

Original article

A Community based cross sectional study on use of sanitary latrines in a rural setup in Maharashtra.

Anu Bhardwaj¹, Avinash Surana², Prassana Mithra³, Abhishek Singh⁴, Sanjeet Panesar⁵, Pankaj Chikkara⁶

¹Associate Professor, Department of Community Medicine, MMIMSR

²Deputy Assistant Director Health, 19 Inf. Div.

³Assistant Professor, Department of Community Medicine, KMC, Mangalore

⁴Resident, Department of Community Medicine, MMIMSR

⁵Resident, Department of Community Medicine, UCMS, Delhi

⁶Resident, Department of Forensic Medicine, PGIMS, Rohtak

Correspondance to Dr Abhishek Singh, Email ID: abhishekarleg@gmail.com

Abstract:

Background - Even after more than 60 years of independence, open air defecation is widely prevalent in rural India.

Objectives:

To find out the reasons for under utilization of community latrines in a rural set up of district Pune, Maharashtra, India and to recommend measures which would lead to increase in the utilization of the sanitary latrines.

Methods:

The present community based cross-sectional study was carried out in a village of district Pune (Maharashtra) during May-June 2011 among 282 subjects. A modified WHO questionnaire adapted to local conditions was used for data collection. Interpretation of data was done using percentages and proportions.

Results:

In spite of presence of community latrines, 67% of the population resorted to open air defecation. Inadequate water was the major reason for under utilization (48.6%) of community latrines followed by lack of awareness about the availability of these (19.5%). Only 14.5% were not aware of any harmful effect of open air defecation. 66.7% of them had the knowledge of night soil disposal. 77.6% were aware of the importance of hand washing with regards to prevention of disease. Women found open air defecation even more embarrassing and dangerous.

Conclusion:

The attitude to use these latrines is present in the surveyed population but people are not willing to take the responsibility of

maintaining their cleanliness. Inadequate water supply stands out to be the most important reason for under utilization of these latrines. Reinforcement and guidance is required to solve the problem of under utilization of these latrines.

Key-words: rural sanitation, sanitary latrine, underuse.

Introduction:

“Sanitation is a way of life”, it should be people’s programme. In many areas of the world, including India, access to basic sanitation especially excreta disposal is a problem of grave importance.^{1,2} Access to safe water and sanitation facilities remains a formidable challenge in developing countries.^{3,4} In 2008, only 21% of rural and 54% of urban India has access to improved sanitation, the national average was measly 31%.⁵

Despite comprehensive programmes like total sanitation campaign, open defecation still remains the predominant norm and poses one of the biggest threats to the health of the people. Even after more than 60 years of independence, open air defecation is widely prevalent in rural India. Nearly 60 per cent of the people in the world who defecate in the open belong to India.⁶

Efforts made by various organizations to persuade people to do away with this practice have failed miserably in the past. Situation in the village under study is also grim with only 15% of the population having attached sanitary latrines. The present study was therefore conducted to ascertain the

reasons of under utilization of community latrines in a rural village of Maharashtra (India) and to recommend measures which would lead to increase in the utilization of sanitary latrines.

Materials and methods:

The present cross sectional community based survey was carried out in a selected village of district Pune (Maharashtra) during May-June 2011 using a modified WHO questionnaire (WHO Library Cataloguing-in-Publication Data, Core questions on drinking-water and sanitation for household surveys). Visit to the gram panchayat office was made followed by an interactive session with the village development officer (VDO). Related schemes operational in this aspect as told by the Gram Sewak are: Nirmal Gram Yojna, Agandhari Mukht Yojna, Gadke Baba Scheme and Goodmorning Pathak.

The study village was randomly selected from the list of villages falling under rural field practice area of Department of Community Medicine, Armed Forces Medical College (AFMC), Pune. (It’s around 40 km from Pune on the Sholapur Highway. It has been adopted by the medical college for training of under graduate and post graduate students in community medicine and for provision of health services to the villagers.) Total households in the selected village were 357. It was planned to interview one member per household so total number of households required to be surveyed were 357. The author of the study visited each household and conducted face-to-face interview with the head of the family using a structured questionnaire to conduct the survey.

One person (preferably the head of the family) was interviewed from each household. The purpose of the study was explained before the interview started. Informed consent was obtained. Ethical committee approved the study. Some interviews were rescheduled as the

interviewees were busy with other jobs at the stipulated time. In spite of all the efforts, only 282 out of the 357 persons per household selected could be interviewed giving overall response rate of 78.99%. The interviews lasted for 30 to 45 minutes. Volunteers from Deep Griha (an NGO for orphan children in the village) came along with the interviewer to overcome the difficulty expected to occur in comprehending the local language (Marathi).

All the questionnaires were manually checked and edited for completeness and consistency and were then coded for computer entry. Finally they were compiled and summarized. The collected data was entered in Microsoft Excel. Coding of the variables was done. SPSS version 11.5 was used for analysis. Interpretation of the collected data was done by using appropriate statistical methods like percentage and proportions.

Results

Out of total 282 persons interviewed, majority of respondents (48.6%) were illiterate, followed by those educated till High school (21.6%). Most (67.8%) of the study participants were in the age group of more than 50 yrs. Gender wise males outnumbered females.

Table 1: Profile of study subjects

Variable	Total Sample N (%)
Gender	
Male	223 (79.1)
Female	59 (20.9)
Age	
< 30 yrs	28 (9.9)
31-50 yrs	63 (22.3)
>50 yrs	191 (67.8)
Education	
Illiterate	137 (48.6%)
Primary	47 (16.7%)
High school	61 (21.6%)
Secondary	29 (10.3%)
Graduate	8 (2.8%)
Post Graduate	-

Out of total, 189 (67.0%) practiced open air defecation whereas remaining 93 used either household sanitary latrines (18.1%) or community latrines (14.9%). Inadequate water 137 (48.6%) and not aware of the facility 55 (19.5%) were two most frequent reasons cited by the subjects when they were asked regarding underutilisation of community latrines. (Table 2)

Table 2: Distribution of subjects according to types of latrine usage and reasons for under utilization of community latrines

Study variable	No. (%)
Types of latrine usage	
Household Sanitary Latrines	51 (18.1%)
Use Community Latrines	42 (14.9%)
Open Air Defecation	189 (67.0%)
Reasons for Under Utilization of Community Latrines	
Inadequate Water	137 (48.6%)
Not Aware of the Facility	55 (19.5%)
Caste Based Discrimination	37 (13.1%)
Open Air Defecation Better	49 (17.4%)
Others	4 (1.4%)

Fear of getting diseases by the faecal matter was the most frequent 98 (34.7%) perceived disadvantage of open-air defecation. 41 (14.5%) people perceived this act as unhygienic and similar number of subjects were unaware of any disadvantage of open-air defecation. (Table 3)

Awareness about night soil disposal:

Majority of respondents 188 (66.7%) were aware regarding night soil disposal. Remaining 94 (33.3%) did not know about night soil disposal.

Knowledge about importance of hand washing:

Majority of people 219 (77.6%) had knowledge about importance of hand washing. On the other hand, 45 (15.9%) of the respondents were not aware of its importance. Remaining 18 (6.5%) of the respondents reported customary and other reasons for hand washing practices.

Table 3: Perceived disadvantages of open-air defecation by study subjects.

Perceived Disadvantages of Open- Air Defecation*	No. (%)
Don't Know	41 (14.5%)
Unhygienic	41 (14.5%)
Embarrassing	30 (10.6%)
Snake/Insect Hazard	17 (6.0%)
Diseases	98 (34.7%)
Foul Odour	20 (7.1%)
Fly Breeding	38 (13.5%)
Difficulty in Rainy Season	6 (2.1%)
Distance	18 (6.4%)
* Multiple responses permitted.	

Discussion

A cross sectional study on usage of sanitary latrines in a village in district Pune of Maharashtra, India was performed in this survey. In spite of presence of community latrines, 67% of the population resorted to open air defecation in the present study. Similar results were observed by another study conducted in Bangladesh.⁷ Open air defecation was practised by 42% to 79% of the population.

Inadequate water supply was one of the major reasons for this under utilization (48.6%) of community latrines. Another study from Haryana⁸ also confirmed our observation in this aspect. Inadequate water supply was most common cited reason (28% to 53%) for the under utilization of community latrines in

that community. People were found unwilling to take responsibility of maintaining the cleanliness of these latrines.

Not surprisingly our study shows that 34.7% of study subjects knew that various diseases can spread due to act of open air defecation. Another study from Bangladesh³ highlighted the correct importance of hand washing after defecation (94%) in relation to prevention of diseases.

The lack of privacy nearby because of scarcity of open land around the village was one of the major reasons stated in previous studies as well. Women found open air defecation even more embarrassing and dangerous. This situation has been an important factor in creating demand for latrines even in rural area.⁹

The impact of the health education has been assessed in the previous studies which had observed a significant reduction in diarrhoea at the end of one year (from 14.2 to 7.4%).⁷

An interventional study from Chandigarh¹⁰ observed that open defecation had significantly reduced and the awareness regarding diarrhoea as hazard of unsafe water had improved significantly from 28.7% in baseline survey to 55.6% after intervention.

Around 15% of people felt that open air defecation was much more comfortable and better than using latrine. Another KAP study from north India⁸ reported fresh open air (64%) and morning walk (51%) as two top reasons perceived as main advantages of open air defecation by the open air defecators. Some also consider open air defecation as a clearer act in comparison to in-house latrine. In India people consider excreta to be best disposed off outside the house, it being a very filthy thing. A few respondents strangely reported that they go to open field with the aim of providing natural manure which would in turn improve the

fertility of their fields as in case of cow dung.

Conclusion

The attitude to use these latrines is present in the surveyed population but people are not willing to take the responsibility of maintaining their cleanliness. Inadequate water supply stands out to be the most important reason for under utilization of these latrines beside other reasons like unawareness of the presence of facility, castes and perceived advantages of open air defecation. As has been proved time and again by the previous studies on the subject, reinforcement and guidance is required to solve the problem of under utilization of these latrines. The same can be provided by planning and conducting IEC activities on this very important issue on a regular basis.

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