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## **An institution-based assessment of health care worker on handwashing knowledge and behavior in a tertiary care hospital central India**

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**Abstract**---Patients, governments, and regulatory agencies are increasingly concerned about infections associated with health care. This is not only due to the severity of the problem in terms of associated morbidity, mortality, and treatment costs, but also because it is becoming increasingly apparent that the majority of these are preventable. The medical community is witnessing unprecedented advances in both the understanding of the pathophysiology of infectious diseases and the global spread of multidrug-resistant infections in health care facilities. These factors, coupled with the scarcity of new antimicrobials, have necessitated a reevaluation of the role of fundamental infection prevention practises in contemporary health care. There is now irrefutable evidence that strict hand hygiene practises reduce the risk of infection transmission. With "Clean Care is Safer Care" as a top priority of the WHO's global initiative on patient safety programmes, the time has come for developing countries to formulate policies for the implementation of fundamental infection prevention practises in health care settings. This study focuses on

hand hygiene, one of the simplest, least expensive, and least accepted forms of infection prevention.

**Keywords**--hand hygiene, hand washing, health care workers, steps hand washing.

## **Introduction**

Hand hygiene is a crucial part of infection control. In the wake of the growing burden of health care associated infections (HCAIs), the increasing severity of illness and complexity of treatment, and multi-drug resistant (MDR) pathogen infections, health care practitioners (HCPs) are reverting back to infection prevention basics like hand hygiene. Hand hygiene alone can reduce the risk of infection transmission in healthcare facilities, according to scientific evidence (HCFs) [1-5]. Early 19th-century doctors recognised the importance of hand washing in patient care. [6-8]. Labarraque[6] showed that hand decontamination reduces puerperal fever and maternal mortality. Mortimer et al [9] found that direct contact was the main mode of *S. aureus* transmission in nurseries after 1950s Staphylococcal epidemics. Handwashing by patients' contacts reduced babies' *S. aureus* exposure. In 1975 and 1985, the CDC published guidelines on hospital hand washing practises, primarily advocating non antimicrobial soaps; antimicrobial soap was advised before and after invasive procedures or during care for high risk patients. Alcohol-based solutions were only recommended without sinks[10,11]. CDC revised hand hygiene guidelines in 2002. A major change in these guidelines was the recommendation to use alcohol-based hand rubs for non-soiling hand decontamination between patient contacts and liquid soap and water for visibly soiled hands. As part of its global alliance for patient safety, it introduced the first Global Patient Safety Challenge in 2005[12,13]. In 2006, draught guidelines on "Hand Hygiene in Health Care" were published and tested[14]. 2008 marked the first Global Hand washing Day. To accelerate progress, WHO launched Patient Safety 2009. This is the next phase of CCiSC'15-18 for First Challenge. As of April 2009, 3,863 health care facilities had registered for this initiative, representing over 3.6 million people globally. On May 5, 2009, the WHO emphasized hand hygiene and launched guidelines and tools based on the next phase of patient safety work programme "SAVE LIVES: Clean Your Hands"[1,2,12-15].

## **Methodology**

A Cross-sectional observational study was carried out in tertiary care hospital of central India. Study population was the all nursing and paramedical staffs who are ready to give written consent and answer the questionnaire. A pretested semi structured questionnaire was used to assesstheirknowledge and practice of hand washing. A total 200 paramedical and nursing staff were recruited in the study100 paramedical and 100nurses those having at least 2yrs work experience. The data was entered and analyzed on Microsoft excel.

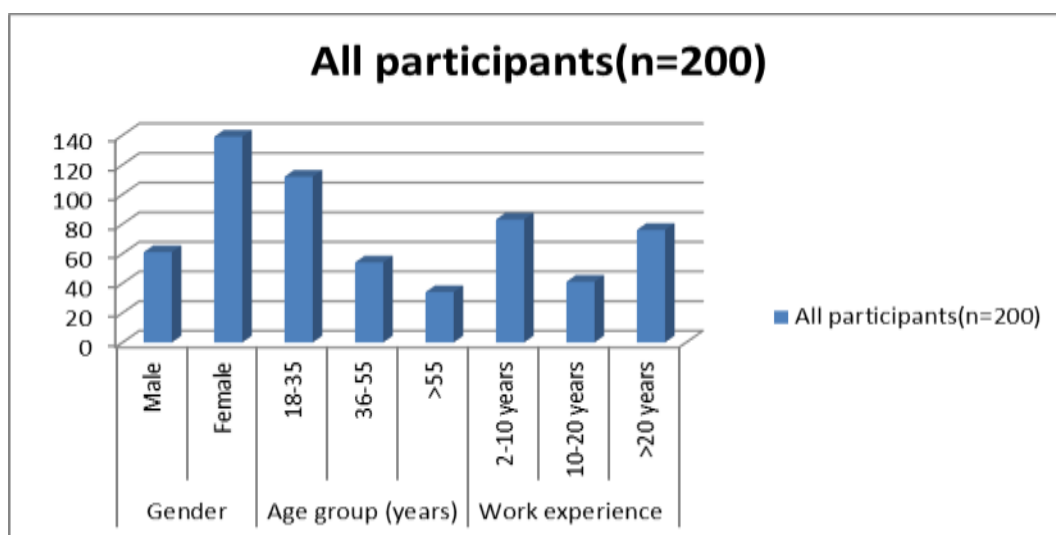
## Results

In the current study, 200 people took part, with 69.5 percent of them being female and 30.5 percent being male. The majority of them were between the ages of 18 and 35 years (56 percent), followed by 36 to 55 years (27 percent), and over 55 years (17 percent). The majority of participants have 2-10 years of experience, followed by 20 years of experience, and then 11-20 years of experience.

Table 1  
Descriptive characteristics of the study participants

Variables	Sub -Variables	All participants(n=200)	Percentage
Gender	Male	61	30.5
	Female	139	69.5
Age group (years)	18-35	112	56
	36-55	54	27
	>55	34	17
Work experience	2-10 years	83	41.5
	10-20 years	41	20.5
	>20 years	76	38

Figure- 1  
Descriptive characteristics of the study participants



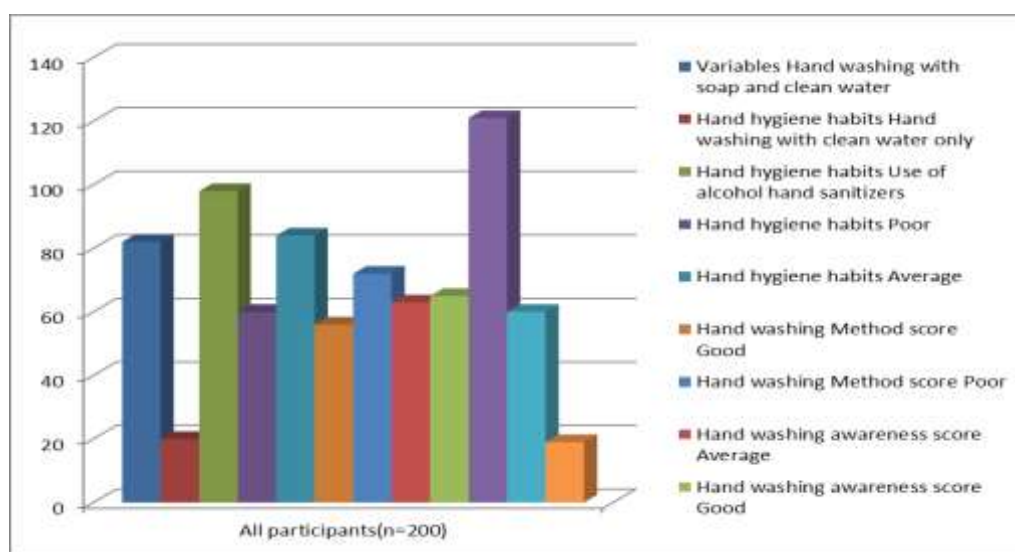
Hand hygiene is important. Hand washing with soap was followed by 41% of participants in the study, while 10% washed their hands only with water. When required, 49 percent of participants used an alcohol-based sanitizer. Underhand washing method received a score of 28% in the Good category, 30% in the Poor category, and 42% in the Average category. When it came to hand washing awareness, the highest percentage of participants (36%) were in the poor category, followed by 32 percent in the good category, and 31.5 percent in the average

category. and the ability to wash one's hands (step by step all method) In marking the pictorial presentation in exact order, only 9.5 percent received good marks, 30 percent received average marks, and 60.5 percent received poor marks.

Table 2  
Awareness and practices participants

Variables	Sub -Variables	All participants(n=200)	Percentage
Hand hygiene habits	Hand washing with soap and clean water	82	41
	Hand washing with clean water only	20	10
	Use of alcohol hand sanitizers	98	49
Hand washing Method score	Poor	60	30
	Average	84	42
	Good	56	28
Hand washing awareness score	Poor	72	36
	Average	63	31.5
	Good	65	32.5
Hand washing skills awareness step by step score	Poor	121	60.5
	Average	60	30
	Good	19	9.5

Figure- 2



## Discussion

The primary goal of this study was to assess HCWs' adherence to best preventive practices. The emphasis on HCWs is due to the unique epidemiology and risk profile of people in these areas, where invasive devices, ageing, and unstable immunological conditions are common. The purpose of this study was to assess the knowledge of HCWs using a pretested semistructured questionnaire. The level of awareness to hygiene practices among study participants was highly variable, with a range of good scores ranging from 9.5 percent to 32.5 percent. This finding is consistent with the findings of a recent study [12], which found that in the absence of specific interventions, the rate of compliance by HCWs was 38.7 percent. Hand washing with soap and water or antiseptic soap is recommended. These findings are consistent with previous research [16] and may be explained in part by a lack of basic training. The majority of them preferred alcohol-based hand sanitizer. In terms of hand washing skills, health care workers demonstrate poor compliance at all stages of the hand washing process. The awareness rate for rubbing hands and fingers with alcohol solution and soap and water technique is quite low (60.5 percent), but consistent with findings in recent studies [17]. These findings imply that, even if HCWs are familiar with all of the steps of hand washing technique, solicitations to improve the overall process, such as a continuous training system, are always required. In fact, according to a recent study [18], 72 percent of staff involved in an HH education and assessment programme achieved satisfactory coverage.

## Conclusion

Although "zero risk" cannot be achieved in a health care facility, infection risk can be effectively minimised by simple protocol training to improve care quality. According to the findings of this study, an effective strategy to boost HCW knowledge is to provide ongoing improvements in the quality of protocols and processes, as well as to support them in terms of communication, education, and training.

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