

Role of Community in Swachh Bharat Mission. Their Knowledge, Attitude and Practices of Sanitary Latrine Usage in Rural Areas, Tamil Nadu

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ABSTRACT

Background: In most developing countries, open defecation is the 'way of life'. This practice is considered as the most serious health and environmental hazard. Prime Minister of India launched the "Swachh Bharat Mission" to accelerate the efforts for achieving universal sanitation coverage and to put focus on sanitation. **Objective:** To find the knowledge, attitude and practices of sanitary latrines usage in rural area, Tamil Nadu. **Materials and Methods:** This was a cross sectional study conducted among rural population in Kuthambakkam village, Tamil Nadu. There were a total of 1175 households in Kuthambakkam village. These households were serially numbered and of these a sample of 275 households were selected for the study using simple random sampling technique by lottery method. A structured questionnaire was used to collect information regarding the background characteristics, their knowledge, attitude and practices towards sanitary latrines usage. Descriptive statistics were calculated for background variables, the prevalence of sanitary latrines usage and open air defecation. Association between factors responsible for open air defecation was found by using chi square test. **Results:** The prevalence of usage of household sanitary latrine and community latrines was 62.5% and 4.3% respectively. The prevalence of open air defecation among the study participants was 33.1%. Significant association was found between low standard of living and open air defecation practice. **Conclusions:** To solve the problem of underutilization of sanitary latrines, planning and conducting Information Education Communication activities is very essential. Effective political and administrative support is needed to scale up the sanitation program.

Keywords: Attitude, knowledge, open air defecation, rural, sanitary latrine

Introduction

According to World Health Organization, open air defecation is the "riskiest sanitation practice of all".^[1] Joint Monitoring Programme for Water Supply and Sanitation (JMP), defines open defecation as

"unimproved".^[2] Nearly 60 per cent of the people in the world who defecate in the open belong to India.^[3] Unsanitary disposal of human excreta, along with unsafe drinking water and poor hygiene conditions,

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is a leading cause of morbidity and mortality in low-income countries.^[4] Much of this disease burden consists of diarrheal disease, a leading cause of death in young children. In addition, inadequate sanitation is implicated in schistosomiasis, helminth infections, enteric fevers and trachoma.^[5] Lack of access to sanitation also has significant non-health consequences, particularly for women and girls, including lack of security and privacy, decreased school attendance and basic human dignity.^[6] Swachh Bharat Mission^[7] was launched by Prime Minister of India to accelerate the efforts for achieving universal sanitation coverage and to put emphasis on sanitation.

Thus, this study focuses on sanitary latrine usage, open air defecation and its attendant medical problems as its objectives and intends to positively reform the awareness level and practices of the rural population in Kuthambakkam village in Tamil Nadu.

Materials and Methods

The present study was a community based cross sectional study which was conducted among the rural population in Kuthambakkam village, Tamil Nadu.

Kuthambakkam village is a rural field practice area of Department of Community Medicine, Saveetha Medical College and Hospital, Thandalam. There were a total of 1175 households in Kuthambakkam village. The households were serially numbered and of these, a sample of 275 households were selected for the study using simple random sampling technique by lottery method. One member from each household, preferably the head of the family (if not available, any elder person in the family), was interviewed personally. A structured questionnaire was used to collect information regarding the background characteristics, their knowledge, attitude and practices about sanitary latrine usage.

The purpose of the study was explained to the participants and an informed consent was obtained. Ethical clearance was obtained from the Institutional Ethical Committee prior to conducting the study.

Data entry and analysis was done using the statistical package for social sciences (SPSS) version 16 software. Descriptive statistics were calculated for background variables, prevalence of sanitary latrine usage and open air defecation. Association between factors responsible for open air defecation was found by using chi square test. *p* value also calculated.

Results

Of the 275 participants included in the study, 223(81.1%) were male and 52(18.9%) were female. The mean age of the study participants was 48.2 + 12.4 years. Majority

were Hindus (98.2%), while 1.1% were Christians & the rest were Muslims. Among the study participants, 65 (23.6%) were illiterates and the rest were literates. Majority of the study participants were employed (87.7%). Most of them had a low standard of living 196 (71.3%), while 71 (25.8%) had medium and 8 (2.9%) participants had higher standard of living. Among interviewed participants, 92% belonged to nuclear families while only 8% were living in joint families.

It was found that majority of the study participants 172 (62.5%) had sanitary latrines in their houses and all their family members were using it. Public tap (161 of 172) was the most common source of water supply for the toilets

Table 1: Place of Defecation

Place Of Defecation	Number of respondents	Percentage
Sanitary Latrines At Home	172	62.5%
Community Toilets	12	04.3%
Open Air Defecation	91	33.1%
Total	275	100.0%

Table 2: Reasons for Non Construction of Sanitary Latrines at Home

Reasons For Non Construction Of Sanitary Latrines At Home	Number of respondents	Percentage
Lack Of Money	27	26.2%
Lack Of Space	10	09.7%
Lack Of Interest	63	61.1%
Staying In Rented House	03	02.9%
Total	103	100.0%

Table 3: Awareness about Open Air Defecation

	Number of respondents	Percentage
Awareness about spread of disease due to open air defecation		
Unaware	240	87.2%
Aware	35	12.7%
Total	275	100.0%
Awareness about diseases transmitted due to open air defecation		
Diarrhea	21	60.0%
Dysentery	06	17.1%
Typhoid	06	17.1%
Worm Infection	02	05.7%
Total	35	100.0%
Awareness about mode of spread of disease due to open air defecation		
Flies	23	65.7%
Contaminated Water	04	11.4%
Contaminated Food	01	02.8%
Unclean Hands	07	20.0%
Total	35	100.0%

followed by well water. The usage of community toilets was 4.3%. Among a total of 103 participants who did not have a sanitary latrine at their homes, 91 practiced open air defecation while the rest used community toilets. The prevalence of open air defecation in the present study was found to be 33.1% (91 of 275) [Table 1]. Lack of money, lack of space, lack of interest and staying in rented houses were some of the reasons given for non-construction of toilets by the participants [Table 2]. Only 3.3% had confirmed that some health advisor came over to their houses to promote and construct toilets within the premises. Media was an important source of information about sanitary latrines among all the study participants. However, a majority 87.2% did not know that diseases can be spread due to the practice of open air defecation [Table 3].

In univariate analysis, significant association was found between lower standard of living and open air defecation practice ($p = 0.0016$) [Table 4].

Discussion

This cross sectional study was carried out in a rural population at Kuthambakkam village, Thandalam, Tamil Nadu, to estimate the prevalence of open air defecation and to assess the association between open air defecation and social factors.

In spite of presence of community latrines, 33.1% of the population resorted to open air defecation in the present study. Results were observed by another study conducted in Bangladesh, where open air defecation was practiced by 42% to 79% of the total population.^[8] A study done in Maharashtra by Anu Bhardwaj, *et al.*^[9] showed that 67% practiced open air defecation. The finding of the current study was not comparable with the finding of the study done by Anu Bhardwaj.

Table 4: Association between Open Air Defecation and the Socio-Demographic profile

	Open Air Defecation Practiced N(%)	Open Air Defecation Not Practiced N(%)	Total N(%)	Chi Square	p Value
Sex					
Male	69 (30.9%)	154 (69.0%)	223 (100%)	2.4603	0.1167
Female	22 (42.3%)	30 (57.6%)	52 (100%)		
Total	91(33.1%)	184 (66.9%)	275 (100%)		
Religion					
Hindu	90 (33.3%)	180 (66.6%)	270 (100%)	0.3942	0.5301
Muslim And Christians	01 (20.0%)	04 (80.0%)	05 (100%)		
Total	91 (33.1%)	184 (66.9%)	275 (100%)		
Educational Status					
Illiterate	23 (35.3%)	42 (64.6%)	65 (100%)	4.453	0.2165
Primary	30 (40.5%)	44 (59.4%)	74 (100%)		
Middle	31 (31.6%)	67 (68.3%)	98 (100%)		
High/Post High School/ Graduate	08 (21.0%)	30 (78.9%)	38 (100%)		
Total	91(33.1%)	184 (66.9%)	275 (100%)		
Occupational Status					
Unemployed	15 (44.1%)	19 (55.8%)	34 (100%)	4.8387	0.184
Unskilled	30 (35.7%)	54 (64.2%)	84 (100%)		
Semiskilled	26 (26.5%)	72 (73.4%)	98 (100%)		
Skilled/ Semiprofessional/ Professional	21 (35.5%)	38 (64.4%)	59 (100%)		
Total	91 (33.1%)	184 (66.9%)	275 (100%)		
Standard of Living Index					
Low	76 (38.7%)	120 (61.2%)	196 (100%)	9.9579	0.0016
Medium/ High	15 (18.9%)	64 (81.0%)	79 (100%)		
Total	91 (33.1%)	184 (66.9%)	275 (100%)		
Family Type					
Nuclear family	84 (33.2%)	169 (66.8%)	253 (100%)	0.0175	0.8947
Joint family	07 (31.8%)	15 (68.1%)	22 (100%)		
Total	91 (33.1%)	184 (66.9%)	275 (100%)		

The proportion of the world population that practices open defecation declined by almost one third from 25% in 1990 to 17% in 2008. A decline in open defecation rates was recorded in all regions. In Sub-Saharan Africa, open defecation rates fell by 25 per cent. In absolute numbers, the population practicing open defecation increased from 188 million in 1990 to 224 million in 2008. In Southern Asia, home to 64% of the world population that defecate in the open, the practice decreased the most - from 66% in 1990 to 44% in 2008 (WHO/UNICEF JMP for Water Supply and Sanitation, 2010).^[10] In a study conducted by J. Geetha^[11] in Tiruchirappalli, Tamil Nadu, the prevalence of open air defecation was 90%. 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 the 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, land.^[12]

In the present study, significant association was found between lower socioeconomic status and open air defecation practice ($p = 0.0016$). Ashish Bijaykrishna Banerjee *et al.*^[13] conducted a study to understand household behavior and attitude towards open air defecation by the residents and motivate public toilet / private toilet among 236 households of Nandivargam village of Kurnool District. Raising the standard of living plays an important role in increasing the usage of sanitary latrines.

Awareness about the diseases transmitted by open air defecation is found to be very poor in this study.

However, in a study conducted by J. Geetha^[11] Only a few out of the sample population (14.5%) were not aware of the harmful effects of open air defecation. The hygiene part of sanitation is keeping the toilets clean and tidy, which in turn protects the users from illness and disease. Hand washing also tends to be a very important hygiene practice to avoid illnesses.

Conclusion and Recommendations

The prevalence of open air defecation is 33.1%. Lack of interest, money and space are the important reasons for non-construction of house hold latrines. Awareness regarding the ill effects of open air defecation is also poor. Improved sanitation is important not only for human

health, but also for social and economic development of the country. This study focuses on open defecation and its attendant medical problems. It intends to positively reform the awareness level and practices on open defecation of rural households. Increasing awareness regarding health hazards and privacy might improve these practices. Planning and conducting Information Education Communication activities on this important issue on a regular basis is extremely necessary. Effective political and administrative support is needed to scale up the sanitation program.

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Conflicts of interest

There are no conflicts of interest.

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