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Research Article

A study to assess the knowledge and practice regarding sanitation and hygiene among women in parts of Delhi, India

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Abstract

Background: Poor hygienic practices, inadequate water supply, and poor sanitary conditions play a major role in the spread of infectious diseases. So, safe drinking water and basic sanitation is of crucial importance to the prevention of health problems.

Objects: To study the knowledge, attitude, and practices related to drinking water and sanitation facilities among the urban slum population of different areas of Delhi.

Design: Open label, observational, non-randomized, community-based study.

Methodology: A cross-sectional study was designed to evaluate the knowledge of 297 females of different slum areas of Delhi regarding sanitation and hygiene, their attitude, and practices were collected using a previously validated questionnaire. The data obtained was analyzed on MS Office (Excel).

Major Outcome: Major Outcome: Findings of the study showed that 42% of the subjects had average knowledge and 75 % of the subjects followed unsafe practices on water, sanitation and hygiene.

Result: The study was conducted on 297 housewives having mean age as 34.14 years living mostly in joint family with 6000- 12000 monthly family income. 76.4% had toilet in their household but lack proper water disposal system.

Conclusion: Conclusion: The knowledge and practice on hygiene and sanitation among the households of slum areas of Delhi was found to be satisfactory. This study found significant association between knowledge, practice, age, education, occupation, family income per month. It was observed that young women had good knowledge however financial constrains rule the roast.

Keywords: Sanitation and hygiene; Knowledge; Attitude; Practices, WASH.

INTRODUCTION

Sanitation is very important for wellbeing and good health of the society. Unless there are proper and functional sanitation facilities that are compounded with right type of hygienic practices, recurrent incidences of water and sanitation related diseases are bound to reoccur[1]. It is one of the basic determinants of quality of life and human development[2]. The three imperative hygiene practices for reducing water borne diseases are safe fecal disposal, hand washing with disinfectant at critical times and finally safe treatment and storage of drinking water.

Globally around 1.7 billion (21%) people lack access to basic sanitation.[3,4] Safe disposal of human excreta, maintenance of hygienic conditions by means garbage, industrial hazardous waste management, and waste water treatment and disposal are constituents of basic sanitation. Approximately, 2.3 billion (29%) do not have means to maintain basic hygiene. These include soap and water for hand washing.[5] Safe and sufficient (Water, Sanitation and Hygiene) WASH is vital in preventing numerous diseases such as trachoma, helminthes, schistosomiasis and diarrhoeal deaths. Over 1.7 billion people still do not have basic sanitation services, such as private toilets or latrines. About 45% of the household wastewater generated globally is still discharged without safe treatment. [6]

Baseline data reflecting current sanitation, hygiene behavior and practices in Delhi is very scarce. The lack of appropriate information on knowledge and practices of sanitation and hygiene is an impediment to identify priority needs. Knowledge, Attitudes, and Practices (KAP) study is seen as the most viable way of obtaining updated information on hygiene behavior and practices in the society. Thus, present study was conducted to obtain baseline information on the existing knowledge, attitude and practices in relation to water sanitation and hygiene in target population.

MATERIALS AND METHODS

The present cross sectional study was conducted in five (5) urban slums of South East Delhi, namely 1) Madangir, 2) Khanpur, 3) Kalu Sarai, 4)Tirlokpuri and 5)Gaddha colony, Madanpur khaddar via questionnaire based household survey under Schedule Cast Sub Plan & Tribal Sub Plan (SCSP & TSP) Programme, stationed at Regional Research Institute of Unani Medicine (RRIUM), New Delhi. This study was conducted on 297-women from 480 households, between May 2022 to April 2023. The data was collected through door-to-door survey.

All 20-65 years old married female residing in the studied area who are willing to participate in the study were included in the study. Whereas individuals refusing to take part in the study or those visiting the area were excluded. Similarly, locked houses were excluded after three visits.

The sample size was 297; the houses were selected using convenient sampling.

Data collection Questionnaire

Data was collected using structured previously validated questionnaire prepared at Central Council for Research in Unani Medicine (CCRUM) headquarters, New Delhi: The questionnaire had 3 sections

Section 1- This was pertaining to demographic details

Section 2- This was regarding knowledge on water, sanitation and hygiene.

Section3-Comprised of questions to assess the practices regarding sanitation and hygiene like water treatment practices, water storage practices, etc.

The questionnaire comprises of 30 multiple choice questions. Each correct option was scored one and each wrong option were scored zero. Knowledge score was arbitrarily classified as good knowledge: 21-30, average knowledge: 11-20, and poor knowledge: 0-10. The questionnaire was translated in local language. Reliability of knowledge questionnaire was obtained by split half method (r=0.93). All items had 100% agreements with modification of some statements.

Operational definitions

Knowledge: Information that the target population has about sanitation and hygiene-related issues.

Attitude: Attitude is the way a person views something or tends to behave towards it. In context of the present study, attitude refers to what the target population feels or believes about the sanitation and hygiene-related issues.

Practice: Refers to the ways in which people demonstrate their knowledge and attitudes through their actions.

Data collection process

Administrative permission and informed consent were obtained from each subject and anonymity was maintained. Questionnaire was duly filled by the surveying officer and practices were enquired and rated. The data was recorded in the questionnaire. Data obtained were coded and analyzed. Frequency, percentage and association were obtained. MS Office (Excel) was used for data analysis.

RESULTS

Information related to home and surroundings

Majority of the individuals lived in pucca house with less than 10 members in all the houses. Majority of them used open drainage (54.8%) method for waste water disposal. All the subjects used Delhi Jal Board (DJB) water which was stationed within 600 meters from their houses and had continuous water supply throughout the year. Majority of the subjects (97.7%) had latrines in their house however 51.3% had no knowledge on WASH. Of those who had knowledge, (15 %) subjects gained it from their friends and relatives. (Table 2)

Description of knowledge score on water, sanitation and hygiene

The study findings revealed that 40% had good knowledge, 42% had average knowledge and 18% had poor knowledge on WASH. (Table 1)

Table 1: Demographic characteristics of samples n=297

Demographic variables	**Frequency (f)**	**Percentage (%)**
Age (in years)		
20-45	212	71.3
46-60	80	26.9
Above 60	5	1.6
Marital status		
Married	292	98.3
Unmarried	5	1.6
Education		
Illiterate	06	0.02
Matriculate	109	36.7
Primary school	110	37
High school	31	10.4
Graduate	41	13.8
Religion		
Hindu	250	84
Muslim	30	10.1
Sikh	17	5.7
Family income per month		
1000 – 5000	13	4.3
6000 – 12000	192	65.6
13000 – 25000	57	21.0
Above 26000	35	11.7

Description of practices on water sanitation and hygiene

Most of the subjects use handled jug to take water from water storing drum. Most of the toilets are well ventilated, majority of the subjects cleaned water storing vessel weekly. Majority practiced hand washing with soap and water after defecation

Table 2: Description of practices related to water, sanitation and hygiene

Variable	Frequency (f)	%
Uses handled jug for taking water from drum		
Yes	198	66.6
No	99	33.3
Use of boiled/ filtered water for drinking		
Yes	92	30
No	205	69
Ventilation of sanitary toilet		
Yes	203	68.3
No	94	31.7

Table 3: Information related to home and surrounding n=297

Variables	Frequency (f)	Percentage (%)
Housing		
Kachcha house	2	6.7
Pacca house	295	99.3
Number of people in Household		
Less than 5	214	72
5-10	83	27.9
Method of water disposal		
Open	160	53.8
Closed	105	35.3
No drain	32	10.8
Distance of water source from the shelter		
Less than 200 m	71	23.9
200-400 m	128	43.0
400 m - 700 m	98	32.9
Presence of latrine		
Yes	227	76.4
No	70	28.5

Description of hand hygiene practice

The study found that majority of the subjects performed unskilled hand washing.

Table 4: Information showing knowledge in catogaries.ie. Good, Average and Poor for different variables n=297

Variables	Good knowledge	Average knowledge	poor knowledge
1. **Age in years**			
20-45	120	67	23
46-65	8	21	51
Above 65	0	2	5
2. **Education**			
Illiterate	0	1	5
Matriculate	21	49	39
Primary school	34	47	29
High school	11	20	0
Graduate	35	6	0
3. **Occupation**			
Housewife	49	168	2
Skilled professional	13	19	0
Unskilled professional	0	30	16
4. **Type of family**			
Nuclear	25	67	0
Joint	49	149	7
5. **Family income per month**			
3000-5000	10	66	2
6000-12000	33	99	16
13000-25000	24	20	6
Above 26000	4	15	2

DISCUSSION

Demography

Study found that most of the women (43.7%) were in the age group of 20 – 45 years and majority of them (98.9%) (84.1%) (73.7%) were married hindu housewives with a family income between 6000 - 12000 rupees per month. Most of them (39%) had primary education and lived in joint family. (table 1)

Source of water

Findings of the present study showed that majority (66.3%) of the women used to store water in water tank which were used chemical drums made of plastic and used handled jug to dispense this water. This is in concordance with the study conducted by Reshma et al. wherein it was observed that most of the subjects (66.3%) used handled jug to take water from water storing drum. It was also observed that most of them (70%) filtered or boiled this water.[10] However in our study the women used untreated water for drinking. According to Reshma et al. 2016 women had to travel 100 feet from their homes to draw water from wells[10] whereas in our study women travelled less than 400m to transport water from DJB tap or water tanker. This is in comparison to the survey conducted by WASH India in 2008 wherein it was found that majority (88%) of the population in India had access to proper source of drinking water. One fourth of the population has water availability in their household premises. [7] However UNICEF states that worldwide, 2.2 billion people still lack access to safe drinking water.[8] This is very important since water can be a vehicle for transmission of feco-oral infections due to fecal contamination of water.[9]

Sanitation

In our study majority of the respondents (76.4%) had toilet in their household which was well ventilated. (table 3). The findings of the present study were supported by cross sectional study conducted by Resha et al. 2016 demonstrated that majority (97.7%) of the household had well ventilated (68.3 %) toilet. Survey by water, sanitation and hygiene (WASH) in India (2008) estimated that most of the India's population (69%) did not use proper sanitation. Over 50% of the India's population defecated in the open field. [7]

The present study showed that the urban slums lack proper water disposal system and the water waste runs in shallow open channels (53.8%) which overflow and cause water stagnation pretty often.

Knowledge

The study revealed that majority (40.4%) of the young women in the age group of 20-45 years had good knowledge of hygiene and sanitation. However due to poor financial resources could not implement them. Only 33.3% had income in the range of 6000-12000 per month in a family of around five members.[11] Most (16.4%) of them were matriculate and had average knowledge.[12] Majority (56.5%) of them were housewives residing in joint families (50.1%) (table 4)

Practice

Present study showed that all the houses stored water in closed container. The finding is supported by cross sectional study conducted by A I Mohammed et al on Access to safe drinking water and availability of environmental sanitation facilities among Dukem town households in Ethiopia. The study demonstrated that majority (82.6%) of the women used to fetch water, from a distance less than 200m, 93.2% covered their water container and 70.1% had toilet in their household[13].

Our study showed that 66.6% of the household use handled jugs to dispense water. According to our study majority of the subjects (72.7%) cleaned their water storing vessel weekly. This is contrast to the study by Reshma et al wherein majority of the subjects (83.7%) cleaned their water storing vessel daily.[7]

CONCLUSION

The study was conducted on 297females, housewives having mean age 34.14 living mostly in joint family with 6000- 12000 monthly family income. The findings of the study showed that majority of individuals had average knowledge and practiced unsafe practices on water, sanitation and hygiene. Study found significant association between knowledge, practice, age, education, occupation, family income per month. It was observed that young women had good knowledge however financial constrains rule the roast. The study inferred that portable drinking water is provided by the government however disposal of waste still remains a major problem..

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CONFLICT OF INTEREST

There is no conflict of interest

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