Research Article

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A cross-sectional study on the coverage and utilization of sanitary latrine in rural field practice area of a tertiary care hospital in Southern Karnataka, India

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ABSTRACT

Background: Sanitation is one of the basic determinants of quality of life and human development index. Open air defecation has dire health impacts. Objective of the study is to determine the sanitary latrine coverage, use and factors influencing its use in a rural community.

Methods: This cross sectional study was conducted in the rural field practice area for 3 months. Around 259 households were included for the present study. Data was collected by house to house visit in the selected villages using a pretested structured questionnaire. The infrastructure of the sanitary latrine was observed and noted. Data was entered in excel sheet and analysed using epi-data software.

Results: Sanitary latrine was present in 213 houses (82%) and rest 18% practiced open air defecation. The average duration of use of sanitary latrine was 6.33±6.03 years. Nearly 90% (189) of the latrines were private latrines, majority of the sanitary latrine were pucca with adequate lighting and good ventilation.

Conclusion: Majority of them were using latrines, only 18% of them practiced open air defecation. But among the houses with latrine, more than half of the latrines did not have water facility and soap in the latrine. Majority of them felt that safety was the most common advantage of having a latrine.

Keywords: Sanitary latrine, Open air defecation, Rural area, Coverage

INTRODUCTION

Access to safe water and sanitation facilities are the key objectives of primary health care. The proportion of households with access to safe drinking water is in track to meet the Millennium development goals (MDG), while the proportion of those with access to proper sanitation is often said to be lagging behind. In developed countries 99% of population has access to hygienic sanitation, while in developing countries the proportion is only 53%. Within the developed countries there is a wide gap between the urban and rural sanitation coverage. Currently the majority of people who lack sanitation live in rural areas, and globally 8 out of 10 users of

unhygienic sanitation facilities, and 6 out of 7 who defecate in the open live in rural areas.²

Building toilets and getting people to use them is critical for public health. As part of a global health and development agenda, the Millennium Development Goals (MDGs) to halve the proportion of people without sustainable access to sanitation by 2015 is falling far short of its goal. Most of the deficit is in sub-Saharan Africa and South Asia (World Health Organization, 2013).⁴

In India, 66% of the rural population practices open air defecation.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. Hence the present study is planned to determine the sanitary latrine coverage, use and factors influencing its use in a rural community.

Objective of the study is to determine the coverage and utilization of sanitary latrine in rural field practice area and to determine the factors affecting the utilization of sanitary latrine.

METHODS

This cross sectional study was carried out in the rural field practice area of Adichunchanagiri Institute of Medical Sciences for a period of 3 months from June to August 2015. The sample size required for the study was derived by using the formula 4 pq/L2 wherein p stands for the prevalence, q for 1-p and L is allowable error. The prevalence of Open air defecation in rural India was found to be 66% with the remaining 34% having access to sanitary latrine (p). After substituting the prevalence as 34% and with 20% allowable error, the sample size obtained was 196. The study area consisted of 3 Primary Health Center's serving a population of 86,000. The villages served by these PHCs were listed and three villages were randomly selected from each of the PHCs to cover the sample size.

Data was collected by house to house visit in the selected villages using a pretested structured questionnaire. The questionnaire contained information regarding sociodemographic profile of the respondents and the sanitary latrine coverage, utilization and factors influencing the same. The infrastructure of the sanitary latrine was observed and noted. Regarding the infrastructure, variables such as type of latrine, water supply, lighting and ventilation, privacy was observed. The data was preferably collected from the head of the family. If the head of the family was not available during the visit, data was collected from the family member aged 15 years and above.

RESULTS

Total houses included in the present study were 259. The mean age of the respondents was 44.88±13.91 years.

Sanitary latrine was present in 213 houses (82%) and rest 18% practiced open air defecation. The average duration of use of sanitary latrine was 6.33 ± 6.03 years. Nearly 90% (189) of the latrines were private latrines, only 33.80% (72) had sanitary latrine located inside the house.

Based on the infrastructure, majority of the sanitary latrine were pucca with adequate lighting and good ventilation (Table 1). Only 36% (77) had taken financial help to build the latrine.

Table 1: Distribution of the houses according to the infrastructure of the latrine.

Infrastructure	Frequency (213)	Percentage
Building		
Kuccha	08	03.76
Pucca	205	96.24
Privacy		
Present	202	94.84
Absent	011	05.16
Lighting		
Adequate	180	84.51
Inadequate	033	15.49
Ventilation		
Good	169	79.34
Bad	044	20.66
Water supply		
Present	114	53.52
Absent	099	46.48
Soap		
Present	114	53.52
Absent	099	46.48

In the present study 18% practiced open air defecation. The average distance of open air defecation was 0.5 ± 0.31 mtr.

Table 2: Perceived advantages of sanitary latrine by the study subjects.

Advantages	Frequency (259)	Percentage
Prevent the water	97	37.5
borne diseases		
Safe for females	204	78.7
and children		
Prestige issue	40	15.4
Hygienic	126	48.6
Others	20	7.7
Insects	5	1.9
Don't know	7	2.7

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

Disadvantages	Frequency (259)	Percentage
Distance	74	28.5
Lack of safety	113	43.6
Unhygienic	86	33.2
Disease transmission	117	45.1
Cannot be used	61	23.5
during emergency		

Among the subjects who practiced open air defecation, 37 (80.4%) of them were aware of the financial assistance and the most common reasons for not obtaining financial benefits were lack of space (22%), delayed sanction of money (19%), comfortable with open air defecation

(11%), no own house (9%), lack of water supply (9%) and the rest had applied for the financial assistance.

Table 4: Reasons for not having sanitary latrine.

Reasons	Frequency (N=46)	Percentage
No money	13	28.2
No place	14	30.4
No need (comfortable with open air defecation)	4	8.7
Nobody to help	2	4.3
Others	13	28.2

DISCUSSION

The disease burden associated with poor water, sanitation, and hygiene is estimated to account for 4.0% of all deaths and 5.7% of the total disease burden in disability-adjusted life year (DALYs) in worldwide. About 1.8 million people die every year due to diarrheal diseases, and children under the age of 5 years account for 90% of diarrheal deaths. Moreover, 88% of diarrheal diseases are attributed to unsafe water supply, inadequate sanitation, and poor hygiene.

In our study sanitary latrine was present in 82% of the households, and rest 18% practiced open air defecation. Whereas in few of the studies conducted in Ethiopia, the practice of open air defecation varied between 42 to 68%.⁶

Another study done in Bangladesh by Akter T et al, found 67% of the population resorted to open air defecation in spite of presence of community latrines.³ Similar results were observed by another study conducted in Bangladesh by Sarker MS et al, where in open air defecation was practiced by 42% to 79% of the population.⁷ The census 2011 reports that in India 53.1% of them practice open air defecation and in rural areas around 78% of them still practice open air defecation.⁸

The reason for this variation in our setting might be due to the fact that more emphasis is being laid on improving the sanitary conditions of the community and also the financial aid being provided for the construction of the latrine.

In the present study 78% of them felt that lack of safety was the main disadvantage of open air defecation. Similar finding was found in a study conducted by Singh A et al, where 64% of the respondents felt that convenience for women and children was the main advantage for having sanitary latrine. 66% suggested that there were health benefits associated with latrine use, 39% believed that latrines provided safety and security for women or girls and 27% felt they provided privacy.

In the present study majority of the study subjects without having sanitary latrine felt that lack of space and money were the main reasons for not having latrine. The findings were similar to study conducted by Banerjee A B et al, which concluded that the most common reasons for not having latrines were lack of space (86.27%) and money constraint (67.64%).

CONCLUSION

In the present study the latrine coverage was good. Only 18% of them practiced open air defecation. But among the houses with latrine, more than half of the latrines did not have water facility and soap in the latrine. Majority of them felt that safety was the most common advantage of having a latrine. Among those who did not have latrine at home, majority of the study subjects felt that lack of space and money were the main reasons for not having latrine

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Institutional Ethics Committee

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