33.67%	184 62.59%	99 33.67%	20 6.80%	44 14.97%	230 78.23%
22	Raipura	186 98.41%	0 0.00%	3 1.59%	0 0.00%	3 1.59%	0 0.00%	18 9.52%	161 85.19%	10 5.29%
23	Jatkhedha	211 100.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	11 5.21%	200 94.79%	0 0.00%
24	Bardha	569 100.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	0 0.00%	29 5.10%	540 94.90%	0 0.00%

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25	Dhengda	181	0	0	0	0	0	4	177	0
		100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.21%	97.79%	0.00%
26	Dalarna	121	0	0	0	0	0	6	115	0
		100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.96%	95.04%	0.00%
27	Jaida	299	0	0	0	0	0	29	270	0
		100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	9.70%	90.30%	0.00%
28	Rampura	92	0	0	0	0	0	10	82	0
		100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	10.87%	89.13%	0.00%
29	Kalarna	266	0	0	0	0	0	5	261	0
		100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.88%	98.12%	0.00%
30	Bagwaz	402	0	0	0	0	0	24	370	8
		100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.97%	92.04%	1.99%

Note: Sr. No. 1-21 are Wards of the Sheopur town, and from 22 to 30 villages. The figures are in absolute numbers and their percentages.

were observed in only Ward No. 1, 2, 14 and 15 which were connected with municipality sewage system.

Hygienic habits: In Sheopur town, maximum number of people wash their hands with soap (77.65%) after defecation (Table 1). In these Wards about 30% of the population has labour as profession and their literacy level was also low (below 35%).

In adjacent villages, it was found that most of the people (93.73%) wash their hands with soil. Only 5.83% of population used ash for above purpose after defecation. Most of the people (80% of adjacent villages of Sheopur) did not filter the drinking water before consumption except in some cases observed in Raipura (11%), and Bagwaz and Jatkheda villages (3%). It is directly related to individual health.

Smoking habit was a common habit in all the villages (80%). However, their percentage was higher in tribal communities (95%). These habits were found comparatively lower in Sheopur town (60%). Besides this, in the town chewing of tobacco was lower (55%) than in people of villages (75%). Maximum vegetarians were noted in adjacent villages (59%) as compared to Sheopur town where percentage of non-vegetarians was higher (51.55%). Ninety percent of tribal population was non-vegetarian. The practice of cattle keeping within the house also contributes to poor health and sanitation. In this study, all houses were found separated from cattle shades. The percentage of houses dumping cattle refuse out side the premises was 95% in adjacent villages. Most of the drains of adjacent villages opened in ditches or on roads.

Waterborne and common diseases of the areas: In Sheopur and adjacent villages 52.58% and 67.29% of the surveyed population was affected by waterborne and other common diseases respectively (Figs. 3 & 4). The incidences of fluorosis, cholera and polio were not found in the study area (except one case of polio in Jaida village). In Sheopur town, maximum incidence of dysentery (24.70%) was noted followed by diarrhoea (22%). Only 12.89% of the population of Sheopur town was affected by malaria (water habitat disease). In India, only 12% of the people get good clean drinking water (Kudesia 1990). *Entamoeba hitolytica* is responsible for amoebiasis and dysentery in people. About 21% of the world's population is infected with this parasite (Hoare 1961).

In adjacent villages, most of the people were affected by malaria (27.42%) followed by diarrhoea (13.90%) and dysentery (13.45%). Maximum incidence of malaria was noted in the village of Bagwaz (75 cases) followed by Raipura (70 cases). In Sheopur town, maximum incidence of malaria

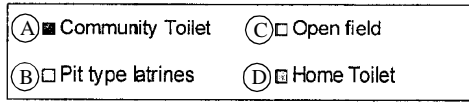
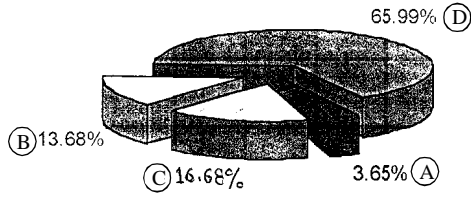


Fig. 1: Defecation habits of Sheopur town.

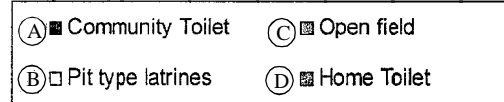
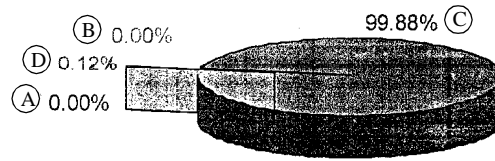


Fig. 2: Defecation habits of adjacent villages of Sheopur.

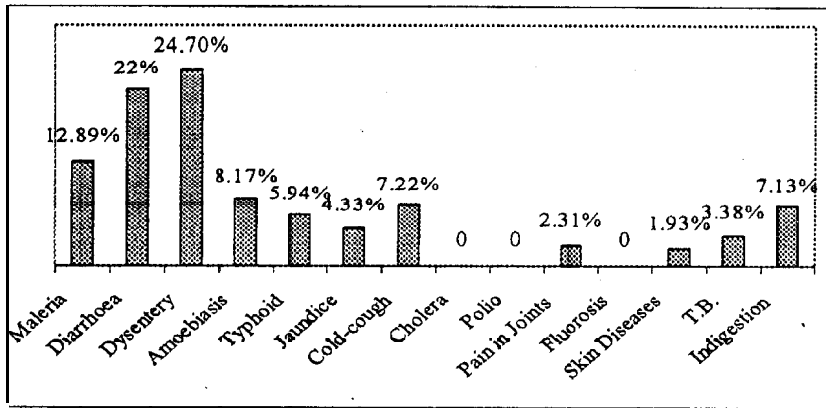


Fig. 3: Waterborne and common disease incidences in Sheopur town.

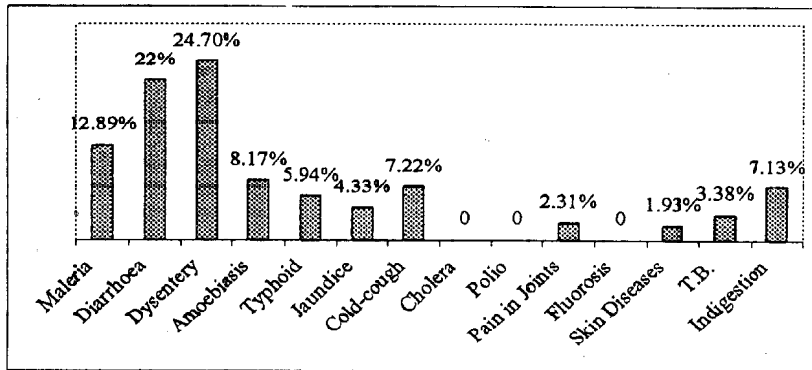


Fig. 4: Waterborne and common disease incidences in the adjacent villages of Sheopur.

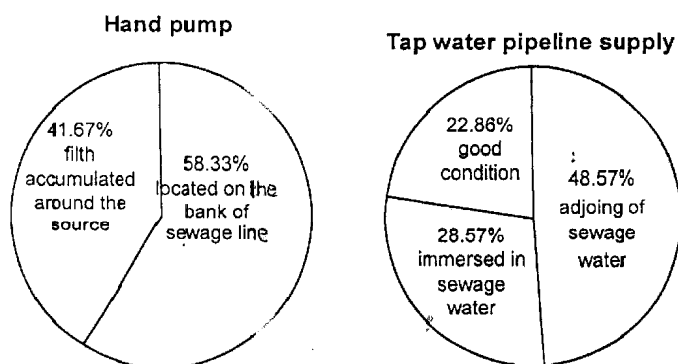


Fig. 5: Condition and relationship of water sources and sewage in Sheopur town.

was found in the Ward No. 15 (36 cases) followed by Ward No. 2 (33 cases). Both Wards had low level of literacy and income. People of Ward No. 2 were also highly susceptible to diarrhoea (60 cases) and dysentery (71 cases).

In the study area, incidence of typhoid was found to be more as compared to that of jaundice. Maximum cases of typhoid and jaundice were noted due to contamination of drinking water through sewage. Because in these Wards at many places the pipe line of tap water supply crossed over the sewage drains. In the tribal communities, high incidence of skin diseases was also recorded due to unhygienic habits of tribals. They do not bath and wash their clothes regularly. Maximum incidents of this disease was noted in the village Kalama (35 cases) followed by Dhengda (19 cases). In these villages, Sheriya tribe was the important component of the village population.

Polluted ground water either due to domestic waste, human faeces or agriculture runoff is responsible for various waterborne and water hygienic diseases. It may be prevented through safe water. Most landfill throughout the world are simply refuse dumps. Leachate from a landfill can pollute ground water (Liptak 1974). In Uttar Pradesh, after waterworks sanitation, the dysentery death rate decreased by 23.1%, diarrhoea disease rate by 42.7%, typhoid fever death rate by 63.6% and cholera death rate by 74.1 % (WHO 1964).

Medical facilities available in the area: In adjacent villages, medical facilities are very poor as compared to Sheopur town. Medical dispensary is only noted in village of Bagwaz. Temporary medical facilities are available in some villages (Raipura, Bardha, Bagwaz etc.) by RMP doctors, who come to villages once or twice in a week. People of the villages have to depend upon Sheopur town for their treatment. Only 40% of the people of adjacent villages visit the civil hospital of Sheopur for their treatment. Remaining prefer private treatment. In Sheopur town, 50% of people get treatment from civil hospital. It is noted that all people do not take interest in the civil hospital due to lack of proper medical facilities, medical staff and specialists.

Fifty five % of the villages have facilities of private midwife. Government facilities in this area are noted only in the village Raipura. Village health workers were also noted in the village of Jaida and Bagwaz but they failed to improve the health status of these villages due to weak finance and low level of literacy.

Relationship of water sources and sewage tank/canal: Condition and relationship of water sources

and sewage in Sheopur town is given in Fig. 5. In Sheopur town, 28% out of 48% of the pipeline of tap water cross and run over the sewage water. 58% of the hand pumps are also situated on the side of sewage line and remaining hand pumps are found with accumulation of filth around them. It is noted that 55% of the wells are covered, especially, Hajareshwar well. It is also known as main water works of Sheopur. Water of this well is also stored in the tank and supplied to different Wards. Thirty three % of the wells are located nearby the sewage line. Well of Bhajan Das (Parakh Bagh, Sabji Mandi) is situated under the tree of peepul. It is also open. Therefore, the water of this well is contaminated by leaves and faecal matter of birds.

In adjacent villages, 20% of the wells had filth around them. The well of Jatkheda village is situated on the banks of Seep river. Therefore, water level of it does not fluctuate much in different reasons. It is also open. 100% of the borewells are found in the agriculture fields in the adjacent villages. Filth is also seen around the sources. Forty % of the wells are also located nearby the agriculture lands.

CONCLUSION

In Sheopur town, the hygienic condition of individuals was found comparatively better than in adjacent villages due to literacy and income difference. The role of women in improvement of personal hygienic condition is much greater, because of their role in the preparation of food and transport of drinking water. With lack of knowledge of sanitation and hygiene, they may contaminate food and drinking water from faeces through fingers, and transmit various types of waterborne diseases to others. Following measure are recommended to avoid infection.

- 1 Avoidance of use of soil for had washing after defecation.
- 2 Should not use agriculture land for site of defecation.
- 3 Should pay attention to personal hygienic conditions.
- 4 Avoidance of use of human faeces as fertilizer.

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