



7 Socio-Demographic Determinants Associated With Water, Sanitation And Hygiene (Wash) Practices At Household Level In Rural Area Of Central India.

Dr. Lovely Kumari¹, Dr. Kumar, Bijyendra Sourabh², Dr. Guddi Laishram³, Dr. Thokchom Shantajit⁴
Assistant Professor^{1,2,3}, ⁴Post Graduate (Junior Resident 3 Year),

Department Of Community Medicine,
Jawaharlal Nehru Medical College

Datta Meghe Institute Of Medical Sciences (Deemed To Be University Sawangi, Wardha, (Ms), India

***Corresponding Author:**

Dr. Guddi Laishram

Assistant Professor, Department of Community Medicine, Jawaharlal Nehru Medical College, DMIMS
(Deemed to be University), Sawangi, Wardha (MS), India.

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Abstract

WASH is the collective term for Water, Sanitation and Hygiene. In India, open defecation is a major public health issue. This contaminates water and leads to about 500 children death every day from preventable diarrheal-related illness. The inability to access improved sources of drinking water leaves 97 million people in India vulnerable to many communicable diseases that are spread through unsafe water.

Methodology: This study was a cross-sectional study, conducted in a rural area of Wardha district the assessment of Water, Sanitation and Hygiene (WASH) practices at household level. Mother of the children who were born in the last 24 months was included in the study. A total of 435 participants of mother and child dyad from the rural community of Seloo in Wardha District were included in the study.

Observation: The mean age of the participant was 24.83 years. Out of the total, 47.6% of the mothers were educated till high school and 2.3% mothers had no formal education. Among the participants, 56.1% belong to nuclear family. He overall monthly family income turns out to be 73.8% for earning less than Rs.10, 000.

Keywords: WASH, water, sanitation, hygiene, diarrheal-related illness, communicable diseases

Introduction

wash is the collective term for Water, Sanitation and Hygiene. These three issues are closely interlinked and interdependent on each other that they are clubbed as a single entity in the present public health sector scenario. For example, water sources become contaminated without toilets, basic hygiene practices are not possible without clean water. Poor sanitation, water and hygiene can have serious repercussions on healthcare, education and the economy of a country or a region.

Globally, 2.5 billion people lack access to improved sanitation, 748 million people lack access to an

improved source of drinking water, 1 billion people practice open defecation. (1),(2)

In India, open defecation is a major public health issue. This contaminates water and leads to about 500 children death every day from preventable diarrheal-related illness. (3)The inability to access improved sources of drinking water leaves 97 million people in India vulnerable to many communicable diseases that are spread through unsafe water.(4)

Methodology:

Objective:

This study was purposed to capture in particular the association between the socio-demographic

determinants and Water, Sanitation and Hygiene (WASH) practices at household level

Study design:

This study was a cross-sectional study, conducted in a rural area of Wardha district in Central India.

Study setting:

This study was carried out in the field practice area of Jawaharlal Nehru Medical College, Sawangi (Meghe), Wardha located in Central India. It has a population of 10,489 comprising of 5341 males and 5148 females. Population of children with age 0-6 years is 1020 which makes up 9.72 % of total population of village. Mother was the informant and individual level of the practices of caregiver within the household were assessed as well.

Inclusion criteria:

1. All children who were born in the last 24 months.
2. Mothers with living children under 2 years of age.

Exclusion criteria:

Observations And Results:

Parents not willing to give written consent.

Study duration:

The study duration was conducted for a period of 2 ½ years.

Sample size:

1. For calculating the sample size the prevalence of breast feeding was taken to be 48% with confidence level of 95% and a relative precision of 10%, an optimum sample for study was obtained.
2. The minimum sample size came out to be 435.
3. Where, 4 is (Za), p is 48% , q=100-p = 52, L is relative precision(10% of p = 4.8)

Study tool:

A pre-designed questionnaire was used for the collection of data which included:

1. Socio-demographic profile of the parents of the child,
2. Water, Sanitation and Hygiene practices.

Table: -1 Socio-demographic distribution of the household

Variables	Frequency	Percentage	
Maternal age group (age in completed years)	≤ 20	9	2.1%
	21 – 25	282	64.8%
	26 -30	140	32.2%
	31 -35	4	0.9%
Education	Illiterate	10	2.3%
	Primary and high school	207	47.6%
	Higher Secondary	204	46.9%
	Graduate and above	14	3.2%
Occupation	Home-maker	378	86.9%
	Govt. service	6	1.4%
	Farmer	19	4.4%
	Private	4	0.9%
	Self employed	28	6.4%
Type of family	Nuclear	24	56.1%

	Joint	191	43.9%
Religion	Hindu	382	87.8%
	Islam	11	2.5%
	Buddhism	42	9.7%
Caste	Open	10	2.3%
	OBC	373	85.7%
	SC	42	9.7%
	NT	10	2.3%
Wealth Index	Poorest	93	21.4%
	Poor	81	18.6%
	Medium	87	20.0%
	Wealthy	118	27.1%
	Wealthiest	56	12.9%
Total family income (monthly in Rupees)	≤ 10,000	321	73.8%
	11,000-20,000	45	10.3%
	21,000-30,000	37	8.5%
	31,000-40,000	15	3.4%
	41,000-50000	5	1.1%
	≥ 50,000	12	2.8%
Mean age (SD) = 24.83(2.37)			

Table 1: shows the characteristics of study participants included in the primary data set. The primary data set comprises of 435 participant mothers. The mean age of the participant was 24.83 years (SD 2.37). 64.8% of the respondent mothers were between 21 – 25 years of age and only 0.9% were between 31 -35 years of age. Out of the total, 47.6% of the mothers were educated till high school and 2.3% mothers had no formal education. Among the participants, 56.1% belong to nuclear family. A

majority of the respondents, 87.8% were Hindus and caste wise 85.7% belong to Other Backward Classes (OBC).86.9% of the respondent mothers were homemaker by occupation and only 0.9% were working in private sector. The socio-economic condition out of the data is poorest at 21.4% and wealthiest at 12.9% as per the wealth index. The overall monthly family income turns out to be 73.8% for earning less than Rs.10, 000.

Table: -2 Distribution of household sanitation related practices

Variables		Frequency	Percentage
Household having toilet facility	Yes	382	87.8%
	No	53	12.2%
Type of toilet facility	Sanitary latrine with septic tank	382	87.8%

	No facilities or bush or field	53	12.2%
Toilet facility shared with other households	Share	11	2.9%
	Don't share	371	97.1%
Stool disposal of the youngest child	Put/rinse into toilet/latrine	256	58.8%
	Left in the open	179	41.2%
Diarrhoeal disease episode in past one month	Yes	48	11.0%
	No	387	89.0%
Disposal of waste water from kitchen	Goes in the open drain	197	45.3%
	Allowed to drain on the road	105	24.1%
	Allowed to drain on area outside the house	133	30.6%
Domestic waste management	Thrown in an open field	262	60.2%
	Burn	173	39.8%

Table 2: shows that 87.8% of the respondent household had toilet facility (sanitary latrine with septic tank) while 12.2% of the household did not have toilet facility in the household. 97.1% of the respondent don't share their toilet facility with other households. Among the household with shared toilet facility, they share with less than 10 numbers of households as common toilet facility. 87.82% respondent toilet facility reside near to the households. 58.85% (256) respondent mothers practice the method of put/rinse into toilet/latrine for stool disposal of their youngest child compared to

41.15% (179) who left in the open as a means for stool disposal of their youngest child. Among the 435 respondent 88.97% couldn't recall any episode of diarrhoeal disease in the past one month. 45.29% households allowed the waste water from the kitchen to go in the open drain as a method of waste water disposal while 24.14% allowed the waste water from the kitchen to drain on the road. Households domestic waste were thrown in an open field in 60.23% while 39.77% household respondents practice of burning the domestic waste as means of waste management

Table: -3 Distribution of household hygiene related practices

Variables		Frequency	Percentage
Hand washing with soap and water	After defecation	261	60.0%
	After cleaning a child after he passes stools, before having meals	179	40.0%
Material used for hand washing	Soap and water	357	82.1%
	Water only	78	17.9%
Family members bathing practice	Yes	435	100%

Table 3: shows 60% household respondents practiced hand washing after defecation with soap and water while 40% household respondents practiced hand washing with soap and water after cleaning a child after he passed stools, before having

meals. Soap and water were used for hand washing in 82.07% while 17.93% household respondents used only water for hand washing. Every respondent mothers' household practiced bathing regularly, and once for a day in the family.

Table: -4 Association between Family income and WASH practices

Income	WASH practices observation checklist score					χ^2	p-value
	Very poor	Poor	Satisfactory	Good	Very good		
≤ 10,000	8	159	142	11	0	292.56	0.0001
11,000-20,000	1	14	21	10	0		
21,000-30,000	0	3	18	16	0		
31,000-40,000	0	3	4	7	1		
41,000-50000	0	0	1	3	1		
≥ 50,000	1	0	0	5	6		

Table 4: In this table, it is observed that scores of respondents whose income are less than 10,000 are less than those whose income is higher. As income increases, the level of score increases. This difference is statistically significant (p= 0.0001).

In the Univariate analysis carried out so far as described earlier, certain socio-demographic features

Discussion:

The primary data set comprised of 435 participant mothers. The mean age of the participant in our study was 24.83 years (SD 2.37). The youngest was 20 years and the oldest was 35 years. 64.8% of the respondent mothers were between 21 – 25 years of age and only 0.9% were between 31 -35 years of age. **Seksaria and Sheth** reported similar study participants where the average age of the mothers was 25 years and only 2.2% were between 31 – 35 years of age (9).

The socio-economic condition out of the data was poorest at 21.4% and wealthiest at 12.9% as per the wealth index. The overall monthly family income turns out to be 73.8% for earning less than Rs.10, 000. **Datta et al** also reported that as the monthly per capita income increase in the family, hand washing after defecation and hand washing before preparing food improved. They concluded that the income of the family have a bearing on WASH practices where,

were found to be statistically significant. Improved WASH practices were found to be among the women of higher age group, higher level of education, employed in government sector and higher economic status. All these results were found to be statistically significant. These socio-demographic variables were taken as predictor variables of WASH practices.

the more the income is better the WASH practices (12). This was in consistence to other studies done in India (10,11).

The study revealed that socio- demographic factors such as the age of the mother, the level of the education, the occupation of the mother and income of the family were determinants of WASH practices at household level.

Conclusion:

In the study it was found that maternal socio-demographic factors having high statistical significance for Water, Sanitation and Hygiene (WASH) practices at household level were maternal age, education, occupation and family income. Poor sanitation, water and hygiene can have serious repercussions on healthcare, education and the economy of a country or a region.

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