

Analytical Survey on Knowledge and Practices Related to Hand Hygiene Among the Women Living in the Slums of Agra City

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Abstract

Sanitation and hygiene are very important for good health and development and handwashing is one of the important activities under personal hygiene practices. In this study an attempt is made to study the knowledge and practice of hand hygiene/washing among slum dwellers of Agra city and to recommend possible measures to improve the current practices. A questionnaire-based study was carried out in two registered slums and two unregistered slums of Agra city spread over four zones and 400 respondents were interviewed. Findings revealed that hand washing before eating was practiced by 38.8% of respondents, 18.8% after eating, 37.0 % after using the toilet, and 5.5% after cleaning. Soap, soil ash, and plain water were the materials used for hand washing. Only about 45% knew the importance of hand washing and felt hand washing prevent diseases that means 55% were unaware that handwashing is the first line of defence against the spread of illnesses and helps to prevent the spread of diseases at home and also in the community. The overall knowledge regarding hand hygiene was unsatisfactory. Inadequate knowledge of this among our study participants is a point of concern. Integration of health and hygiene education by modifying school curriculum could be an appropriate strategy.

Keywords: - Handwashing, Hygiene, Agra city, Slum dwellers.

Introduction

Sanitation and hygiene are very important for good health and development. Hygiene is a set of personal practices that contribute to good health (WHO, 2018). It includes things like handwashing, bathing and cutting hair & nails. Handwashing is the single most important activity we can all do to stop disease from spreading. However, due to a lack of resources like clean water and soap, maintaining personal hygiene can be challenging in many parts of the world. More than 99 million Indians lack access to safe water (water.org) and according to WHO, Poor drinking water access, subpar sanitation, and subpar hygiene habits account for 4% of all fatalities and 5.7 % of all disabilities or illnesses worldwide. According to a 2017 WHO report titled "Forgetting to Wash Your Hands Can Cost Lives," basic hand hygiene is not widely practiced in India and many other low- and middle-income nations because it is not easy because many do not have access to water, a toilet or soap. Further, according to the Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene, 2019, over 37 million people in India have no access to handwashing facilities at home. In actuality, the use of water and soap together is crucial for preventing not just COVID-19 but also other illnesses like diarrhea, which is one of the major causes of death in children under the age of five worldwide. As per an NCBI report, diarrhea is the third leading cause of childhood mortality in India and is responsible for about 13

percent of all deaths per year among children under the age of five. Some of the ways of preventing this disease include handwashing with soap, access to safe drinking water and the use of improved sanitation. *Certain Infectious and Parasitic Diseases* were the major cause of death in Assam (27.4 percent) and Jharkhand (20.6 percent). The percentage of deaths reported under this cause in Assam was more than three times the national figure (9.4 percent) for India, whereas in Jharkhand it was more than twice the national figure. At least three states reported *Certain Infectious and Parasitic Diseases* as the second major cause of death among all the medically reported deaths: Arunachal Pradesh (25.4 percent), Bihar (19.5 percent), and Mizoram (15.3 percent). In 11 states / UTs of India, *Certain Infectious and Parasitic Diseases* were the third major cause of death. These are Chandigarh (7.9 percent); Delhi (14.9 percent); Daman and Diu (6.5 percent); Meghalaya (11.2 percent); Nagaland (10.1 percent); Puducherry (12.4 percent); Punjab (10.7 percent); Sikkim (9.8 percent); Uttarakhand (12.4 percent), Uttar Pradesh (14.1 percent) and West Bengal (10.6 percent).

Objectives of the study are

- To study the knowledge and practice of hand washing among the women living in the slums of Agra city before Covid-19.
- To recommend possible measures to improve the current practices.

Study Area

Agra is the million plus city and its population reached to 15.7 lakh as per census 2011. Table 1 shows some salient features of Agra city. Municipal area of Agra (Fig. 1) is around 141.0 square km. Census 2011 envisages that about 56 percent of urban population of Agra city is slum dwellers. This is a very pathetic situation where half the population of Agra city is urban poor.

Table 1. Physical and Demographic Profile of Agra City

Indicators	Indicators value
Municipal Corporation Area	141.0 km ²
Population 2011	1574542
Number of Slums	417 (213 Notified+204 non-notified)
Zones	4 (Chatta, Hariparwat, Tajganj, Lohamandi)
Wards in Municipal Corporation	80 (After delimitation 100)
Slum Population 2011	885801
Slum Population to City Population	56.25 %
Slum Households 2011	123846
Total Area Under Slums	20.7 km ²
Slum Area to City Area	14 (%)

Table 2 and 3 below reveals that about 30 percent of households of Agra city fall in slum areas (Fig 2). This proportion is very high. Agra is the only million plus city in Uttar Pradesh, which has very high proportion of slum households.

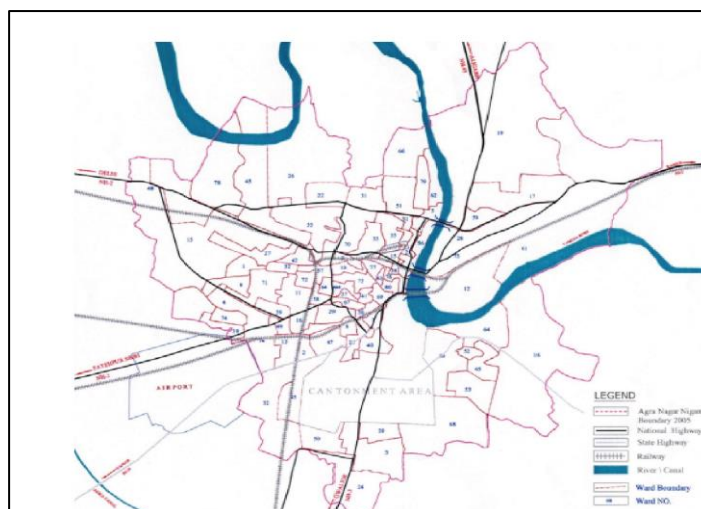
Table 2. Proportion of Slum Households to Total Urban Households (%)

Agra (M Corp.)	29.8
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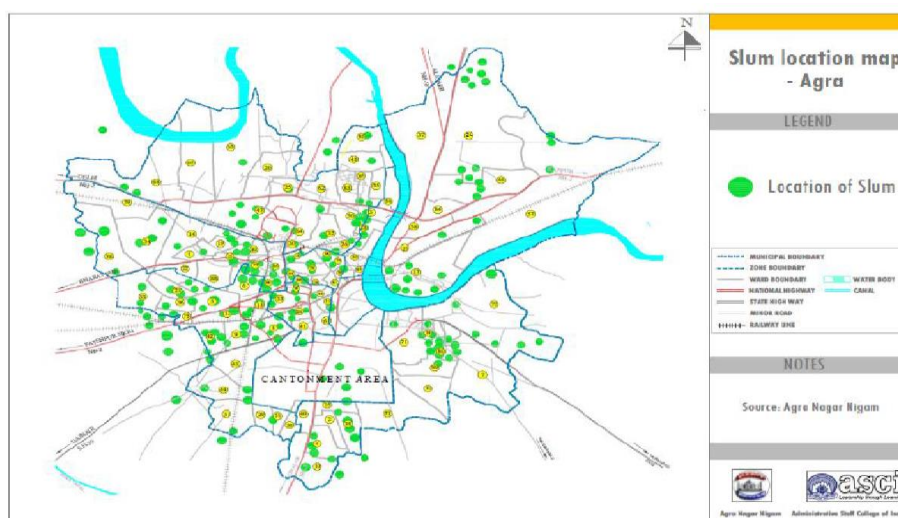
Source- Census 2011

Table 2. Percentage of Slum Population to Total Population in Million Plus Cities, 2011

Agra	533554	1052150	33.7
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**Figure 1. Map of Agra City with Wards (Total 80)**

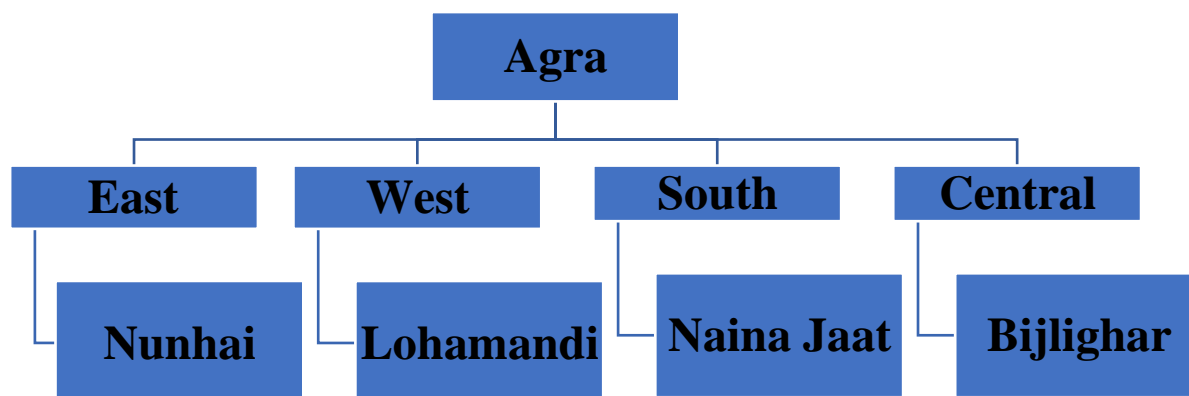
Source- Nagar Nigam, Agra

**Figure 2. Location map of Slums in Agra**

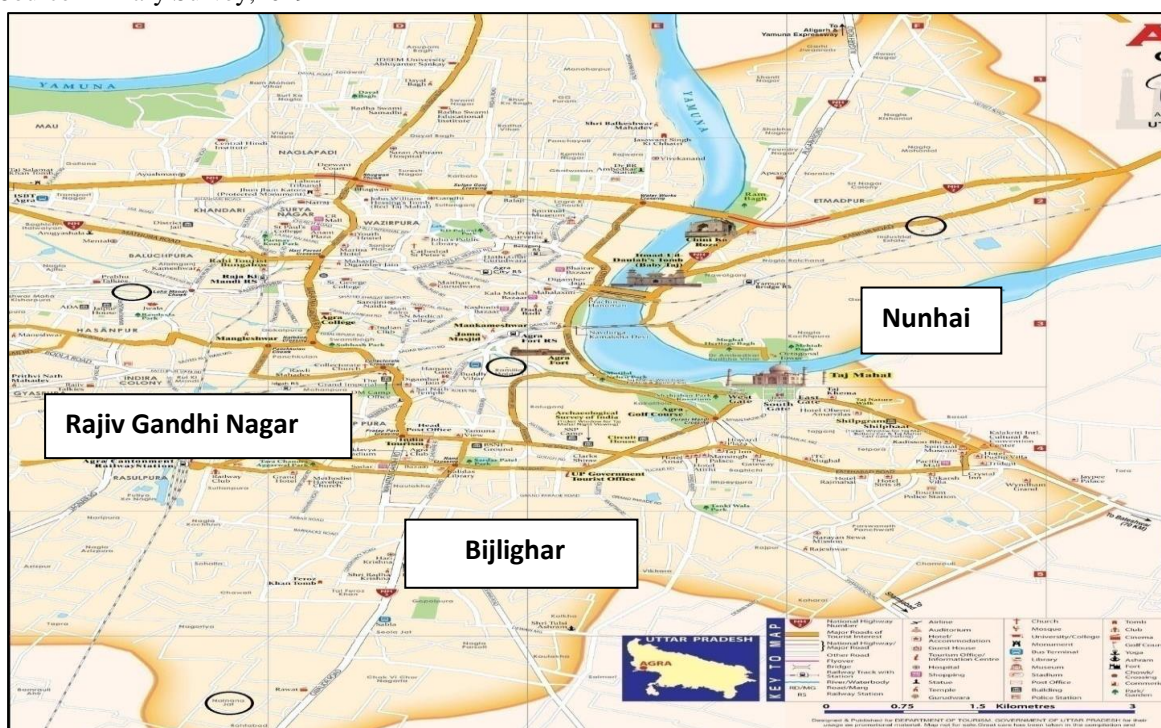
Source: City Sanitation Plan for Agra (2008)

Methodology

The study is mostly based on both Primary and Secondary data and was carried out before Covid-19 slapped the world. Municipal boundary of Agra was considered to collect primary data, it was divided into four zones namely North, South, East and West. One slum from each zone was selected (Fig. 3 and Fig. 4). 100 women respondents were surveyed from each slum with the help of Asha and Anganwadi workers. Total 400 women respondents were surveyed for this study. A questionnaire was prepared by adopting the theme of the core questionnaire adopted by WHO and EHP. Semi-structured questionnaire was developed which was suitable to the local context including sanitation elements (food handling and hand washing). The questionnaire was pretested in a non-study area and necessary changes were made accordingly. Verbal consent was taken from the respondents before the interview, and they were elaborately informed about the purpose of the study and the confidentiality. Data collected from primary sources have been uploaded to MS Excel and analyzed in SPSS through appropriate statistical tools and techniques like averages, tables, graphs and figures.

**Figure 3. Slum chosen as study area in Agra City**

Source-Primary Survey,2019

**Figure 4. Location of Surveyed Slums in Agra**

Source- Primary Survey, 2019

Slum population of Agra is 8.85 lakh as per census 2011. It comprises about 56 percent of total urban population of Agra (Table 1). The average household size in slums was 6.8. The household size is higher to city average household size that was 6.4 during census 2011. Number of slums reported in Agra is varying across different agencies. As per DUDA (District Urban Development Authority), total slums found are 417 in Agra (Table 1).

Table 4. Number of Children in Household in slums

Slum Name	Number of Children in Household			
	Nainara Jaat	0-2	3-4	5 & above
Bijli Ghar (Central)		36.0	47.0	17.0
Nainara Jaat (South)		52.5	35.4	12.1
Nunhai (East)		46.0	35.0	19.0
R G Nagar (West)		45.5	40.4	14.1
Total		45.0	39.4	15.6

Source- Primary Survey, 2019

Table 5. Family size of the households in surveyed slums

Slum Name	0-4	5-8	9 & above
Bijli Ghar (Central)	37.0	60.0	3.0
Nainara Jaat (South)	51.0	48.0	1.0
Nunhai (East)	46.0	49.0	5.0
R G Nagar (West)	41.0	56.0	3.0
Total	43.8	53.2	3.0

Source- Primary Survey, 2019

Discussion.

Sanitation and hygiene are very important for good health and development. Inadequate sanitation is a major cause of disease globally and improved sanitation conditions are known to have a considerable positive impact on health both in households and across communities. Sanitation is considered an effective use of tools and actions that keep our surroundings healthy. This includes access to facilities for the safe disposal of human waste. The maintenance of hygienic conditions through services like waste disposal and garbage collection is referred to as sanitation. Lack of sufficient means of disposing of the waste is increasing pollution of air, land, and water for densely populated areas, carrying the risk of infectious disease, particularly to vulnerable groups such as the very young, the elderly, and people suffering from diseases that lower their immunity. Poorly managed solid waste also indicates everyday exposure to unpleasant surroundings. The buildup of fecal contamination in rivers and other water bodies is not just a human risk, other species are also affected, and it is hostile for the ecological balance of the environment.

Hygiene is a set of personal practices that contribute to good health (WHO, 2018). It includes things like handwashing, bathing and cutting hair & nails. Handwashing is the single most important activity we can all do to stop disease from spreading. However, due to a lack of resources like clean water and soap, maintaining personal hygiene can be challenging in many parts of the world. Many diseases (including diarrheal diseases) can be spread when hands, face, and body are not washed properly at the key times.

Hygiene is very important aspect in slums, as we know most of the slums do not have proper water supply. Access to soap and water is limited in a number of poor countries. Scarcity of water leads to poor personal hygiene in the society. This poor hygiene further leads to poor countries, leading cause of death among children is found to be diarrhea. A number of studies showed that a significant reduction in diarrhea can occur when handwashing with soap and water is prevailed into a society (Curtis, 2003). Thus, hand washing promotion and interventions are estimated to have the potential to prevent so many deaths from diarrheal diseases.

Hand washing is one of the important activities under personal hygiene practices. Data on this aspect has been collected in the primary survey. The questionnaire has been framed in such manner that information can be obtained from the respondents about, which activity is important for hand washing. As we know the two slums are recognized as notified slums namely Rajiv Gandhi Nagar and Nainara Jaat, while two slums are non-notified namely Nunhai and Bijlighar. It is clearly seeming that people belong to notified slums are more sensitive and aware about hand washing practice. Table 6 shows that respondents have given mixed type of reply about reasons for handwashing. Bijlighar slum's

respondents gave priority of handwashing before having their meal. About 57 percent of total households accepted that they wash their hands before having meal. Rajiv Gandhi Nagar's respondents reported their reason of handwashing when they used latrine. It is matter of great concern that still most of the respondents do not think hand washing is an important activity.

Table 6. Practice of Hand washing among slum dwellers

Slum Name	Before eating	After eating	After using toilet	After cleaning house
Bijli Ghar (Central)	57.0	5.0	37.0	1.0
Nainara Jaat (South)	54.0	17.0	12.0	17.0
Nunhai (East)	36.0	17.0	46.0	1.0
R G Nagar (West)	8.0	36.0	53.0	3.0
Total	38.8	18.8	37.0	5.5

Source- Primary Survey, 2019

Hand washing is an important part of hygiene practices. Merely handwashing is not sufficient till hands are genuinely cleaned. The germ-free hands are important, and material used for hand-washing too. As we know, poor people cannot afford expensive material for hand-wash like sanitizer, liquid dispenser, wet tissues etc. Due to their poor affordability they have to use such materials (Table 7) which are low cost and easily accessible.

In our survey, we have asked from slum dwellers about, what type of material they use for hand washing. As, we discussed earlier that notified slums like Nainara Jaat and Rajiv Gandhi Nagar are shown better results as compared to non-registered slums. Nainara Jaat and Rajiv Gandhi Nagar's slum dwellers reported that majority of households are using soap for hand washing, the percentage of such households are 67 and 73 respectively. Nunhai and Bijlighar slum's dwellers still using ash primary material for hand washing. About 70 percent of total households from Bijlighar are using Ash as a material for hand washing. This figure for the Nunhai slum is 53 percent. One fifth of total households of Nunhai slum are using soil as material for hand washing. Overall, only 50 percent of total households of surveyed slums are using soap for hand washing. It is considerable fact that prevalence of soap or powder for hand washing is very low among slum dwellers. Ash is still highly used material for hand washing. One fifth of total households of surveyed slums are using soil and only water for hand washing (Fig. 5).

Table 7. Material used for hand washing

Slum Name	Only water	Soap	Ash	Soil
Bijli Ghar (Central)	4.0	17.0	69.0	10.0
Nainara Jaat (South)	13.0	67.0	18.0	2.0
Nunhai (East)	12.0	13.0	53.0	22.0
R G Nagar (West)	16.0	73.0	11.0	0.0
Total	11.2	42.5	37.8	8.5

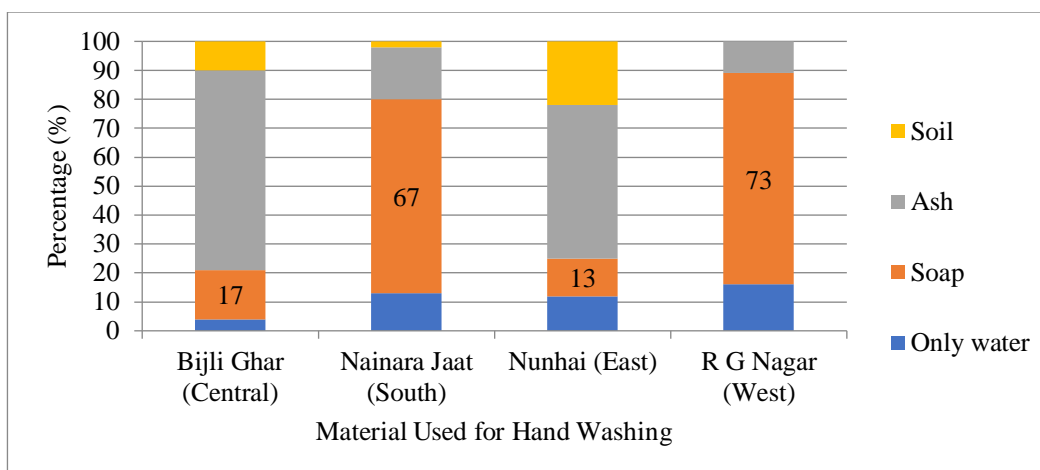


Figure 5. Material used for hand washing

Survey has covered an important aspect regarding hand washing. The primary reason for hand washing was also collected from primary survey. Question was asked, why do you wash your hand? Answers to this question designed in such manner that we can understand, what is the real reason of hand washing among slum dwellers? So that we can understand their stand about it. Results states that slum dwellers have stated various reasons for hand washing. There are two major reasons for hand washing. Most of the respondents (about 50 percent) reported that they wash hands because they look clean. Although to some extent their reason is valid, as cleanliness considered as hygiene practices. About 45 percent of total households stated that they wash their hands due to prevention perspectives. They considered that with hand washing they can prevent themselves from diseases. Very few respondents (about 2 percent) said that they do it just because other people do the same and it looks good too (Table 8). It is positive attitude of slum dwellers towards hygiene, and they have valid reasons behind it. The study also underlines that 45% of the women were habitual about handwashing and sanitation to take on the Covid 19's first line of defense and must have influenced the others effectively.

Table 8. Most important Reason for hand washing

Slum Name	To look clean	Prevent diseases	It looks good	All others do this
Bijli Ghar (Central)	54.0	41.0	2.0	3.0
Nainara Jaat (South)	53.0	46.0	0.0	1.0
Nunhai (East)	51.0	43.0	5.0	1.0
R G Nagar (West)	45.0	51.0	2.0	2.0
Total	50.8	45.2	2.2	1.8

Results

Sanitation and hygiene are significant for improved health and handwashing is one of the important activities under personal hygiene practices. In this study we assessed the knowledge, attitude, and practices of hand hygiene among slum dwellers of Agra city using a questionnaire-based study in two registered slums and two unregistered slums of the city spread over four zones and 400 respondents were interviewed. Findings revealed that hand washing before eating was practiced by 38.8% of

respondents, 18.8% after eating, 37.0 % after using the toilet, and 5.5% after cleaning. Soap, soil ash, and plain water were the materials used for hand washing. Nearly 45% knew the importance of hand washing and felt hand washing prevent diseases. The overall knowledge regarding hand hygiene was unsatisfactory. Inadequate knowledge of this among our study participants is a point of concern.

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