

Original Research Article

Defecation practices in residents of urban slums and rural areas of hubballi, Dharwad: a cross sectional study

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ABSTRACT

Background: The unsafe disposal of excreta is a principal cause in the transmission of pathogens within the environment and improvements in excreta management provide significant reductions in diarrhoeal diseases. Objectives of present study are to understand the factors impacting on defecation practices and to study the prevailing defecation practices in adults and children and to assess the knowledge and attitudes with regard to sanitation practices in rural areas and urban slums of Hubballi, Dharwad, Karnataka.

Methods: A community based cross sectional study was conducted in 3 areas of Hubballi and Rural Areas of Noolvi. A total of 120 households were visited; 55 of urban and 65 rural. The adult member of the household was interviewed about the sanitary practices followed and their knowledge and attitude towards Safe Sanitation and Open Air Defecation was assessed.

Results: 64.18% of the households had an independent toilet in their house (87% in urban and 44.6% in rural). Among these, in only 85% households the toilet was used by all members. While in 11 houses some individuals preferred open air defecation. The practice of open air defecation was found in 44.16% of study sample (21% in urban slums and 63% in rural areas). In children, usage of toilets was only 46.5%. 54% children practiced open air defecation (28.8% in urban slums, 80% in rural areas). The usual sites for open air defecation were open fields (77%), alongside gutter (3%) and streets (20%).

Conclusions: According to World Health Organisation, open defecation is the “riskiest sanitation practice of all.” Effort from individuals, communities and government is essential to achieve the goal of open defecation free India.

Keywords: Open air defecation, Rural areas, Sanitation, Urban slums

INTRODUCTION

Safe disposal of human excreta is essential for public health protection. The unsafe disposal of excreta is a principal cause in the transmission of pathogens within the environment and improvements in excreta management provide significant reductions in diarrhoeal diseases. Access to improved sanitation lags behind access to water supply throughout much of the world and in particular within developing countries.¹ The state of

sanitation remains a powerful indicator of the state of human development in any community. Access to sanitation bestows benefits at many levels. Cross-country studies show that the method of disposing of excreta is one of the strongest determinants of child survival: the transition from unimproved to improved sanitation reduces overall child mortality by about a third. Improved sanitation also brings advantages for public health, livelihoods and dignity-advantages that extend beyond households to entire communities.²

Basic sanitation is improved sanitation. It refers to facilities that ensure hygienic separation of human excreta from human contact. They include:

- Flush or pour-flush toilet/latrine to a piped sewer system, a septic tank or a pit latrine.
- Ventilated improved pit latrine.
- Pit latrine with slab.
- Composting toilet.³

Ensuring poor people's access to safe drinking-water and adequate sanitation and encouraging personal, domestic and community hygiene will improve the quality of life of millions of individuals. The global importance of water, sanitation and hygiene for development, poverty reduction and health is reflected in the United Nations Millennium Declaration, in particular its eight Millennium Development Goals, in the reports of the United Nations Commission on Sustainable Development and at many international fora.⁴

Despite its importance, 2.5 billion people-roughly 37 per cent of the world's population-still lack access to adequate sanitation. Open defecation is one of the main causes of diarrhoea, which results in the deaths of more than 750,000 children under age 5 every year. Every 20 seconds a child dies as a result of poor sanitation. 80 per cent of diseases in developing countries are caused by unsafe water and poor sanitation, including inadequate sanitation facilities. Access to sanitation, the practice of good hygiene, and a safe water supply could save 1.5 million children a year.⁵⁻⁷

In India, open defecation is a well-established traditional practice deeply ingrained from early childhood. Sanitation is not a socially acceptable topic, and as a result, people do not discuss it. Consequently, open defecation has persisted as a norm for many Indians. In addition to tradition and the communication taboo, the practice still exists due to poverty; many of the poorest people will not prioritise toilets and besides, many are living in rented homes without toilets. Society does not view the lack of a toilet as unacceptable; building and owning a toilet is not perceived as aspirational. Construction of toilets is still seen as the government's responsibility, rather than a priority that individual households should take responsibility for. The challenge is to motivate people to see a toilet as fundamental to their social standing, status and well-being.

Although widely acknowledged as a major public health problem few studies have tried to explore its determinants. Thus our study was undertaken to understand the factors impacting on defecation practices and to study the prevailing defecation practices in adults and children and to assess the knowledge and attitudes with regard to sanitation practices in rural areas and urban slums of Hubballi, Dharwad, Karnataka. A significant gap also exists between knowledge and practice. Even when people are aware of the health risks

related to poor sanitation (specifically of not using a toilet and practising good hygiene), they continue with unhealthy practices. The practice of open defecation is not limited to rural India. It is found in urban areas too where the percentage of people who defecate in the open is 12 percent, while in rural settings it is about 65 percent.⁸

METHODS

A community based cross sectional study was conducted in 3 areas of Hubballi, Urban Slum Areas of S. M. Krishna Nagar and Rajiv Gandhi Nagar and Rural Areas of Noolvi during the period of January 2016. A total of 120 households were visited; 55 of urban and 65 rural. The adult member of the household was interviewed about the sanitary practices followed and their knowledge and attitude towards Safe Sanitation and Open Air Defecation was assessed.

A modified WHO questionnaire core questions on drinking water and sanitation for household surveys adapted for local conditions was used to collect information.⁹ The households were selected randomly using convenient sampling. The questionnaire included information about basic demography, water source, sanitation practices and child defecation and night soil disposal practices and attitudes of people toward open air defecation. Then the data was entered into a MS Excel and Analysed using SPSS 2.0 version and appropriate statistical tests were applied.

RESULTS

Out of the total 120 households visited males participants constituted 44% and females 56%. 77.5% were Hindus and 22.5% Muslims. The educational status of the participants is shown in the Table 1.

Table 1: Literacy profile of the participants.

Education	Place		Total
	Urban	Rural	
Illiterate	20	26	46
Primary	14	27	41
Secondary	19	7	26
Puc	2	2	4
Higher	0	3	3
Total	55	65	120

The chi-square statistic is 12.6979. The p-value is .01285. The result is significant at $p < 0.05$.

The main source of water in the rural area was borewell and in urban slums people relied on public tanks and bore water along with water from Municipal Corporation. 64.18% of the households had an independent toilet in their house (87% in urban and 44.6% in rural). Among these, in only 85% households the toilet was used by all members. While in 11 houses some individuals preferred open air defecation. Majority (99%) of the toilets did not

have an independent water connection hence people had to carry water during use from outside. The reasons given for using or not using the toilet are enumerated in Table 2.

Table 2: Reasons for having a toilet among users.

Reasons	Place		Total
	Urban	Rural	
Convenient	23 (27.38%)	10 (21.74%)	33 (49.12%)
Hygienic	26 (30.95%)	20 (43.48%)	46 (74.43%)
Safety	12 (14.29%)	6 (13.04%)	18 (27.33%)
Privacy	23 (27.38%)	4 (8.70%)	27 (36.08%)
Others	0 (0.00%)	6 (13.04%)	6 (13.04%)
Total	84	46	130

The practice of open air defecation was found in 44.16% of study sample (21% in urban slums and 63% in rural areas). In children, usage of toilets was only 46.5%. 54% children practiced open air defecation (28.8% in urban slums, 80% in rural areas).

Table 3: Reason for not having a Toilet among non-users.

Reasons	Place		Total
	Urban	Rural	
No toilet	12 (57.14%)	6 (8.69%)	18 (20%)
Personal comfort	0 (0.00%)	20 (28.98%)	20 (22.22%)
Scared	2 (9.52%)	7 (10.14%)	9 (10%)
No funds	6 (28.57%)	18 (26.09%)	24 (26.67%)
No space	0 (0.00%)	16 (23.19%)	16 (17.78%)
Old habit	1 (4.76%)	1 (1.45%)	2 (2.22%)
Others	0 (0.00%)	1 (1.45%)	1 (1.11%)
Total	7	36	43

The chi-square statistic is 27.0428. The p-value is .000019. The result is significant at $p < 0.05$.

The usual sites for open air defecation were open fields (77%), alongside gutter (3%) and streets (20%). The reasons given for open defecation were no toilets at home (20%), do not know how to use it and are more comfortable with defecating outdoors (22.2%) and scared of enclosed spaces (9%). Regarding the disposal of infant faeces, it was observed that almost all the participants indiscriminately threw it in the garbage or in the streets. The sanitary practice of regular hand washing after defecation was present in 65% households. Among them

only 27% used both soap and water and the other 73% washed hands only with water after defecation. Usage of slippers was noted in 76% children. The opinion of the participants about open air defecation is shown in Table 3. 77% considered it bad and 23% had good opinion regarding it. 75% of the participants were aware that open air defecation had adverse health effects (57.77% urban and 20% rural) but only a mere 20% could list out some of the diseases caused by open air defecation.

Table no 4: Opinion on open air defecation.

		Total		Total
		Urban	Rural	
Bad	Bad hygiene	11	36	47
	Disease spread	24	2	26
	Embarrassment	1	3	4
	Privacy	19	7	26
% Having opinion is bad		55 (100%)	48 (73.85%)	103 (85.83%)
Good	Fresh air	0	15	15
	Personal comfort	0	2	2
% Having opinion is good		0 (0%)	17 (26.15%)	17 (14.17%)
Total		55	65	120

The IEC activity with regarding sanitation appeared to be poor. As most of the participants expressed that they were not educated about the hazardous effects of open air defecation on health and environment by the health workers. Most of the participants were willing to accept sanitary latrines and told that if provided funds for construction they would construct and use it. With only 3% households acknowledging that they would use it for other purposes such as renovating the house.

All the participants felt that it is important to maintain environment sanitation but only 57.5% claimed that it is everyone's responsibility. 24.16% felt it is Government duty and 18.3% felt it is Municipal Corporation responsibility to maintain hygiene.

DISCUSSION

According to World Health Organisation, open defecation is the "riskiest sanitation practice of all." Almost 2.5 billion people don't have the access to clean toilet globally. In the year 2013, the United Nation General Assembly designated 19th November as World Toilet Day, urging changes in both behaviour and policy on issues ranging from enhancing water management to ending open-air defecation.¹⁰ By far the great majority of people practicing open defecation live in rural areas, but this number is declining. However, partly because of rapid increases in the urban population, a growing

number of people in urban areas defecate in the open. The proportion of the world population that practices open defecation declined by almost one third from 25% in 1990 to 17% in 2008.¹¹ Ananta Prasad (2013) asserts that more than 2.5 billion people lack adequate sanitation worldwide especially in developing countries like India. Of these, 1 billion people defecate in open. In the least developed countries one in four people defecate in the open, largely as a result of poverty and inability to build separate toilets and the issues of space and land as well.¹²

In our study, we found that having a toilet at home was an important determinant of safe sanitation but it was also noted that it was not the only determinant as in 11% of study population it was not being used. These results are similar to the findings of Geetha J and Sampath Kumar in Pune where optimum usage of toilets was restricted to 51% of the family members, only few (18%) members in the family used the toilets and 31% of the family members did not use the toilet at all. The reasons cited for not using toilet are cultural barriers (42%), incomplete knowledge (31%) and water scarcity. The most quoted (69%) reasons for not constructed toilets is non-availability of funds and few (15%) have attributed to no space in their houses and rest due to cultural barriers.¹³ The disposal of children faeces is considered as very important sanitation and hygiene practice. A child's faeces contain as many germs as an adult's, and it is very important to dispose the faeces quickly and safely. In our study, it was found that almost all the respondents Dispose of the children's faeces in garbage pit, in the streets and in drainage. These similar to the findings of Geetha J et al.¹³

A cross sectional study carried out in a village of district Pune among 282 subjects concludes that, in spite of presence of community latrines, 67% of the population resorted to open air defecation. Inadequate water was the major reason for underutilization (48.6%) of community latrines followed by lack of awareness about the availability of these (19.5%). Only few of them (14.5%) were not aware of any harmful effect of open air defecation and majority were aware of the importance of hand washing with regards to prevention of disease. Women found open air defecation even more embarrassing and dangerous (Bhardwaj et al, 2013).¹⁴

Banerjee et al (2013) conducted a study to understand the household behaviour and attitude towards open air defecation by the residents and motivate public toilet / private toilet among 236 households of Nandivargam village of Kurnool District. Socioeconomic status and open air defecation practice. After defecation, all household does hand washing at least with water and 76% households do not regard open air defecation practice as a stigma. Construction of toilets does not come under top priority list, if lump sum amount is given to non-toilet resident household. Rains are an important determinant for usage and construction of toilets. Study

concluded that prevalence of open air defecation is very high (74.57%).¹⁵

CONCLUSION

With 47.5% of household practicing open air defecation (21.42% urban, 78.5% rural), open air defecation is still a major problem in the study area with higher prevalence in the rural area. Presence of toilet is playing a major side in the practice of open air defecation. Open air defecation is more in child with approximately 45% of children defecating outside near garbage, gutter. People have toilet in their houses to maintain environment sanitation, for personal safety and convenience. Lack of funds, space constraints and customization to old habits are the reasons cited for not using toilets. Frequency of children suffering from diarrhoea with relation to their place of defecation in statistically significant with more diarrhoea cases in their children practicing open air defecation. Majority of people are of the opinion that it is every person's responsibility to maintain environmental sanitation.

Government and public efforts have to be directed towards ensuring the availability and accessibility to household toilets and adequate water supply and Encourage children to use toilets by informing about hazards of open air defecation. According to World Health Organisation, open defecation is the riskiest sanitation practice of all. Effort from individuals, communities and government is essential to achieve the goal of open defecation free India.

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