

Original Research Article

<https://doi.org/10.20546/ijcmas.2023.1209.021>

Knowledge, Attitude and Practices of Hand Hygiene among Medical Students and General Public in a Tertiary Care Centre of Western Rajasthan

Jahnvi Sharma , Pinky Bhagat, Rosy Ramnghahmawii and Parul Purohit

Department of Microbiology, Dr. S.N. Medical College, Jodhpur, India

**Corresponding author*

ABSTRACT

After COVID-19 pandemic treatment modalities are more focused towards preventive measures rather than medications. Among preventive measures hand hygiene is not only globally accepted method but also the simplest, cheapest, and most effective method in preventing spread of diseases. The objective of this study was to assess levels of knowledge, attitude, and practice in various aspects of hand hygiene among medical students and general public for identifying gaps for planning necessary corrective measures. A cross sectional study involving self-administered pre structured questionnaires containing 29 questions related to knowledge, attitude, and practice in various aspects of hand hygiene given to 150 medical students of S.N Medical college, jodhpur and 90 general public visiting out patient department of tertiary care hospital, western Rajasthan. The data was analysed using Microsoft excel with p- values being calculated. There were 252 responses to the survey divided into medical students and general public. Out of which, 12 responses were incomplete so were excluded leaving total 240 responses. There was no statistical difference between the groups for attitude towards hand hygiene. Significant statistical differences were found between the two groups in terms of knowledge and practice towards hand hygiene. The study showed that medical students and public had a good attitude toward hand hygiene. Medical students showed good knowledge and positive practices towards hand hygiene as compare to general public. Both groups strongly agree that hand hygiene practices are essential specially after COVID 19 pandemic. However our study was conducted with smaller number of participants, so to assess the true difference in KAP between medical students and general public there is need of more studies involving larger number of participants in India.

Keywords

Knowledge,
Attitude, Practice,
Medical students,
Covid-19

Article Info

Received:

20 July 2023

Accepted:

29 August 2023

Available Online:

10 September 2023

Introduction

Regular hand washing is one of the best ways to remove germs, avoid getting sick, and prevent the spread of germs to others, whether you are at home, at work, travelling, or out in the community hand

washing with soap and water can protect us from various infectious diseases. Hand washing with soap and water is simple and inexpensive, teaching people about hand washing helps them and their communities stay healthy. Many studies have shown hand washing education in the community can

significantly reduce the number of people getting sick. During COVID 19 Pandemic hand hygiene is considered as the most important method to prevent its spread from one person to another at the same time it is simple and cost effective. (Hand Hygiene - Health Protection Surveillance Centre (2020))

Despite its effectiveness in controlling spread of diseases, it has been shown that compliance with hand hygiene measures amongst public needs to be improved. (Nair *et al.*, 2014; Cruz and Bashtawi, 2016)

Guidelines for hand hygiene practices have been issued by World Health Organisation (WHO) and centres for disease control and prevention (CDC), Adherence to standard guidelines could be determined by level of awareness, threat perceptions individual's attitude, availability of resources, workload, and work culture. To know the reason behind low compliance with hand hygiene we need to assess the level of adherence of public to standard hand hygiene practices so, that it could dealt accordingly. (Nair *et al.*, 2014; Cruz and Bashtawi, 2016)

Many studies show a significant amount of research conducted on knowledge, attitudes, and practices (KAP) of hand hygiene amongst health-care professionals, but relatively little is known about hand hygiene KAP amongst the public. We undertook this study to assess the levels of knowledge, attitude, and practice in various aspects of hand hygiene among medical students and general public for identifying gaps for planning necessary corrective measures.

Materials and Methods

A cross sectional study involving self-administered pre structured questionnaires containing 29 questions related to knowledge, attitude, and practice in various aspects of hand hygiene given to 150 medical students of S.N Medical college, jodhpur and 90 general public visiting outpatient department of tertiary care hospital, Jodhpur, Rajasthan from June to July 2023 after obtaining verbal informed consent from participants. The

content, purpose and nature of study was explained and participation was voluntary and anonymous.

A total of 252 participants were included for study through convenience sampling. Out of which, 12 responses were incomplete so were excluded leaving total 240 responses (150 medical students and 90 general public). Self- administered pre structured questionnaire was given to each participant and there all doubts were cleared properly. (Mwesigye *et al.*, 2022) This study employed a quantitative survey approach using a standardised questionnaire, adapted from Patience Mwesigye *et al.*, (2022) Confidentiality of participants were maintained. The questionnaire was composed of 29 questions with multiple choice yes or no questions. It was divided into 3 categories- 7 questions on knowledge which included yes or no type questions, 11 questions on attitude which included agree, unsure and disagree type questions and 11 questions on practices regarding hand hygiene which included always, sometimes, and never type questions. The data was analysed using Microsoft excel.

Results and Discussion

This study had a total of 252 participants were recruited out of which 12 did not complete the questionnaire and was excluded from study leaving a total of 240 responses. Of 240 participants 90 were general public (37.5%) and 150 medical students (62.5%).

Demographic question about age group and prior hand hygiene training were collected. 98% medical students and 15% of general public reported having prior training on hand hygiene. The results were divided into 3 categories-

A study by Kingston *et al.*, in 2018 looked at attitudes towards hand hygiene in a hospital setting between nursing students and medical students. The nursing students had a greater hand hygiene compliance compared to medical students; however, there was suboptimal compliance overall. (Kingston *et al.*, 2018)

A study in Saudi Arabia assessed hand hygiene knowledge and compliance amongst undergraduate medical students during their clinical phase of training using the WHO’s “Five Moments for Hand Hygiene.” Compliance was measured during OSCE sessions and only 29% were able to correctly identify all five indications for hand hygiene, indicating a poor knowledge base. Compliance was found to be equally as poor at 17% (Al Kadi and Salati, 2012).

A cross-sectional study in India evaluated hand hygiene knowledge, attitude, and practice amongst medical and nursing students using a WHO hand hygiene questionnaire. Only 9% of participants had good knowledge regarding hand hygiene. Nursing students’ knowledge ($P = 0.023$) and attitude ($P < 0.05$) were significantly better than medical students (Nair *et al.*, 2014).

A German study reported on the beliefs of medical students regarding hand hygiene during their first clinical year in a hospital setting only 21% (18/85) of medical students marked all the indications for hand hygiene correctly, whilst 67% identified WHO’s “Five Moments for Hand Hygiene” (Graf *et al.*, 2011).

A UK study found that 58% of medical students were unaware of correct indications for alcohol-based hand rub (ABHR) and half of the students reported a perceived lack of teaching on infection control and hand hygiene during their education. These studies suggested a lack of knowledge concerning hand hygiene indications amongst medical students and differed from the results of our study pertaining to medical students’ knowledge (Mann and Wood, 2006). COVID-19 appears to have impacted the two groups’ attitudes. It was interesting to note that there was a relatively significant preference for soap as opposed to alcohol hand gel. This might be attributed to knowledge from both groups or rather the experience of drying effects of some hand gel products.

Both groups have actively started to practice hand hygiene more than they used to before COVID-19. Local efforts to reduce transmission of COVID-19 were welcomed by both groups. Of the public participants, 97.36% ($n = 185$) and 98.23% ($n = 111$) medical student participants would like to see all stores and supermarkets continue to provide complementary use of alcohol-based hand sanitisers in the future.

Table.1 Knowledge on Hand Hygiene

S.NO.	QUESTION	MEDICAL STUDENTS (n=150)	GENERAL PUBLIC (n=90)
1	Hand Washing Is Part Of Personal Hygiene	147 (98%)	85 (95%)
2	Hand Sanitizing Is Better Than Hand Washing	141 (94%)	81 (90%)
3	Watches And Bracelets Should Be Removed When Washing Hands	141 (94%)	73 (82%)
4	Rings Should Be Removed When Washing Hands	135 (90%)	70 (78%)
5	There Is No Need To Wash Wrists	143 (95%)	68 (76%)
6	Hands Need To Be Washed For Atleast 20 Seconds	130 (87%)	67 (75%)
7	Good Hand Hygiene Prevents Infection	147 (98%)	85 95%)

Table.2 Attitude Towards Hand Hygiene

S. NO.	QUESTIONS	MEDICAL STUDENTS (n=150)	GENERAL PUBLIC (n=90)
1	I Feel Regular Hand Hygiene Is Important And Improves My Health.	147 (98%)	87 (97%)
2	Regular Hand Hygiene Practice Is Easy To Perform	144 (96%)	81 (90%)
3	The Recommendation Regarding Hand Hygiene Are Based On Sound Scientific Evidence.	147 (98%)	76 (85%)
4	I Perform Hand Hygiene Only In Public	141 (94%)	82 (91%)
5	I Actively Practice Hand Hygiene More Than I Used To Before Covid 19	149 (99%)	88 (98%)
6	I Prefer To Wash My Hands With Soap Rather Than Alcohol Based Hand Sanitizer	145 (97%)	85 (95%)
7	I Am More Likely To Carry An Alcohol Based Hand Sanitizer Because Of Covid19	147 (98%)	81 (90%)
8	I Always Use Alcohol Based Hand Sanitizer Provided At The Entrance Of My Local Store And Super Market	147 (98%)	86 (96%)
9	I Did Not Regularly Purchase Hand Sanitizer Before Covid19 Pandemic	144 (96%)	86 (96%)
10	If We Follow Regular Hand Hygiene Practices It Is Likely To Have A Positive Effect In Fight Against Covid19 And Other Infectious Disease	150 (100%)	88 (98%)
11	I Have Noticed That Others Are Now More Particular About Hand Hygiene Because Of Covid19	150 (100%)	90 (100%)

Table.3 Hand Hygiene Practices

S. NO.	QUESTION	MEDICAL STUDENTS (n= 150)	GENERAL PUBLIC (n=90)
1	I Wash My Hands Before Meals	150 (100%)	90 (100%)
2	I Wash My Hands After Meals	150 (100%)	86 (96%)
3	I Wash My Hands Before Using The Restroom	129 (86%)	72 (80%)
4	I Wash My Hands After Using Restroom	147 (98%)	73 (82%)
5	I Wash My Hands After Coming Home	144 (96%)	72 (80%)
6	I Wash My Hands After Handshaking	141 (94%)	70 (78%)
7	I Wash My Hands After Using Public Transportation	142 (95%)	72 (80%)
8	I Wash My Hands After Touching Pets	120 (80%)	67 (75%)
9	I Wash My Hands After Removing Mask	128 (85%)	72 (80%)
10	I Wash My Hands After Sneezing	135 (90%)	73 (82%)
11	I Wash My Hands After Coughing	135 (90%)	73 (82%)

Fig.1 Knowledge on Hand Hygiene

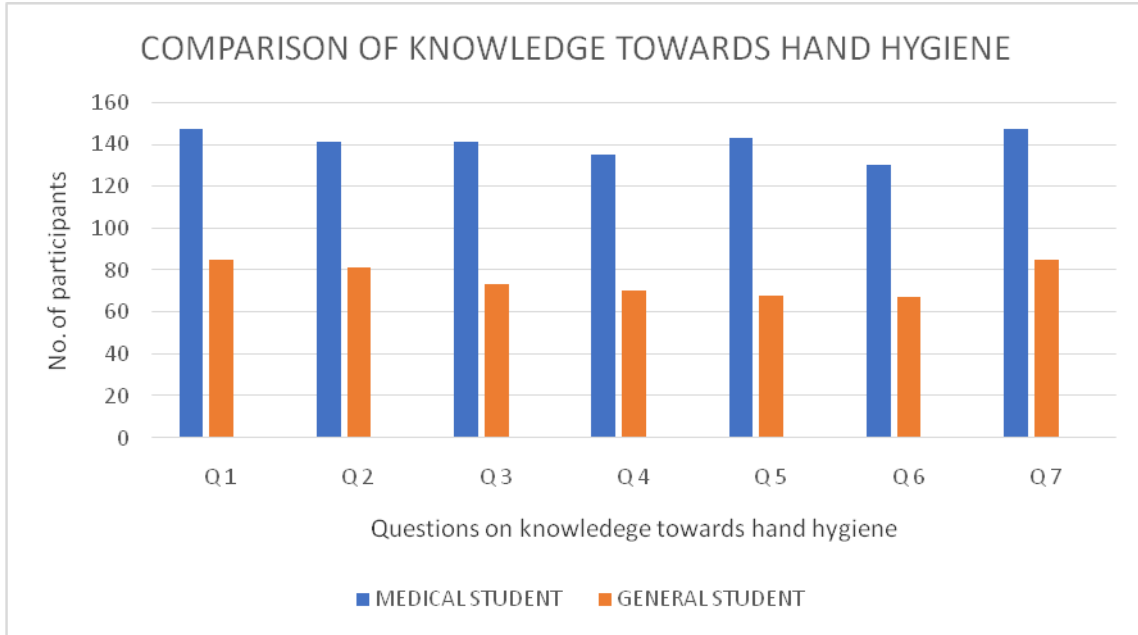


Fig.2 Attitude Towards Hand Hygiene

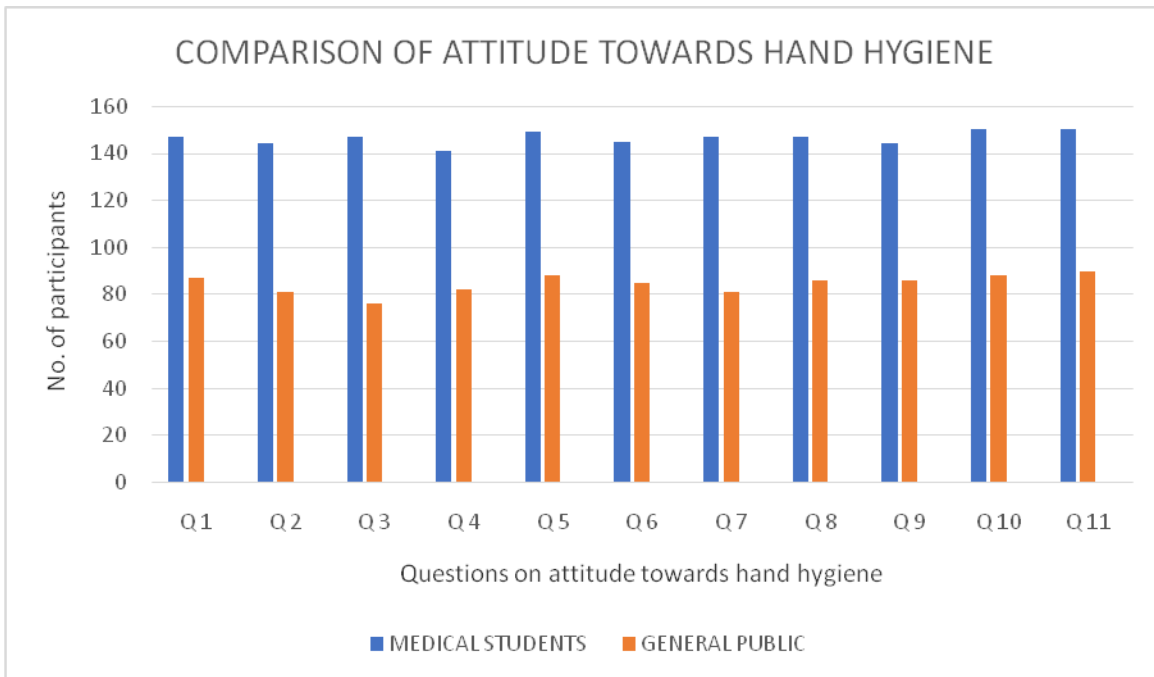
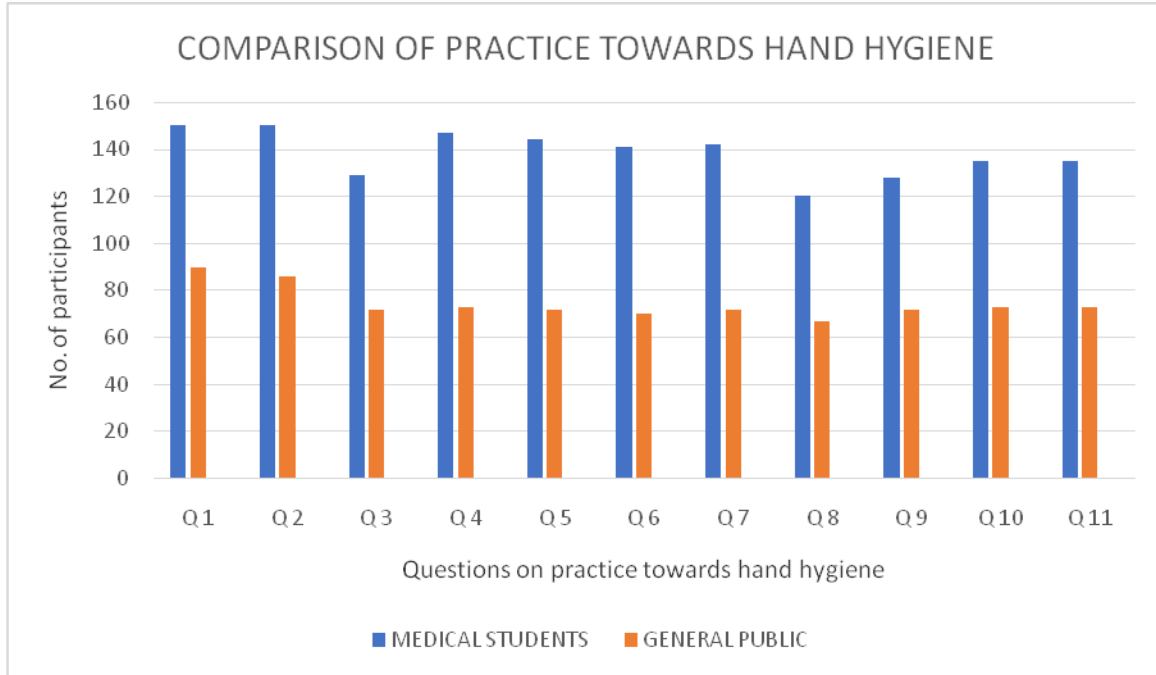


Fig.3 Hand Hygiene Practices



In conclusion, the study showed that medical students and public had a good attitude toward hand hygiene. Medical students showed good knowledge and positive practices towards hand hygiene as compare to general public. Both groups strongly agree that hand hygiene practices are essential specially after COVID 19 pandemic.

However, our study was conducted with smaller number of participants, so to assess the true difference in KAP between medical students and general public there is need of more studies involving larger number of participants in India. We recommend monitoring and periodic surveillance.

Of hand hygiene practices so that correct necessary measures can be taken. We also recommend that there should be easy availability and facilities like water, soap, hand rubs, sanitizer at public places like local shops, supermarkets, cinema halls, college entrance and hospitals etc.

There should be mandatory regular training on hand hygiene practices in schools, colleges, and hospitals so that large number of people can be sensitized and

motivated to adapt and practice correct hand hygiene methods from early age.

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<https://doi.org/10.1155/2014/608927>

How to cite this article:

Jahnvi Sharma, Pinky Bhagat, Rosy Ramnghahmawii and Parul Purohit. 2023. Knowledge, Attitude and Practices of Hand Hygiene Among Medical Students and General Public in A Tertiary Care Centre of Western Rajasthan. *Int.J.Curr.Microbiol.App.Sci.* 12(09): 217-223.

doi: <https://doi.org/10.20546/ijemas.2023.1209.021>