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An Assessment of Sanitary and Hygienic Practices in Rural Areas in a District in Northern India

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ABSTRACT

Much of ill health in India is due to poor environmental sanitation that is unsafe water, polluted soil, unhygienic disposal of human excreta and refuse and poor housing. The twin problem of unsafe water and unsafe excreta disposal is a major hurdle for health in the rural areas of our country. This study was done with the aims and objectives to assess the level of awareness regarding 1. Safe water 2. Sanitation 3. Personal hygiene 4. Diarrhoea and worm infestation. It was a cross sectional study in the two community development blocks of Allahabad district namely Jasra and Saidabad from May 2004 to August 2004. The study units were households/family and the sample size of 640 households was calculated. The study variables were the housing, income, education, source of drinking water, sanitary toilets, personal hygienic practices, diarrhoea and worm infestation. We found that out of 640 household heads 46.9 per cent were illiterate. Majority 60.8 per cent were living in Kutcha houses. Well was the main source of drinking water 57.9 per cent, followed by hand-pumps 30% and piped water only in 12.1 per cent of households. Daily cleaning of water storing utensils was present in 88.6% out of those that stored water. Use of ladle to take out water from water storing utensils was seen only in 30.3 per cent. Around 54 per cent had no knowledge of water purification. Sanitary latrines were present in only about 7 per cent of households. Washing of hands after defecation with soap was seen only in 57.2 per cent. Proper personal hygienic practices were found only in a small percentage of households. 65.0 per cent were disposing their household waste indiscriminately. Knowledge about ways of preventing diarrhoea was not satisfactory 12.3 per cent did not know anything about prevention of diarrhoea. Worm infestation was reported to be present in 54.4 per cent. These observations reflect lack of knowledge and awareness which can be addressed by understanding their perception, sensitizing the community on various health related issues and communication for behaviour change.

KEYWORDS : Sanitation, hygiene, practices

Introduction:

The lack of water supply and sanitation is the primary reason why diseases transmitted via faeces are so common in developing countries. The most important of these diseases are diarrhoeal diseases and worm infestation. Diarrhoeal diseases account for 4.3 per cent of the total global disease burden. An estimated 88.0 per cent of this burden is attributable to unsafe drinking water supply, inadequate sanitation and poor hygiene. These risk factors are second after malnutrition, in contributing to global burden of disease. About 15.0% of all under five deaths in developing countries in due to diarrhoea[3].Intestinal worms infect about 10.0 per cent of the population in developing countries and can lead to malnutrition, anaemia and retarded growth[3].

Improvement of environmental sanitation is therefore crucial for the prevention of disease and promotion of health of individuals and communities. Sanitation is the "Science of safe guarding health". It is a way of life. Being a way of life, it must come from within the people. Hygiene promotion is most successful when it targets a few behaviours with the most potential for impact. Based on extensive research, WHO/UNICEF have identified hand washing with soap (or ash or other aid) after defaecation and before preparing food; safe disposal of faeces and use of latrines; and safe weaning food preparation, water handling and storage as key hygiene behaviour.

Uttar Pradesh is the most populous state in India. As per census 2011, 77.11 per cent of its population is residing in rural area and the problem is of rural sanitation. As the matter stands today safe water is available to only about 82.0 per cent of rural population and adequate facilities for waste disposal to only about 18.0 per cent[2] of rural population indicating that sanitary and hygienic practices of rural population are still to be improved.

This study is an attempt to assess and analyse the existing sanitary and hygienic situation in the rural areas of the district with the objectives to assess the level of awareness regarding 1. Safe water 2. Sanitation 3. Personal hygiene 4. Diarrhoea and worm infestation.

Materials and Methods:

The present study was a cross sectional study conducted in Jasra and Saidabad blocks of Allahabad District in northern India from 2004-2005. A stratified multistage random sampling technique was used in the present study. Within each block to be studied, samples of four villages were selected as primary stage unit. Within selected villages, a sample of 80 households was selected as second stage units. The optimum sample size was decided on the basis of a pilot survey results wherein it was found that about 72 per cent households were aware of some major hygienic practices. On the basis of 95 per cent confidence level and 5 per cent permissible error, optimum size was decided to be 634. It was planned to confine the survey in total 8 clusters depending upon time and cost constraints and accordingly it was decided to select 80 household per cluster in order to attain the optimum sample size and so a total of 640 households were finally included in the study from eight selected villages. Information on housing, education, source of drinking water, sanitary toilets, personal hygienic practices, diarrhoea and worm infestation was taken from head of household or some senior member and recorded on pre-tested, pre-coded questionnaire. Test of percentage was used for statistical analysis.

Results:

According to table 1, Maximum 371 (57.9%) households were drinking well water followed by 192 (30%) using hand pumps. Tap water was used by 77 (12.1%) only. Out of the total 640 households, 567 (88.6%) were cleaning their utensils daily 50 (7.8%) not cleaning their utensils daily. Rest 23 (3.6%) households did not store water. Out of 627 families who stored drinking water only 190 (30.3%) were using 'Ghanti' take out drinking water from the storing container. Out of 640 households, only 294 (45.9%) were aware of water purification. Among them 136 (21.3%) knew the use of bleaching powder, 29 (4.5%) about boiling and 129 (20.1%) about other methods (straining, filtration, sedimentation) to clean dirty water for drinking purpose.

Table 2 reveals that in the majority of the houses 590 (92.2%) toilets were not available, only 50 (7.8%) houses had toilets out of which 45 (90%) houses had water seal type of latrines. Out of 50 households having toilet, 40 (80%) were using it regularly, 10 (20%) used it occasionally, Among 10(20%) households who did not prefer toilet use, 3(30%) used it as per mood, 3 (30%) preferred to use the toilet only at night, 2 (20%) used in emergency and 2 (20%) thought it was meant only for female. The practice of washing hand with soap after defecation was present only in 366 (57.2%) household.

Table -1 Distribution of Households by Safe Drinking Water Practices

S.N	Characteristics	N=640 (%)
1.	Source of Drinking Water	
	Tap	77 (12.1)
	Hand pump	192(30.0)
	Well	371(57.9)
2.	Daily Cleaning of water storing utensils	
	Yes	567(88.6)
	No	50(7.8)
	Don't store water	23(3.6)
3.	Hygienic storage (N=627)	
	Yes	416 (66.3)
4.	Separate utensil "Ghanti" to take out water (N=627)	
	Used	190(30.3)
5.	Knowledge about purification of water	
	No knowledge	346(54.1)
	Boiling	29(4.5)
	Bleaching powder	136(21.3)
6.	Others (Filtration, decantation)	129(20.1)

Table 2 : Distribution of Households by Sanitary Practices

S.No.	Characteristics	Freq. (%)
1.	Toilets in home (N=640)	50 (7.8)
2.	Sanitary toilets(N=50)	45 (90.0)
3.	Use of toilets (N=50)	
	Regular	40 (80)
4.	Used by all members	40 (80)
5.	Reasons for all members not using toilets N=10	
	As per mood	3 (30)
	Only in emergency	2 (20)
	Only for females	2 (20)
	Use only in night	3 (30)
6.	Washing hands with soap after defecation (N=640)	
	Yes	366 (57.2

As per table 3 out of 640 households. Inhabitants of 504 (78.8%) households were taking bath regularly, while the rest 136 (21.2%) were not taking bath regularly. It was found that 522 (81.6%) families were using soap for bathing while 118 (18.4%) were not using soap for bathing. Out of 522 families using soap 378 (72.4%) were using it once a week followed by 112 (21.5%) twice a week and only 32 (6.1%) were using soap daily. Out of 640 respondents 571 (89.2%) were cleaning their teeth regularly, Rest 69 (10.8%) were not cleaning their teeth regularly. Majority of the respondents 559 (97.9%) did not clean their teeth at night, only in a small percentage 2.1% (12 families) the practice of cleaning the teeth at night was present. Only 61.3% were cutting their nails regularly, while rests were not doing the same. Washing of hands before meals was practiced in most of the households 596 (93.1%). 44 (6.9%) were not washing their hands before meal.

Water was most commonly used in 429 (72.0%) households while 167 (28.0%) households used soap for washing hands. It was observed that 416 (65.0%) of the total respondents were disposing their household waste indiscriminately outside their houses only 224 (35.0%) were throwing it at fixed suitable places.

Table 4 shows that the correct knowledge about diarrhoea was present in 522 families ie. 81.6% out of the 640 households surveyed. Maximum awareness was of loose stools 293 (45.8%) followed by motions more than three times a day 224 (35.0%) & the least perception was about one big watery stool as a symptom of diarrhoea (19.2%). Knowledge about prevention of diarrhoea was not satisfactory. Safe drinking water will prevent diarrhoea was told by 137(21.4%) respondents followed by use of sanitary latrines 123 (19.2%) and washing of child's hand after defaecation 114(17.8%). 62 (9.7%) respondents knew that washing hands with soap after defaecation as a preventive measure, while only 66 (10.3%) knew about breast feeding as a preventive measure, 16 (2.6%) respondents that the measles vaccination is also a preventive measure for diarrhoea. What was surprising that 79(12.3%) responded that they did not know how diarrhoea could be prevented, only 5 out of 640 respondents knew that vitamin A solution could also be a preventive measure for diarrhoea. Of the total 640 respondents, 348 (54.4%) were aware about worm infestation in their families. 19.7 per cent (126 families) did not know whether their children had worm infestation. Of those who were aware about worm infestation, deworming was done in 176 (50.6%) families.

Table 3: Distribution of Households by personal Hygienic practices.

Personal Hygiene Characteristics	Freq. (%)
Regular Bathing : (N=640)	
Yes	504 (78.8)
Use of soap for Bathing : (N=640)	
Yes	522 (81.6)
Frequency of Using Soap: (N=522)	
Once a week	378 (72.4)
Twice a week	112 (21.5)
Daily	32 (6.1)
Cleaning of Teeth (N=640)	
Yes	571 (89.2)
Cleaning of teeth at night (N=571)	
Yes	12 (2.1)
Cutting of nails regularly (N=640)	
Yes	392 (61.3)
Washing of Hands before meals (N=640)	
Yes	596 (93.1)
Material used for washing (N=596)	
Soap	167 (28)
Only water	429 (72)
Disposal of Household waste (N=640)	
Indiscriminate	416 (65)
Designated place	224 (35)

Table4 : Distribution of Households by knowledge about diarrhoea and worm infestation.

S. N	Characteristics	Freq. (%) N=640
1.	Correct Knowledge about Diarrhoea	
	Yes	522 (81.6)
2.	*Knowledge about ways of preventing Diarrhoea	
	Safe drinking water	137 (21.4)
	Sanitary latrines	123 (19.2)
	Washing hands with soap after defecation	62 (9.7)
	Breast feeding	66 (10.3)
	Measles vaccination	16 (2.6)
	Vitamin A	05 (0.8)
	Washing hands after child's defecation	114 (17.8)
	Don't know	79 (12.3)
3	Awareness about worm infestation (N=640)	
	Yes	348 (54.4)
4.	Treatment taken (N=348)	
	Yes	176 (50.6)

***Multiple Responses**

Discussion:

Unclean water along with poor sanitation kills over 12 million people every year mostly in developing countries[6].The NFHS III found that 28 per cent of households in rural areas use piped drinking water, 53 per cent drink water from tube wells or bore wells and one in eight household drink water from unprotected wells or springs. The present study shows and higher percentage of wells (57.9%), most of them uncovered, therefore increased chances of contamination of well, as main drinking source of water and lower percentage of hand pumps and taps (39.0%).Some studies reported only 26 per cent[1] and 11.9 per cent[5] toilet facilities in rural areas of Uttar Pradesh in India. The present study shows a lower percentage (7.8%) of sanitary latrines in the study area.

According to WHO 80 per cent of infectious diseases in developing countries is related to inadequacies in these two areas; improved water supply and sanitation facilities help, but their introduction does not have a health impact by itself. Proper practices are most crucial[4]. Hygienic storage of water was present only in 66.3 per cent and 54.1 per cent had no knowledge of water purification out of total respondents 92.2 per cent respondents were practicing open field defecation. Of 50 households who had sanitary latrines 10 households were not using it regularly. 65.0 per cent were disposing household waste indiscriminately. This reflects lack of knowledge and awareness which can be addressed by sensitizing the community and focus group discussions on various health related issues.

Most of the families were following personal hygienic practices to some extent but proper hygienic practices were found only in small percentage of households. Diarrhoea accounts for 16 per cent of under-fives deaths. 88 per cent of diarrhoeal deaths are attributable to unsafe water, inadequate sanitation and poor hygiene[7]. Knowledge about ways of preventing diarrhoea was not adequate and satisfactory. Around 12 per cent did not know anything about prevention of diarrhoea. 54 per cent had no knowledge of water purification. Only 2 per cent were cleaning their teeth at night.

Worm infestation found in 54.4 per cent, 19.7 per cent did not know whether their children had worm infestation or not. This high level of worm infestation again reflects the poor sanitation sense in the community members.

Conclusion and Recommendation:

Experience shows that constructing water supply and sanitation facilities is not enough. Sanitation and hygiene promotion must accompany the infra-structure investment to realize their full potential as a public health intervention. It is imperative to ensure safe water supply sanitary latrines and bring about a change in the attitude and behaviour of one and all to bring about a change for the better. Behaviour change is a process comprising several steps from wanting to change to make to deciding to try it out and if positive, maintain it. If the problem is not tackled urgently, the improvement in health status of any community will remain a distant dream.

REFERENCES

1. National Family Health Survey III 2005-06. | 2. UNICEF Report 2004 | 3. The World Bank Report on World Water Day 2001. | 4. Wizik CV ,Muree T: Motivating Better Hygiene Behaviour; Chapter 1, p--5 | 5. Nutritional Status of Women and Children Development in Uttar Pradesh, (U.P.), Department of Women and Child Development (U.P.) Jan 1999. | 6. Population Reports Series M No. 15 Feb. 2001. | 7. UNICEF-WHO, Diarrhoea, Why Children are still dying & what can be done.