

Assessment of knowledge practice gap regarding sanitary toilet - A hospital based cross-sectional study

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ABSTRACT

Background: Lack of safe drinking water, the absence of basic sanitation and hygienic practices is associated with high morbidity and mortality from excreta-related diseases. Different sanitation programs were failed because people were poorly informed and not aware about the link of sanitation with health. **Objective:** (i) The objective of the study was to study the awareness about sanitary toilet among study participants and (ii) to assess the knowledge-practice gap among study participants for sanitary toilet use. **Materials and Methods:** A cross-sectional study was conducted among peoples visiting medicine outpatient department. Pre-designed and pre-tested questionnaire was used for an interview of 384 participants after taking written informed consent. The assessment of knowledge and practice was mainly focused on four subheads, i.e., toilet construction, toilet utilization, toilet cleaning, and sanitary measures during toilet use. **Results:** Among the study participants 89.58% were aware of the sanitary toilet while only 46.09% were aware about their advantages. 94.79% of participants were aware about different sanitary measures. 88.54% of participants had constructed sanitary toilet and 83.85% of participant's utilized toilet. 92.7% of participants practice sanitary measures. Only 77.86% cleaned their toilets by disinfectant. Significant statistical difference was seen in knowledge and practice of construction of toilet, their utilization and cleaning. **Conclusions:** People have better knowledge of sanitary toilet but practices related to toilet construction, its utilization, cleaning, and sanitation were not universally followed among them, so this knowledge - practice gap regarding sanitary toilet can be minimized by giving attention toward practices which will ultimately contribute in the success of Swachh Bharat Mission.


KEY WORDS: Knowledge; Practice; Sanitary Toilet; Tertiary Care Hospital

INTRODUCTION

Contaminated water consumption and poor hygiene practices result into diseases which are leading causes of death among children worldwide.^[1] Highest causes of illness and death, in children of developing countries are diarrhea which is preventable diseases also linked to open defecation.^[2] Lack

of safe drinking water, the absence of basic sanitation and hygienic practices is associated with high morbidity and mortality from excreta-related diseases.^[3]

Sanitation is a broad term which includes safe disposal of human waste, wastewater management, solid waste management, water supply, control of vectors of diseases, domestic and personal hygiene, food, and housing.^[4] Sanitary household toilet is the most important aspect of sanitation. Besides restoration of dignity, privacy, safety, and social status, sanitation has strong bearing on child mortality, maternal health, environmental sustainability, and ultimately improvement of overall quality of life. Open defecation is still in practice in many rural areas resulting in serious social, economic, and environmental problems.^[5]

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The United Nations Global Strategy for Women's and Children's Health which was launched in 2010 and call to action for child survival, in 2012, was challenged the world to reduce child mortality to <20/1000 live births in every country by 2035. To reach this level-specific goals to be achieved by 2025 are the reduction of diarrhea mortality in children below 5 years of age to <1/1000 live births and universal access to adequate sanitation in health-care facilities by 2030 and homes by 2040.^[6]

Although India has come a long way in improving its sanitation coverage status, it is still well short of desired levels. To tackle this challenge, the Hon Prime Minister, Shri Narendra Modi, launched the Swachh Bharat Mission (G) on October 2, 2014 at New Delhi aimed at universalizing safe sanitation, to achieve a Swachh India by October 2, 2019. Under the SBM (G), Community-led and Community Saturation approaches, focusing heavily on collective behavioral change, with the use of Information, Education and Communication (IEC) activities. IEC is an extremely important component of Rural Sanitation Programme that serves as a platform for informing, educating, and persuading people to realize their roles, responsibilities, and benefits accruing from investing in right sanitation practices. IEC play a very critical role in bringing behavioral change on various aspects of safe sanitation, creating effective demand, usage, and links to health and hygiene.^[7]

The most important challenges for effective implementation of sanitation programme are people were poorly informed and they were not aware of the linkage between sanitation and health. Another important barrier for sanitation is that there is no concept of community health and hygiene in a rural area. Impact of sanitation can be gauged only when the toilet facility is used, and the sanitation practices are adopted at the community level.^[5] This sanitation program is also implemented in Bilaspur district of Chhattisgarh, but actual success level of this program is not known. Hence, the present study was conducted for with the following objective

1. To study the awareness about sanitary toilet among study participants
2. To assess the knowledge-practice gap among study participants for sanitary toilet use.

MATERIALS AND METHODS

This was a cross-sectional study, conducted at tertiary care hospital among peoples visiting medicine outpatient department. This study was conducted during June 2017–November 2017 for a total period of 6 months. A sample size of 384 was calculated by taking the expected probability of toilet utilization (toilet utilization is one variable in question-related to practice assessment) as 86.8%, which was observed in study conducted by Yimam *et al.*^[8] with 95% confidence interval, 2 as a design effect and 10% non-response rate.

These 384 participants were selected randomly from medicine outpatient department and interviewed after taking written consent. Those who are willing to participate and aged above 18 years were included in study.

The assessment was done by pre-designed pre-tested questionnaire which consists of the question-related to knowledge of sanitary toilet and actual practices undertaken by participants while using the sanitary toilet. The assessment of knowledge and practice was mainly focused on four subheads, i.e., construction of toilet, utilization of toilet, cleaning of toilet, and sanitary measures during toilet use. This study was carried out after getting ethical clearance from Institutional Ethics Committee CIMS, Bilaspur, Chhattisgarh.

Data Analysis

Data were entered into Microsoft Excel software and analyzed using Epi Info 7 version 7.2.2.2. Knowledge and practice of study participants were expressed using descriptive data analysis. The Chi-square analysis was done to find out the significant difference in knowledge of sanitary toilet and actual practices undertaken by participants during use of the sanitary toilet. P value signifies the level of significance.

RESULTS

A total of 384 participants were interviewed, among this 75.8% were male and 24.2% were female [Figure 1].

Knowledge of Sanitary Toilet

Knowledge of sanitary toilet was assessed by asking different features of the sanitary toilet, their benefits, different sanitary measures to undertake, cleaning and frequency of cleaning. Among the study participants, 89.58% were aware of the sanitary toilet. They were aware of the presence of pan, proper disposal of stool; hand washing facility and availability of water were required for the sanitary toilet. Only 46.09%

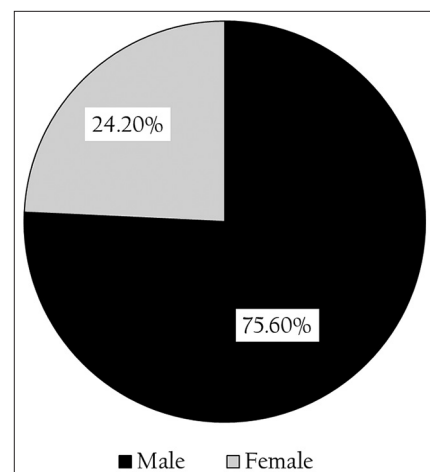


Figure 1: Gender wise distribution

were aware about advantages of the sanitary toilet as these prevent infection while 97.4% were aware that every house should have a sanitary toilet. 94.79% study participants were aware about different sanitary measures, i.e., hand and legs washing with soap after defecation, use of separate footwear, and flushing of stool. 90.62% were aware about the use of detergent and water for cleaning and 82.03% know about the frequency of cleaning [Table 1].

Practices Undertaken by Study Participants during Use of Sanitary Toilet

Among the study participants, 88.54% had constructed sanitary toilet and 83.85% of participant's utilized toilet while remaining 16.15% go for open field defecation. 92.7% of study participants practice sanitary measures, i.e., hand and legs washing with soap after defecation, use of separate footwear, and flushing of stool during utilization of toilet. Only 77.86% were cleaned their toilets by disinfectant [Table 2].

From the study, it was observed that there is a statistically significant difference in knowledge and practice of construction of toilet, their utilization, and cleaning. Peoples were having good level of knowledge, but they were lagging behind in use of that knowledge in actual practice. Similarly, people have more knowledge of different sanitary measures as compare to actual sanitary practices done by them, but this difference in knowledge and practice was not statistically significant [Table 3].

DISCUSSION

This study was conducted to find out the knowledge about sanitary toilet among peoples attending outpatient department of tertiary care hospital and their practices toward toilet utilization. A total of 384 people were interviewed through pro forma. From the study, it was found that people were having satisfactory knowledge of sanitary toilet, i.e., sanitary measures, cleaning, and frequency of cleaning but were not aware of their advantages as it prevents gastrointestinal infection. In this study, 89.58% were aware of the sanitary toilet, and 94.79% of study participants were aware of different sanitary measures. Similar findings were also seen in the KAP study conducted by Sibiya and Gumbo.^[9] among school children and study conducted by Jeratagi *et al.*^[10] also found 80 participants were having average knowledge about sanitary toilet.

The practice of sanitary toilet was assessed by its construction, utilization, and practicing sanitary measures during use and its cleaning. Practice of sanitary toilet is low as compare to its knowledge. 97.4% were aware that every house should have sanitary toilet, but only 88.54% had constructed sanitary toilet which is also higher than the finding of

Table 1: Knowledge of sanitary toilet among study participants (n=384)

Variables	Category	Frequency (%)
Knowledge of sanitary toilet	Yes	344 (89.58)
	No	40 (10.42)
Advantages of sanitary toilet	Know	177 (46.09)
	Don't know	207 (53.91)
Every house should construct sanitary toilet	Aware	374 (97.4)
	Not aware	10 (2.6)
What sanitary measures should be taken during toilet use	Aware	364 (94.79)
	Not aware	20 (5.21)
How sanitary toilet should be cleaned	Aware	348 (90.62)
	Not aware	36 (9.37)
How frequently sanitary toilet should be cleaned	Aware	315 (82.03)
	Not aware	69 (17.97)

Table 2: Practices undertaken by study participants while using sanitary toilet (n=384)

Variables	Category	Frequency (%)
Constructed sanitary toilet	Yes	340 (88.54)
	No	44 (11.46)
Use of sanitary toilet	Yes	322 (83.85)
	No	62 (16.15)
Practice sanitary measures	Yes	356 (92.7)
	No	28 (7.3)
Cleaning of sanitary toilet	Yes	299 (77.86)
	No	85 (22.14)

toilets constructed in-house found in a study conducted by Budhathoki *et al.*^[11] and Joshi *et al.*^[12] 83.85% participants utilize toilet which is quite higher than the toilet utilization rate found in a study conducted among slum households by Bhar *et al.*^[13] and among rural communities, by Debesay *et al.*^[14] This difference might be due to study setting as present study was conducted among hospital visitors which consist of both rural and urban people. In the present study, 92.7 practice sanitary measures during toilet use which was higher than the finding of study conducted by Bitew *et al.*,^[15] Tabor *et al.*,^[16] and Biran *et al.*^[17] among camp population. The practice of sanitary measures was dependent on the availability of water and soap which were inadequately available in the camp area while easily available in urban area. In study, 77.86% of participants cleaned toilets by disinfectant. Similar finding was found in study conducted by Yimam *et al.*^[8] among household with toilet in rural areas of Denbia district, Northwest Ethiopia and slightly lower found in study conducted by Budhathoki *et al.*^[11] at Nepal. Overall knowledge about sanitary toilet was higher among people as compare to actual practice while using the toilet. Such similar

Table 3: Significance of difference between knowledge and practices for sanitary toilet among study participants

Variable	Knowledge n (%)		Practice n (%)		Chi-square, P value
	Yes	No	Yes	No	
Construction of sanitary toilet	374 (97.4)	10 (2.6)	340 (88.54)	44 (11.46)	$\chi^2=21.6$; <0.05*
Sanitary toilet use	344 (89.58)	40 (10.42)	322 (83.85)	62 (16.15)	$\chi^2=4.9$; <0.05*
Sanitary measures	364 (94.79)	20 (5.21)	356 (92.7)	28 (7.3)	$\chi^2=1.0$; >0.05
Cleaning of Sanitary toilet	348 (90.62)	36 (9.37)	299 (77.86)	85 (22.14)	$\chi^2=22.6$; <0.05*

*significant difference

finding of a difference in knowledge and practice was found in study done by Jeratagi *et al.*^[10] as higher knowledge than actual practice. This difference in knowledge and practice is statistically significant among construction of toilet, their utilization, and cleaning.

Through this study, we have access knowledge and their practice regarding all the aspects of sanitation at the family level, i.e., starting from the initiation of toilet construction, its utilization, cleaning practices along with proper frequency of cleaning and different types of sanitary measures adopted during toilet use. Such type of study covering all these aspects was not conducted anywhere else. Covering all such aspect will tell us about the blind spots at a different level of sanitation program. This study was conducted at hospital among those who attend medicine outpatient department so finding may be slightly different from the findings of the community as people who were not attending medicine outpatient department and privet hospitals were not included in this study.

Recommendation

This knowledge and practice gap regarding sanitary toilet can be minimized or removed completely by giving attention toward practices such as toilet utilization, following sanitary measures, and regular cleaning. Public sensitization through mass media is needed on how these facilities prevent transmission of infection and how sanitation is closely associated with the health of our family members which will help to improve the sanitary practice of people toward toilet utilization and ultimately contribute in the success of Swachh Bharat Mission.

CONCLUSION

People have better knowledge of sanitary toilet; about its construction, different sanitary measures taken during its utilization and its cleaning to make safe and hygienic. However, people were unaware about the benefit of the toilet in the reduction of diarrhea like diseases especially among under 5-year child which is the leading cause of death among these children. People had constructed toilet in their houses, they utilize these toilets, follow sanitary practices and properly cleaned these toilets, but these practices were not universally

followed among them. The proportion of these practices is lower than the knowledge among them. This difference in the proportion of knowledge and practice of construction of toilet, their utilization and cleaning are significant.

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