Original Research Article

Status of sanitation and hygiene practices in the context of "Swachh Bharat Abhiyan" in two districts of India

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ABSTRACT

Background: For every human being potable drinking water, sanitation and healthy hygiene practices are important to sustain healthy life. This paper focuses on urban slums and rural segments of India as these areas are mostly deprived of these essential amenities. Swachh Bharat Abhiyan came into existence to ensure that each and every citizen of India should get the access to these basic necessities. Our study therefore highlights the key issues which may act as a hindrance to the progress of this Abhiyan in rural and urban parts of India.

Methods: A total sample of 190 households was selected for the study from district Ghaziabad, Uttar Pradesh and district Jabalpur, Madhya Pradesh. One adult respondent was selected from each household randomly for the study. The statistical data was analyzed and represented by graphs and tables.

Results: Study finding shows that 76% of total respondent were not aware about the "Swachh Bharat Abhiyan" and 56% were not aware about the significance of keeping good sanitary conditions. It was also observed that among the total respondents only 54% were defecating in the toilet and 8% of respondents don't wash their hands after defecation and 11% of the respondents never wash their hands before meals. As observed, only 33% of female respondents were using sanitary pads during their menstruation.

Conclusions: The study findings support the need for creating immediate awareness in these communities. It also highlighted the urgent need for effective basic sanitation facilities. This would be very relevant for the Swachh Bharat Abhiyan.

Keywords: Environmental hygiene, Personal hygiene, Swachh Bharat Abhiyan, Sanitation

INTRODUCTION

Approximately 37% of the world population, i.e., 2.5 billion people in the globe defecate in the open due to deficiency of adequate facilities for sanitation.¹ For every human being potable drinking water, sanitation and healthy hygiene practices are important to sustain healthy life. India is far behind many developing countries in the area of sanitation and hygiene. Most cities and towns in India are facing issues of dense settlement, shortage of

water supply and inadequate facilities for disposal of human excreta.²⁻³ To provide sanitation and hygiene to a growing population of more than 1.21 billion of India is a major challenge. Increase of population would further put pressure on sanitation, provision of potable water, solid and liquid waste management.⁴ Taking these issues under consideration, the Government of India has undertaken a large number of focused initiatives to address these concerns in terms of national level programs like "Swachh Bharat Abhiyan" which was launched in October 2014. Swachh Bharat Abhiyan has taken a shape

of Swachh Bharat Mission with the following objectives for rural and urban areas. 1) To improve sanitation coverage in rural areas; 2) To encourage communities and Panchayati Raj institutions to follow viable and feasible sanitation facilities and practices; 3) To improve quality of life by encouraging cleanliness and hygienic practices in the community; 4) To completely wipe out open defecation; 5) To promote economically viable and appropriate technologies to achieve sustainable sanitation; 6) Elimination of Manual Scavenging; 7) Promoting solid waste management in the communities; 8) Creating awareness about sanitation and its association with public health.⁵⁻⁶

The coverage of sanitation facilities in urban India is around 81%, while in rural India it is only 32.7%.⁴ Most of India's rural regions are without sanitation facilities and big portions of rural India still facing for the acute potable water shortage. Due to deficiency of awareness, traditional customs and beliefs, open defecation is an issue to address. This has happened due to lack of participation of poor and marginalized communities (particularly in tribal and remote regions) in the local organizations and decision making committees. 'Social aspects of health and sanitation' would help in understanding the bigger phenomenon of sanitation in the Indian context. Sanitation can no longer be seen as an 'isolated' component of rural and urban development trajectory. Sanitation needs to act as an intact segment of the best health care structure. The development goals need to take up the sanitation standards, as the sanitation and hygiene development trajectory have several deficiencies.

Inadequate sanitation has a direct effect on the health of the people of the country, especially the infants and young children. It also impresses the vitals of economic and social loss of our nation. About 37.7 million people in India suffer from water related illnesses annually.⁷

Recent data suggest that contaminated drinking water, poor sanitation and hygiene contribute to 88% of the diarrhoeal diseases.⁸ Hand-washing with soap can significantly reduce the incidence of diarrhea, which is among the second leading cause of death in children less than five years of age.⁹ It is also important to provide them with safe drinking water and improved sanitation within the household, so as to reduce the burden of morbidity and mortality of this age group.¹⁰ In fact, studies also reveal that regular hand-washing with soap at critical times can reduce the number of diarrhoea bouts by almost 50 per cent. Diarrhoeal diseases can be cut by over 40 per cent and respiratory infections by 30 per cent if proper hand washing is done with soap, especially after contact with excreta.⁹ Proper Menstrual Hygiene significantly reduces fungal infections. Repeated infections may lead to serious urinary tract infections and reproductive tract infections that can cause infertility in the long term.¹¹

The study was conducted in the state of Uttar Pradesh and Madhya Pradesh. Both these states are known to have poor levels of sanitation.¹²

District Ghaziabad is located in Uttar Pradesh. According to the Census of India 2011, total area of district Ghaziabad is 1179 sq km which is in the form of a strip, stretches out from west to east. Ghaziabad District consists of 3 tehsils with an urban population of 67.6 percent. It has a total population of 46,81,645 with a decadal growth rate of 41.3% from 2001 to 2011. According to Census of 2011 the literacy levels are high at 78.01%. There are 547 villages in the district. Out of which 511 are inhabited and remaining are un-inhabited. According to Census 2011, the district has 8,50,676 households which accounts 2.5 percent of the total households of the state. Urbanization in the district is quite high as it has nearly three times more urban population than the the average.¹³

Table 1: Percentage distribution of households by sanitation facilities.

Districts			Ghaziabad	Jabalpur
Total No. of Households (Excluding institutional households)			829,843	515,029
Distribution of Households by type of latrine facility	Latrine facility Available within the premises		84.58%	55.68%
		Flush/pour flush latrine connected to		
		Piped sewer system	30.52%	5.82%
		Septic tank	47.67%	43.66%
		Other system	1.47%	2.2%
	Pit Latrine	With slab/ ventilated improved pit	2.04%	1.63%
		Without slab/ open pit	0.53%	1.47%
	Latrine Not available within premises	Total	15.42	44.32%
		Public latrine	0.68%	2.66%
		Open	14.74%	41.66%
Distribution of households by availability of	Type of drainage	Closed drainage	28.21%	19.75%
		Open drainage	64.15%	40.57%
		No drainage	7.64%	39.68%

Jabalpur District of Madhya Pradesh is spread over 5,211sq km and has 7 tehsils. It has a total population of 2,463,289 with a decadal population growth rate of 14.51% from 2001 to 2011. The literacy levels are high at 81.01%. According to the Census 2011, there are 534,044 households in the district and 28.7% of the city's population resides in slums.¹⁴ There are about 331 slum settlements spread over wards.¹⁵ The overall view of the sanitation facilities in these 2 districts is presented in Table 1.¹⁶

The study focuses on urban slum and rural segment of India because these areas are mostly deprived of essential amenities of sanitation. Study findings highlight the key issues which may act as a hindrance to the progress of the Swachh Bharat Abhiyan. This paper analyzed the awareness level and sanitary conditions of the sample households. The main emphasis behind this paper is to focus on important points that may help to push forward issues in sanitation. The paper investigates about the situation of sanitary conditions and hygiene practices. It is unique as it reveals the points where the government

can work upon so as to make the recently launched Swachh Bharat Abhiyan a successful mission.

Objectives of the study: The objectives of the study are (1) To assess the current status of sanitation and hygiene practices of the individuals; (2) To assess the level of awareness of the individuals about sanitation, hygiene and Swachh Bharat Abhiyan and; (3) To assess the extent of use of sanitary toilets by the individual at household level.

METHODS

Study area and sample respondents: The study was conducted from February, 2015 to April, 2015. Using the 2011 Census data, three rural areas and one urban slum were randomly selected from district Ghaziabad, Uttar Pradesh and district Jabalpur, Madhya Pradesh. One adult respondent from each household was randomly selected for the study. A sample size of 190 households was selected for the study, as presented in Table 2.

Table 2: Sample coverage of villages and an urban slum in the district Ghaziabad and Jabalpur (*Taken from Census Data 2011; **taken from ZilaPanchayat – Jabalpur).

Area	Total households	Household visited	Number of respondents	
			Male	Female
District Ghaziabad				
Mahmudabad	136*	62	29	33
Misbapur and Bhawanipur	64*	55	21	34
District Jabalpur				
Bhulan	77**	73	32	41
Total	277	190	82	108

Enquiry areas and research instrument: Interview schedule was prepared and pre-tested before canvassing in the field. Every individual participating in the study was explained the purpose of the study in Hindi. During the administering of the questionnaire the consent was taken from all the identified individuals. The selected respondents were asked a set of questions from the semi structured questionnaire through personal interview in Hindi as they all were familiar with this language. All the individuals were assessed for the inclusion and exclusion criteria. Inclusion criteria include the adult males and females of any age group and permanent resident of the selected areas. Two percent of the women's respondents did not participate due to their shy nature and therefore were excluded from the study.

Data analysis: The Statistical analysis was done by using MS Excel and SPSS. The statistical data was analyzed and

represented by tables and graphs. The graphs were used to show the hygienic practices and sanitary conditions in two districts of India.

RESULTS

The questionnaire was categorized in sections covering the background information of the respondents, as detailed in Table 3, awareness of personal hygiene and environmental hygiene, illness episodes and practices.

Community participation, that depends on the awareness level of the community, play a vital role in the effective implementation of any ongoing program. As observed in this study, 76% of the total respondents were not aware about the national program "Swachh Bharat Abhiyan" and 56% were not aware about the importance of good sanitary conditions (Table not shown).

Table 3: Percentage distribution of sample by background characteristics.

Characteristics		Ghaziabad		Jabalpur	
		Male	Female	Male	Female
Literacy rate	No Education	41.5	53	45	51
	Primary	26	26	19	31
	Secondary	23	14.5	23	16
	Higher	9.5	6.5	13	2
	Total	100	100	100	100
Occupation	Unemployed	10	29.5	10	8
	Farmer	48	41	38	29
	Labour	29	20.5	39	51
	Service	11.5	8	6	9
	Other	1.5	1	7	3
	Total	100	100	100	100

Personal hygiene practices: When the hand washing practices were assessed, it was found that 8% of the total people do not wash their hands after defecation and 11% of the respondents never wash their hands before having their meals. This study also revealed about the un-

hygienic practices of the respondents as they never wash their hands before feeding their children or after disposing the excreta, as much as 25% and 27% respectively. No significant difference regarding hand washing practices was observed in both the district, as detailed in Table 4.

Table 4: Percentage distribution of samples by handwashing practices; hand washing (HWS).

	HWS after defecation (%)	HWS before cooking (%)	HWS before having meal (%)	HWS before feeding child (%)	HWS after handling Excreta/ Waste (%)
Ghaziabad	93	83	90	74	72
Jabalpur	91	81	88	76	75
Total	92	82	89	75	73

Though 61% of respondents said that they were washing their hands on a regular basis, but the investigators observed that only 51% of them were having their hands visibly clean. Merely 29% of the respondents were using soap or antiseptic liquid while the remaining of them were using other conventional materials such as mud (32%) and ash (28%). 11% of the respondents were washing their hands with water only (Table not shown). It was found that 43% of the respondents were taking bath every day, 47% were taking bath thrice in a week and 10% occasionally.

Widespread ignorance of menstrual hygiene practices adversely affects the well-being of adolescent girls and women. This data indicates that 52% of the total female respondents were in reproductive age. And during menstruation only 33% of females were using sanitary pads. Remaining 67% were using cloth. Due to lack of awareness and un-affordability to purchase sanitary napkins, the adolescent girls and women were forced to use cloths during the menstruation. Duration of changing pads/ cloth during menstrual cycle is also an important

part of menstrual hygiene practices, as detailed in figure 1.

Only 5.5% of women were changing their sanitary pads in every 2 hours, 17.5% of the women were changing at an interval of 2-4 hours, 33% of women were changing their sanitary pads at an interval of 5-7 hours, 28% were changing it twice in a day and the remaining 16% of them were wearing it for whole day (Table not shown). Regarding Genital cleanness, 56% of total respondents clean their genital area daily and majority of them were females. Water was used by 70% of the respondents, 23% use soap while 4% use antiseptic and 3% use other conventional materials such as mud or ash as a material to clean their genital area (Table not shown).

Environmental hygiene and sanitation facilities: When the home cleaning practices on a daily basis were assessed, it was found that 49.5% of the total people do not clean their walls and 12.7% of the respondents do not clean their floors. Kitchen cleaning was done by only 25% of the respondents.

Figure 1: Percentage distribution of samples by personal hygiene practices.

The study results shows that sanitation problems were not just due to the lack of facilities or funding, but also due to the behavior pattern of the individual towards the hygienic practices. A combination of factors that trap them into these practices which include cultural beliefs, lack of awareness, misconceptions among the respondents about the costs involved and the indifferent attitude of the local authorities/ government towards implementation of the program hands visibly dirty (observation). It was observed that among all respondents, 54% were defecating in toilets and 46% were defecating in open. Though the toilet facilities were available in 81% of the households, but due to lack of sewer connectivity and poor drainage outlet the toilets were of little use. Hence, they had a regular tendency towards open defecation. Those respondents who were using toilets, 67% of them were using the pit latrine system without slab while 27% were using pit latrines with slab and only 6% were using proper flush system latrines. The overall study revealed that 83% of the respondents were disposing their garbage in open fields, 13% were disposing garbage on the street a band only, 4% were properly disposed garbage by throwing it into the dustbins. In one of the villages of the district Ghaziabad majority of the people were keeping their garbage in the street till the garbage collector comes. There was no fixed day for the garbage collector. 71% of the respondents were disposing their used or waste water in open drainage which is located just outside their premises, as detailed in Figure 2. This drainage system

was found to be lacking in proper connectivity with sewerage system, resulting in stagnation of waste water.

The impacts of sanitation and hygiene on health are significant. Unsafe disposal of human excreta/garbage and improper hand washing practices facilitates the transmission of many oral-fecal diseases, including diarrhea and a range of intestinal worm infections such as hookworm and roundworm. Due to lack of medical facilities available in the target population has to visit nearby city areas to get the same. Three-fourth of the total respondents who had one or more time visited medical facility in the last 6 months was asked about their illness. 28% of them reported of worm infection, 44% reported of diarrhea and the remaining 28% reported other diseases like dengue, malaria and cholera. One-fourth of the respondents were not aware about the diseases as they have not availed the medical facilities. (Table not shown).

Figure 2: Percentage distribution of samples by environmental hygiene practices.

The overall sanitary condition as observed was found to be unsatisfactory thereby it needs immediate attention to address this issue. In all, in the study areas there was no sewerage system as observed. Most of the people of these villages were using cow dung as a biofuel and some of them left it untreated in their homes. In these areas majority lives in kaccha houses. Dampness in these kaccha houses, particularly during the rainy season creates a favourable environment for many vector borne diseases.

Table 5: Percentage distribution of samples by cleaning practices.

District	Walls cleaning (%)	Floor cleaning (%)	Kitchen cleaning (%)	Toilet cleaning (%)	Door – window cleaning (%)
Ghaziabad	48	86	80	59	64
Jabalpur	54	88	65	69	51
Total	50.5	87.3	75	63	60

Figure 3: Sanitary conditions.

DISCUSSION

One of the inferences drawn from this study concerning the open defecation practices shows almost similar results (46%, 56%) to that of squat survey conducted by coffey et al in 2014 that covered the rural northern India, including the five states (Madhya Pradesh, Uttar Pradesh, Rajasthan, Haryana and Bihar).¹⁷

The present paper further brings out the fact that still the majority of women are following unhygienic mensuration practices which is a cause of concern. Our study reveals sanitary pad usage to the extent of 33% that is almost similar to 28.8% usage to a study conducted by Misra P et al.¹⁸ The author also draws the attention that only one-fourth (25.3%) of total female respondents were willing to buy sanitary pads. Our study also supports this fact of unwillingness to buy sanitary napkin by rural females. This paper also noticed a remarkable difference in regard to sanitary pad usage (33%) from that of the study conducted in Raichur by Ade et al in 2013 (65%).¹⁹

When we observed hand washing practices, the present study shows both the district has no significant difference. A Study conducted by Kuberan Anjana et.al studied hand washing practices and observed that 20% of the respondents were washing their hands after defecation.²⁰ It shows a notable negative difference to that of our study where figures were as high as 92%, which was a positive trend. However Anjana K et al further added that 95% washed their hands before their meal which was almost similar to our results 89%.

The above author also showed that 83% were using soap for washing their hands while our study reveals a much lower figure that is 29%. However, use of other conventional materials like ash and water for hand washing was much higher in our study.

Limitations

Limitation of the study was that only one respondent from each household was selected for the study, which

unable to describe the hygiene practices status of other members of the family. The other limitation was that the sample size was small.

CONCLUSION

All the respondents of the study areas stated the lack of awareness as one of the leading causes for not practicing the key hygienic behavior. For effective implementation of Swachh Bharat Abhiyan, it is important to bring out the immediate need of awareness in the community. So that community can be made a part of this program through community participation.

One of the results of this paper highlighted the need to provide basic sanitation or toilets with proper sewage connectivity so as to reduce the tendency of respondents for open defecation. This would also ensure hygienic separation of excreta from human contact which means faeces must be confined until they are composted and safe.

The study also highlights the need of medical facilities which will further help to reduce the burden of morbidity and mortality of sanitation related diseases from these areas.

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