

## Original Research Article

# A study to assess the awareness and practice regarding utilization of sanitary toilet in the rural villages of Kalaburagi district

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### ABSTRACT

**Background:** As there is some improvement in sanitary latrine use and safe disposal of child faeces which is the one of the important goal of millennium development goals, awareness, practice and lack of community and household sanitary latrines is still a major problem. The objective was to study awareness and practice about use of sanitary latrine in villages.

**Methods:** The study was undertaken to assess the knowledge, attitude and practice in rural villages of Kalaburagi District, Karnataka, India. The study sample consist a total of 500 participants.

**Results:** The prevalence of usage of sanitary latrines was 40%. The prevalence of open air defecation in the study was 97.4%. There was significant association between belief, low standard of living and open air defecation.

**Conclusions:** To overcome the underutilization problem of sanitary latrines in rural areas is to provide quality household and community sanitary latrines along with the provision for creating awareness among the population regarding the benefit of using sanitary latrine.

**Keywords:** Attitude, Knowledge, Sanitary latrine

### INTRODUCTION

There are about 8 lakh people in poor and developing countries die every year due to inadequate water, sanitation and hand hygiene, roughly constituting two-third of total diarrheal deaths and poor sanitation is believed to be the main cause in 38 percent of these deaths.<sup>1</sup> India alone accounts for approximately 60 percent of global population defecating in the open, with the majority residing in rural India.<sup>2</sup>

Open air defecation perpetuates a vicious cycle of disease and poverty and the countries with high levels of open defecation have the highest number of under 5 deaths as well as the highest levels of malnutrition and poverty.<sup>3</sup>

Open defecation is an issue that can affect everyone but women are often at more risk of experiencing violence and multiple health vulnerabilities and women with poor

sanitation facilities are more susceptible to hookworm infestation resulting in maternal anemia, which in turn is directly associated to adverse pregnancy outcomes.<sup>4</sup>

Further evidence by media analysis and reporting show that adolescent girls and young women going for open air defecation have to bear extreme hardships and vulnerabilities. They are subjected to eve teasing and other forms of sexual exploitation besides having to cope with the vagaries of weather and other hazards on a daily basis. Difficulties are also faced by elderly and disabled and shrinking open spaces further adds to their woes.<sup>5</sup>

For decades, scientists, world over, have focused on the impact of poor sanitation practices on health and well-being. Studies show that open air defecation contributes in the spread of bacterial, viral, and parasitic infections, including diarrhea, polio, cholera, and hookworm and could lead to child stunting.<sup>6,7</sup>

The study was conducted to assess the knowledge and practice regarding utilization of sanitary toilet in the rural villages of Kalaburagi District.

### Objectives

Objectives of the study were to assess the knowledge and practice regarding utilization of sanitary toilet in the rural villages of Kalaburagi District and to associate socioeconomic factors influencing the utilization of sanitary toilet in the rural villages of Kalaburagi District.

## METHODS

### Study settings

The present study was carried out in villages of Kalaburagi District, Karnataka, India.

### Study period

The study was conducted for a period of 3 months.

### Inclusion criteria

Age 12 years and above of either sex were included in the study.

### Exclusion criteria

Below 12 years of either sex were excluded.

### Data analysis

The data was analyzed using Microsoft Excel (SPSS Version 16.0 Software) and the results are explained in frequency percentage and ANOVA Test was applied for statistical significance.

A cross-sectional study was conducted in a selected rural area called Hiroli and Bhimpur which has a population of 6000 residents with around 900 houses. Both come under Hiroli Primary Health Centre, Kalaburagi District, North Karnataka. All the participants were personally contacted and interviewed using predesigned and pretested questionnaire. The study was conducted from June 2019 to October 2019. The sample size of 500 was calculated using the formula ( $n = pq/d^2$ ). The prevalence (p) of knowledge about sanitary toilet use was found to be 60% (Sidhraj J study),  $q = 100-p$  and d for error as 5% at 95% confidence interval.<sup>7</sup> They were selected randomly to ascertain the validity of the questionnaire and feasibility of the study. All the persons above 12 years from each household, who were permanent residents of the village, were selected by simple random sampling technique using computer generated random table method. Informed consent was taken from the participants before the study.

A pre-designed and pretested questionnaire was used to collect the data which included various questions

regarding the knowledge, attitudes and practices related to their toilet use. Data was entered in Excel sheet and analyzed using SPSS 20 version software. Analysis was done using frequency and percentages. Chi-square test was used to find the association between important socio-demographic variables and knowledge, attitude and practices and ANOVA Test was applied for statistical significance.

Socio-economic status was calculated using Modified B. G. Prasad Classification using the average consumer price index for the year 2019. Ethical clearance was obtained from Institutional Ethical Committee of M.R. Medical College, Kalaburagi.

## RESULTS

**Table 1: Socio demographic distribution of the study participants (n=500).**

Socio demographic Variables	Number	Percentage
<b>Age (in years)</b>		
12 - 18	85	17
19 - 30	135	27
31 - 40	140	28
41 - 50	90	18
51 and above	50	10
<b>Gender</b>		
Male	238	47.6
Female	262	52.4
<b>Marital status</b>		
Married	420	84
Unmarried	80	16
<b>Educational qualification</b>		
Illiterate	340	68
Literate	160	32
<b>Occupation</b>		
Farmer	220	44
Housewife	150	30
Students	60	12
Business	45	9
Employee	25	5
<b>Socioeconomic status</b>		
Class III	65	13
Class IV	230	46
Class V	205	41

Most of the participants in this study were aged between 31 - 40 years, 262 (52.4%) participants were females. About 340(68%) were illiterates, and 160 (32%) literates. Majority of the participants were farmers 220 (44%) and 150 (30%) were housewives. About 230 (47.2%) participants belonged to class IV 205 (42.9%) class V and 65 (13.2) class III and most of them 340 (68%) were married.

**Table 2: Distribution of participants according to their knowledge about sanitary toilets.**

Questions related to knowledge	Frequency	%
Is there any toilet facility in the house?	200	40
All members use toilet at home?	0	0
Whether children use toilet facility?	10	2
Are you aware of any toilet provision services?	50	10
Are there any harmful effects of open air defecation?	38	7.6
Is there any disadvantage of household toilet?	350	70
Can toilet cause any disease?	35	7

**Table 3: Distribution of study participants according to their attitude about sanitary toilets.**

Questions related to attitude	Frequency	%
Do you want to own a household toilet?	375	75
Can household toilet provide privacy?	365	73
Do you feel comfortable going open air defecation?	120	24
Is there any stigma related to practicing household toilet?	395	79
Is household toilet consume more water?	300	80
Do you want to use public toilet?	100	20
Is it necessary to own toilet	365	73

**Table 6: Association between key socio demographic variables and knowledge regarding sanitary toilets in the study, participants (n=500).**

Socio demographic Factors	Knowledge				Chi square test and p value
	Good	Average	Poor	Total	
<b>Age (in years)</b>					
12-18	8	65	12	85	$\chi^2=5.67$ p>0.05
19-30	5	106	24	135	
31-40	3	113	24	140	
41-50	1	72	17	90	
>50	0	34	16	50	
<b>Gender</b>					
Male	9	191	38	238	$\chi^2=2.123$ p>0.05
Female	8	199	55	262	
<b>Educational qualification</b>					
Illiterate	0	255	85	340	$\chi^2=28.74$ p<0.001
Primary	5	91	5	101	
Secondary	12	44	3	59	
<b>Socioeconomic status</b>					
Class III	10	52	3	65	$\chi^2=25.93$ p<0.001
Class IV	4	194	32	230	
Class V	2	141	62	205	

**Table 4: Distribution of study participants according to their practices.**

Questions related to practices	Frequency	%
Do you practice open air defecation?	487	97.4
Do you have public toilet in your village?	40	8
Do you wear footwear while going for open air defecation?	470	94
Do you own toilet	200	40
Do children use toilet?	6	1.2
Do you clean toilet after defecation?	15	3
Do you wash your hands after defecation?	460	92

**Table 5: Distribution of the study participants according to their overall awareness sanitary toilets (n=500).**

		Frequency	%
<b>Knowledge</b>	Good	14	2.8
	Average	391	78.2
	Poor	95	19
<b>Attitude</b>	Positive	263	52.6
	Acceptable	132	26.4
	Negative	105	21
<b>Practice</b>	Good	38	7.6
	Average	308	61.6
	Poor	154	30.8

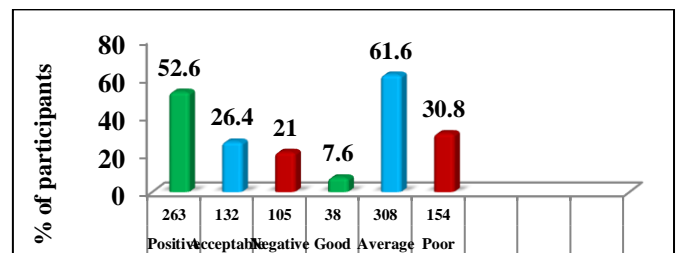
**Table 7: Association between key socio-demographic and attitude regarding sanitary toilets in the study participants (n=500).**

Socio demographic Factors	Attitude				Chi square test and p value
	Good	Average	Poor	Total	
<b>Age (in Years)</b>					
12-18	68	12	5	85	
19 30	97	28	10	135	$\chi^2=17.74$ p<0.01
31-40	64	43	33	140	
41-50	24	31	35	90	
>50	10	18	22	50	
<b>Gender</b>					
Male	126	64	48	238	$\chi^2=3.051$ p>0.05
Female	137	68	57	262	
<b>Educational qualification</b>					
Illiterate	131	114	95	340	
Primary	81	12	8	101	$\chi^2=16.35$ p<0.01
Secondary	51	6	2	59	
<b>Socioeconomic status</b>					
Class III	54	9	2	65	$\chi^2=28.91$ p<0.001
Class IV	143	67	20	230	
Class V	66	56	83	205	

**Table 8: Association between key socio-demographic variables and practice regarding toilets in the study participants (n=500).**

Socio demographic Factors	Practice				Chi-square test and p value
	Good	Average	Poor	Total	
<b>Age (in years)</b>					
12 - 18	13	53	19	85	$\chi^2=36.41$ p<0.001
19 - 30	21	106	8	135	
31-40	3	98	39	140	
41-50	0	32	58	90	
>50	1	19	30	50	
<b>Gender</b>					
Male	22	161	55	238	$\chi^2=12.63$ p<0.01
Female	2	189	149	340	
<b>Educational qualification</b>					
Illiterate	2	15	82	4	$\chi^2=83.65$ p<0.001
Primary	21	37	1	59	
Secondary	23	37	5	65	
<b>Socioeconomic status</b>					
Class III	13	158	59	230	$\chi^2=32.79$ p<0.001
Class IV	2	113	90	205	
Class V					

The overall knowledge among study participants 95 (19%) was poor, 391 (78.2%) average and 14 (2.8) good were as attitude among 263 (52%) acceptable 132 (26.4%) and negative 105 (21%). In the study it was found that the participants who belonged to low socio economic status and illiterates had poor knowledge about sanitary latrines and it was found that, participants in higher age group used toilets than those in lesser age group and attitude was better in higher socioeconomic participants.



**Figure 1: Bar diagram represents percentage of participants.**

## DISCUSSION

The study was conducted to know the knowledge, attitude and awareness level regarding sanitary latrines in the villages bordering Maharashtra in Northern part of Kalaburagi District. Most of the study participants were married 420 (84%) and aged between 31 - 40 years. In the study sample female participants were more than male 262 (52.4%) and majority of them belong to lower socioeconomic status were most of them were illiterate 340 (68%).

A study from Pune, Maharashtra recorded majority (67.8%) of participants were in the age group of more than 50 years.<sup>8</sup> In a study from Mtawara, Tanzania, more than half (54.8%) were aged in between 40 - 49.<sup>9</sup> In present study, majority of the participants (53%) were females which was different from another study where majority of participants were males (79.1%).<sup>10</sup> Majority 350 (87.5%) of the participants were illiterates. A study from rural Bangladesh reported 55.3% had attended school at some point of time.<sup>11</sup> Almost all the study participants belonged to low socioeconomic status which was similar to other study conducted in Ethiopia.<sup>11</sup>

In the present study majority of them were practicing open air defecation 487 (97.4%) although about 200 (40%) of the participants were having sanitary toilets constructed in their house. Regarding washing of hands after defecation and wearing of chapels most of the participants 470 (92%) wash their hands and all the participants wear chapels while going for defecation.

Many studies conducted in India and African countries have similar finding which will guide the international agencies to focus their efforts in these areas.<sup>12-14</sup> Maharashtra, India showed that hand washing with soap and water after defecation was practiced by 38%.<sup>13</sup> Most of them (70.1%) were using footwear while going for defecation which was similar to another study in Bangladesh.<sup>15</sup>

In the study it was found that the participants who belonged to low socio economic status and illiterates had poor knowledge about sanitary latrines and it was found that, participants in higher age group used toilets than those in lesser age group and attitude was better in higher socioeconomic status participants. Similar studies conducted in South-East Asian countries also have shown that higher education and socio-economic status will affect the sanitary toilet use in a positive way.<sup>16-17</sup>

### Limitations

The study should be conducted in the other rural areas and also a comparison can be done with the urban area.

## CONCLUSION

The present study showed that the knowledge, attitude and practices regarding importance of sanitary toilet are

very low in a study population. Majority of the villagers were practicing open air defecation. Most of the households did not have a sanitary latrine and households who have constructed latrine but are not being used. There is a need to impart health education regarding importance of use of sanitary toilet and motivate the community to use.

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