



Hand Hygiene related Knowledge and Practice during COVID-19 Pandemic

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Introduction

- In December 2019, there was cluster of Pneumonia like cases in China.
- Found it to be caused by previously unknown virus, now known '2019 Novel Coronavirus'.
- COVID-19, an infectious disease caused by a novel coronavirus.
- Spreads from person to person: through the droplets produced when an infected person speaks, coughs or sneezes and can land in the mouths or noses of people who are nearby.
- These droplets are too heavy to travel far in the air- travel approximately one meter and quickly settle on surfaces. Reason for spread mainly between close contacts.

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- One should avoid touching eyes, mouth and nose- contaminated hands can transfer the virus from the surface to self.
- Symptoms can range from mild to severe- fever, respiratory symptoms such as cough and shortness of breath, and in severe case, it can be pneumonia, kidney failure, and death.
- Keeping hands clean is one of the simplest and culturally appropriate practices which can be followed by any person irrespective of place of residence, education level, etc. In recent pandemic COVID 19 it is considered as one of the preventive measures and therefore, a public health concern to be studied.



Research Question:

- What is the Knowledge and Practice of hand hygiene among the people during COVID-19 Pandemic?

Objectives:

- To review COVID-19 related guidelines for preventive measures.
- To study Knowledge and Practice of hand hygiene among the people.

Literature review

- **Title of the Article:** 'Keep it clean: The surprising 130-year history of hand washing'
- **Author:** Amy Fleming
- **Year:** 2020 (18 March)
- **Objectives of the study:** To review the history of hand washing to lower the risk of getting infected with COVID-19
- **Key results:** Actual hand washing compliance, prior to coronavirus pandemic, was still worryingly low, however, in the medical care and in public realm. At the start of this pandemic, there were lack of pharmaceutical interventions and vaccines to protect people from COVID-19. So looking at non-pharmaceutical measures those can be easily implemented were of utmost importance and hand washing was one of them. It's simple and of negligible cost. Wash hands with soap and water before touching mouth, nose and eyes. It's empowering as it really does make a difference.



Review of COVID-19 related guidelines for preventive measures issued by World Health Organization and Ministry of Health and Family Welfare, Government of India:

Standard hygiene practices are recommended to protect from infections and further spread. These include

- Cover your nose and mouth when sneezing or coughing using a tissue, medical mask or flexed elbow so that the droplets doesn't get in contact with somebody else and avoid the transmission of COVID-19.
- Avoid close contact with sick person so that you can avoid getting infected with COVID-19.
- Proper use of masks and PPE especially in a healthcare setting so that there is no direct contact between you and the infectious agent.
- Cleaning hands thoroughly and frequently with water and soap or alcohol based hand rub to kill the virus so that you can avoid getting infected with COVID-19.

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- Avoiding unprotected and unnecessary contact with the animals or washing hands after getting in contact with the animals or animal products to protect yourself from the virus
- Ensuring that animal products are thoroughly cooked before they are consumed as the COVID-19 is told to have started from the live animal market in china.
- It is important to stay back home if you are feeling unwell and immediately seek medical care if the symptoms include cough, fever, and difficulty in breathing and share your travel history with the healthcare provider so that you don't spread COVID-19 to others and seek the best medical help at the earliest.

Methodology

Study design:

A cross-sectional
descriptive study

Study population:

People aged ≥ 15 years,
living in urban India, having
access to internet.

Sampling and sample size:

Samples were selected using personal and professional
contacts on E-mail, Whatsapp, Facebook and LinkedIn.

The total responses received were 100.

Mode of Contact	Number of contacts to whom questionnaire was sent	Number and Percent of contacts responded
E-mail	45	10 (22%)
WhatsApp	160	38 (24%)
LinkedIn	155	32 (21%)
Facebook	140	20 (14%)
Total	500	100 (20%)

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Methods of Data Collection:

Literature review
Self-administered questionnaire

Tools of Data Collection:

A platform called **Google Forms** was used to collect data.

Data Analysis:

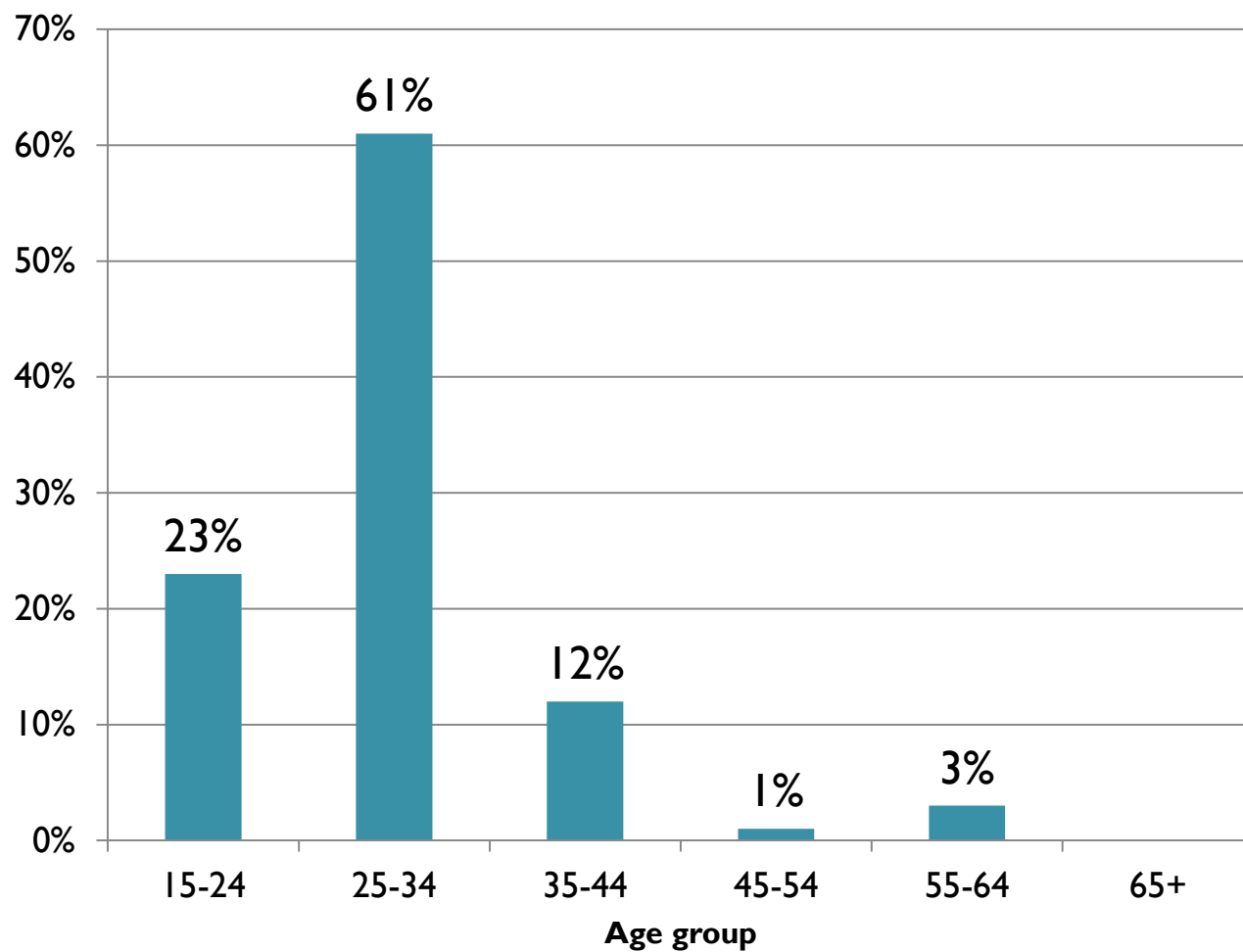
The collected data was checked for completeness and entered in to Microsoft Excel. Frequency and per cent were calculated for profiling the respondents, and their Knowledge and practices.

Results

Review of COVID-19 related guidelines for preventive measures issued by Ministry of Health and Family Welfare, Government of India and World Health Organization:

- Cover nose and mouth when sneezing or coughing using a tissue, medical mask or flexed elbow.
- Avoid close contact with sick person.
- Proper use of masks and PPE especially in a healthcare setting.
- Cleaning hands thoroughly and frequently with water and soap or alcohol based hand rub.
- Avoid unprotected and unnecessary contact with the animals or animal products washing hands after getting in contact with them.
- Ensure that animal products are thoroughly cooked before they are consumed.
- Stay back home if you are unwell and immediately seek medical care if symptoms include cough, fever, and difficulty in breathing .
- Share travel history with the healthcare provider.

Per cent distribution of respondents by their age groups



Percentage distribution of Socio-economic characteristics of respondents by Gender

Variables	Gender		Total n (%)
	Female	Male	
	n (%)	n (%)	
Age			
15-24	13	10	23
25-34	22	39	61
35-44	3	9	12
45-54	0	1	1
55-64	0	3	3
Education level			
Less than 10th class	0	1	1
10th	1	2	3
12th	4	0	4
Diploma	1	2	3
Bachelor's degree	17	25	42
Master's degree	15	32	47

Percentage distribution of Socio-economic characteristics of respondents by Gender

Variables	Gender		Total n (%)
	Female	Male	
	n (%)	n (%)	
Occupation			
Student	10	3	13
Employed	13	42	55
Self employed	3	16	19
Home maker	10	0	10
Unemployed	2	0	2
Retired	0	1	1
Type of family			
Nuclear	20	33	53
Joint	18	29	47

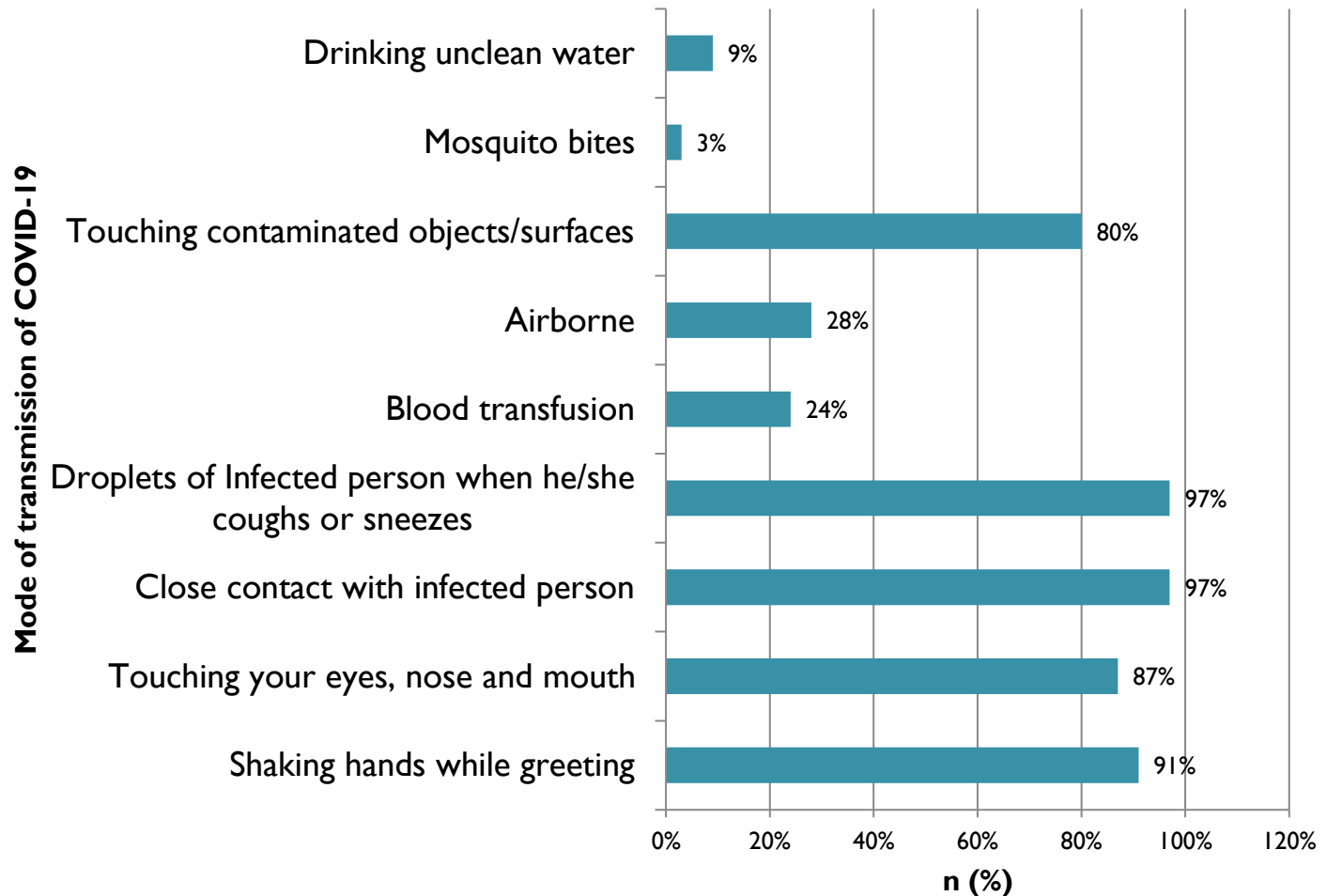
Hand hygiene related Knowledge of the respondents:

a) Percentage distribution of Hand hygiene related Knowledge of respondents by Gender:

Variables	Gender (%)		
	Female	Male	Total
	n=38	n=52	n=100
% of alcohol Hand sanitizer should contain			
40% alcohol	13	12	25
60% alcohol	25	50	75
Minimum time needed for alcohol-based hand rub to kill most germs on your hands			
5-10 seconds	7	12	19
10-20 seconds	14	18	32
20 seconds or more	17	32	49
Clean hands when they are visibly dirty and greasy			
Alcohol based hand rub/ hand sanitizer	10	13	23
With Soap and water	28	49	77
Appropriate time to lather hands with soap before rinsing			
5-10 seconds	4	3	7
10-20 seconds	14	12	26
20 seconds or more	20	47	67

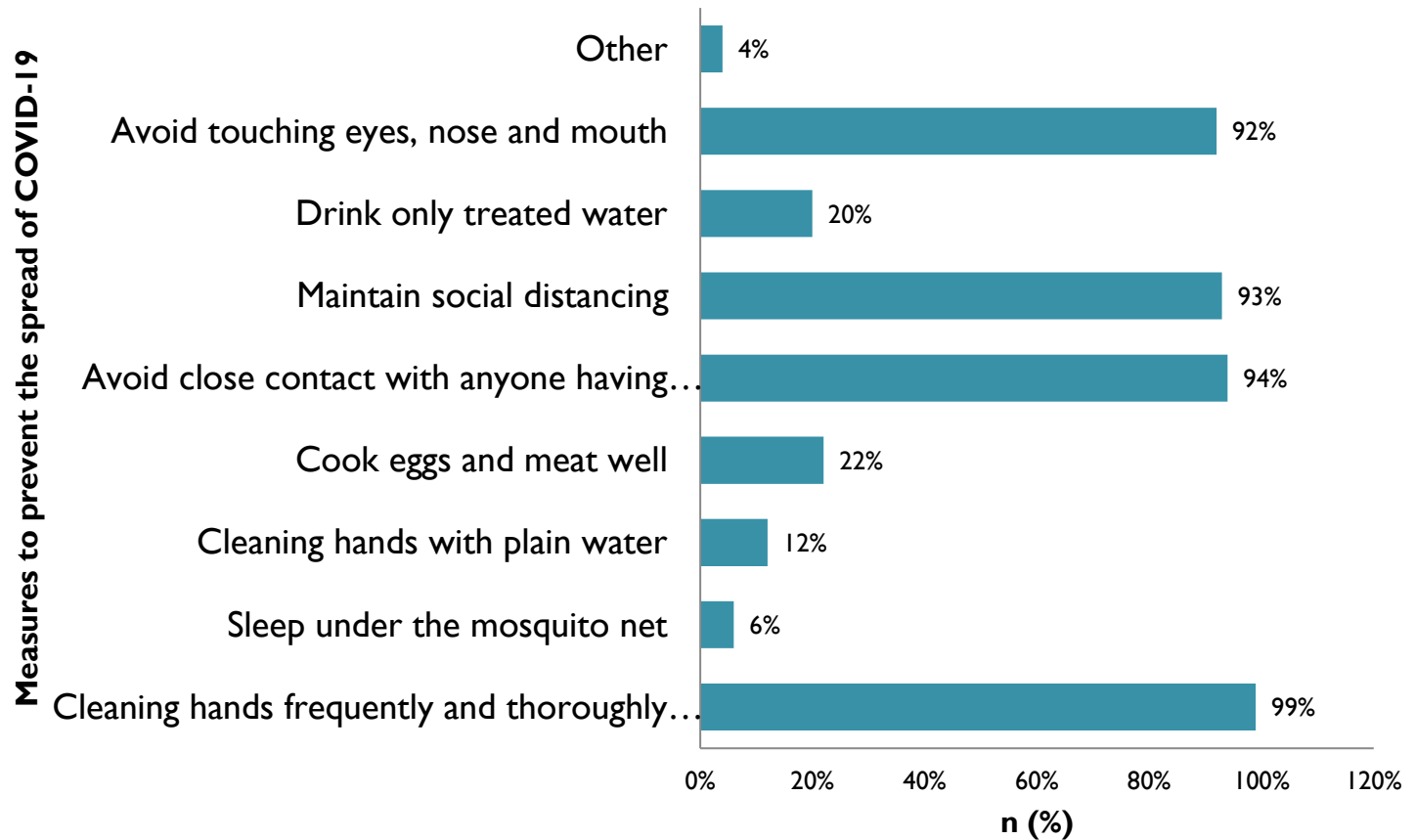
Hand hygiene related Knowledge of the respondents:

b) Per cent distribution of respondents by their knowledge on mode of transmission of COVID-19



Hand hygiene related Knowledge of the respondents:

c) Per cent distribution of respondents by their knowledge on measures to prevent the spread of covid-19



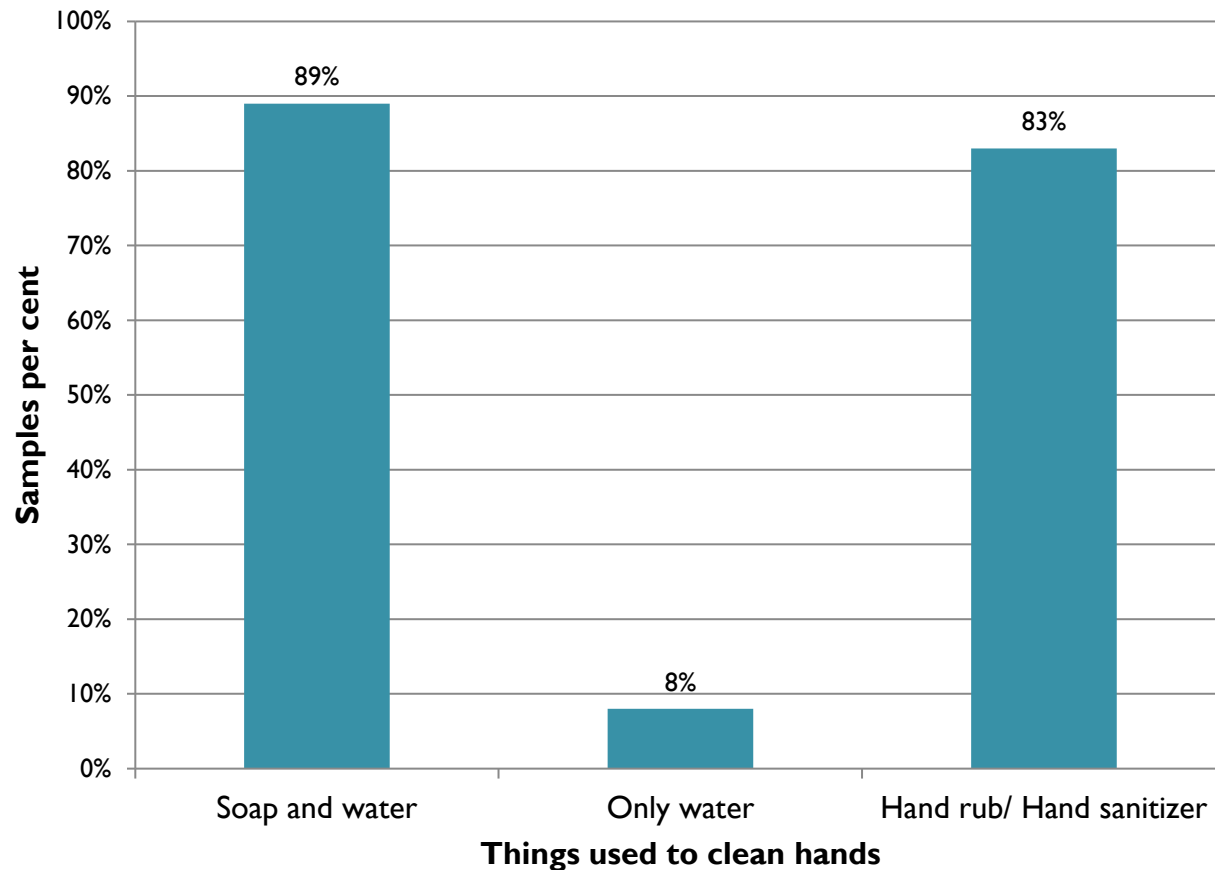
Hand hygiene related Practice of the respondents:

a) Percentage distribution of Hand hygiene related Practice of respondents by Gender:

Variables	Gender (%)		Total n =100
	Female	Male	
	n =38	n =52	
Dry hands after washing them			
Yes	38	62	100
Method used for drying hands			
Air evaporation	2	2	4
Cloth towel roll	3	8	11
Hand dryer	1	0	1
Rub hands on own clothing	1	5	6
Use disposable tissue	2	13	15
Use personal towel or handkerchief	29	34	63
Frequency of cleaning hands since the onset of Corona Virus Disease Outbreak			
Less than 5 times a day	4	5	9
5 to 10 times a day	15	22	37
10 to 15 times a day	6	22	28
15 to 20 times a day	6	7	13
More than 20 times a day	7	6	13
Duration to lather hands before rinsing			
5-10 seconds	6	3	9
10-20 seconds	20	27	47
20 seconds or more	12	32	44
Ignoring hand washing in hurry			
Never	27	36	63
Sometimes	11	24	35
Often	0	2	2

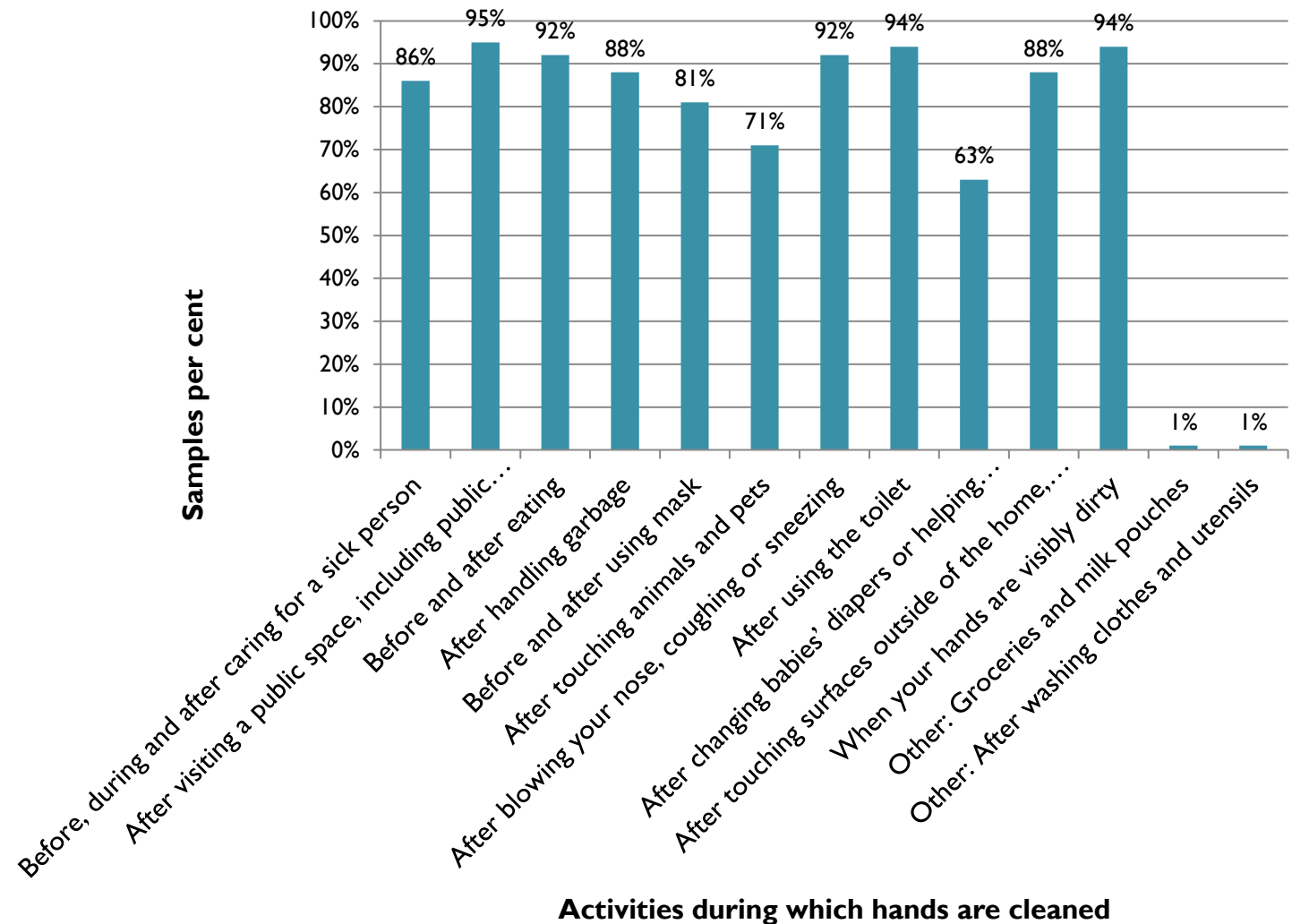
Hand hygiene related Practice of the respondents:

b) Per cent distribution of respondents by the things they used to clean hands



Hand hygiene related Practice of the respondents:

c) Per cent distribution of respondents by activities during which they cleaned hands



Discussion:

- The majority of the respondents (83 per cent) had good hand hygiene related knowledge.
- The majority of the respondents (90 per cent) had knowledge of the mode of transmission of COVID-19. However misconception regarding transmission by mosquito bites, airborne, and drinking unclean water was also reported by (16 per cent) respondents.
- Around half of the respondents reported that they used to lather their hands for more than 20 seconds before rinsing and rest half of them either lathered for 5-10 seconds or 10-15 seconds, which is inadequate time to kill the virus.
- Three-fourth of the respondents have the knowledge regarding the use of soap and water to be used when hands are visibly dirty, one-fourth think that they can use alcohol based hand rub/ hand sanitizer for the purpose.

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- More than half of the respondents (53 per cent) have good hand hygiene practice regarding frequency of washing hands, duration of lathering hands before rinsing and not ignoring hand hygiene when in hurry.
- More than half (63 per cent) of respondents 'never' ignore hand washing even when in hurry and 35 per cent of the respondents sometimes ignored hand washing when in hurry.
- The findings of this study contributed to understanding the Knowledge and practice gap and public behavior towards hand hygiene during the COVID-19 Pandemic.

Conclusion:

- COVID-19 related guidelines for preventive measures were issued by Ministry of Health and Family Welfare, Government of India and World Health Organization, following which can help in protecting people from virus exposure and reduce the chances of spread of COVID-19.
- The majority of the respondents were well aware of the Hand hygiene related knowledge (around 83 per cent), and around half of them (53 per cent) strictly followed good hand hygiene practices.

