

ORIGINAL RESEARCH

Knowledge, attitude and practice of hand hygiene among undergraduate medical students- a research survey

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ABSTRACT

Aim: The purpose of the present research was to assess the knowledge, attitude and practice of hand hygiene amongst undergraduate medical students studying in this institution.

Methodology: A self- administered questionnaire based cross sectional study was done amongst medical students at our institution. Based on their responses, a scoring system was devised and their knowledge, attitude and practice were graded as good (>75%), moderate (50-74%) and poor (<50%).

Results: Of the 140 participants were involved in the study, we found that majority had moderate knowledge on hand hygiene. But the overall attitude of the respondents towards hand hygiene was not satisfactory and only few showed good hand hygiene practices.

Conclusion: This study reveals the wide gaps in the knowledge, attitude and practice of hand hygiene among the medical students and hence the need for conducting regular training.

Keywords: Hand hygiene, Knowledge, Attitude, Practice

INTRODUCTION

Effective hand hygiene can lower the prevalence of healthcare associated infections. Unfortunately, the prevalence of these infections continues to rise and poses a challenge to healthcare providers. Healthcare associated infections due to poor hand hygiene has been linked to an unacceptably high level of morbidity, mortality and healthcare costs.¹ In developing countries it's prevalence is found to be as high as 19%.² Previous studies have shown that hand hygiene compliance among healthcare workers is generally low.³ Further

increase in compliance is difficult to sustain, although the World Health Organization (WHO) has compiled guidelines in this regard in order to reduce the prevalence of health care associated infections.³ Furthermore, many studies done to assess the knowledge, attitudes, compliance and reasons for non-adherence to hand hygiene guidelines have found that compliance with hand hygiene protocols by health care workers (HCW) is poor^{4,5,6} due to several constraints, including heavy work load, high number of clinical procedures and skin conditions of the HCW.^{7,8} An alarming revelation was that compliance was found to be worst before high-risk procedures.^{5,9} In Asia there is a paucity of studies^{10,11,12} exploring this subject, although the prevalence of health care associated infections is high in this region. In Sri Lanka, a study¹³ conducted at the National Hospital of Sri Lanka (NHSL), showed that more than 60% of the nursing staff had substandard practices when it came to aseptic techniques including hand washing. It was also shown that nursing students, less experienced nurses and those who had recently got their knowledge updated were more likely to have better compliance with aseptic techniques. Work overload at NHSL and shortage of equipment were the main problems which were identified. In Anuradhapura Teaching Hospital,¹⁴ although ICU staff had adequate knowledge, the majority of them had poor attitudes and practices regarding hand hygiene. In this study, the majority were dissatisfied with the facilities available for hand hygiene. Compliance of health care workers to adhere to correct hand hygiene are reported to be poor in Sri Lanka as well as other countries. However hand hygiene is a single most effective preventive measure against hospital acquired infections, and can contribute to shorter hospital stay, reduction in patient morbidity and health care costs.¹ It is important to carry out training programmes on hand hygiene regularly for health care workers as it has been associated with increased compliance to hand hygiene practices and reduction of infection.¹⁵ Most of these studies have explored the knowledge, attitudes and practices of doctors and nurses with only a few including nursing students. The primary training of these groups is the responsibility of the faculty and the hospital where they receive their initial training. We believe a much needed study would be to explore the effectiveness of undergraduate training programs. This would be useful in identifying gaps in knowledge, poor attitudes and substandard practices to improve existing training programs and enhance good practices and work ethics in the future.

AIM OF THE PRESENT STUDY

The purpose of the present research was to assess the knowledge, attitude and practice of hand hygiene amongst undergraduate medical students studying in this institution.

METHODOLOGY

The present study was conducted at our institution. The present questionnaire based cross sectional study was undertaken during January 2022 after getting ethical clearance from the Institutional Ethical Review Committee. About 140 participants were in this study. The participants were briefed about the study and their verbal consent obtained.

A self administered questionnaire of 8 questions (Table 1) based on CDC Hand hygiene guidelines was used.

Table 1- Questionnaire used in the present research

S. No.	Questions
1	Do u adhere to hand hygiene practices all the time?
2	Does emergencies prioritize on hand hygiene?
3	Do you consider wearing hand gloves as a part of hand hygiene?
4	Do you give enough time for alcohol hand rubs?
5	Do you know Hand hygiene actions which prevent transmission of organisms to patients?
6	Do you know Source of organisms for nosocomial infections?

7	Do you know Route of cross transmission of pathogens among patients in hospital?
8	Do you emphasize training regarding hand hygiene practices?

It consisted of various parts; assessment of knowledge, attitudes and practices. A scoring system was used where 1 point was given for each correct response to knowledge, positive attitudes and good practices. 0 was given for incorrect knowledge, negative attitudes and poor practices. A score of more than 75% was considered good, 50-74% moderate and less than 50% poor. The results obtained were statistically analysed using Chi square test with the help SPSS 25 software, to assess the various parameters of hand hygiene.

RESULTS

A total of 140 medical undergraduate students participants were enrolled in the study. Nearly 54 participants had received a formal training in hand washing technique. The overall knowledge on hand hygiene among the participants was moderate. On analysing the results based on the scoring system, only few participants (13.6%) scored good, while most (80%) scored moderate, few (6.4%) scored poor. The response of the participants to attitude based questions revealed that their attitude towards hand hygiene was not satisfactory. On analysis of the hand hygiene practice among the participants, most of them exhibited poor hand hygiene practice and only few showed good hand hygiene practice. (Table 2)

Table 2- Statistical variability observed in the present study.

Q. No.	% of medical students agreeing	P value
1	15%	0.002
2	67.5%	0.417
3	88%	0.378
4	13.6%	1.23
5	25.8%	0.44
6	44.1%	1.93
7	57.3%	2.06
8	79%	0.069

DISCUSSION

Hand hygiene is the most important tool in preventing the transmission of nosocomial infections as the hands of HCWs are the most common mode of transmission of pathogens to patients. Factors that contribute to poor adherence to hand hygiene include poor access to hand-washing facilities (sinks), the time required to perform standard hand washing, irritant contact dermatitis associated with frequent exposure to soap and water, high workloads, knowledge deficits among HCWs, and the failure of administrative leaders to make hand hygiene an institutional priority.⁶ In our study analysis of the responses showed that health care workers had moderate knowledge on hand hygiene, similar to findings in other studies.⁷ Though this was a positive finding, major gaps in the knowledge were identified which should be addressed during the future training sessions. For instance the participants were not aware that hand hygiene is to be practiced before patient contact and after contact with patient surroundings. Another finding in our study was that most of the participants didn't know the minimal time required for alcohol based hand rubs to kill the germs. The attitude of the participants towards hand hygiene was overall poor. Nearly 85% of the medical students agreed that they don't adhere to correct hand hygiene practice all the time, in spite of the knowledge of this group on hand hygiene being good. The participants also agreed to various reasons for not adhering to hand hygiene like forgetfulness, emergency cases. This is similar to the finding in a study done by Sasidharan et al where nursing students showed better attitudes (52.1%) than medical students (12.9%).⁸ Both the groups agreed that they missed out hand hygiene sometimes because they had more important works to attend to, which

showed that hand hygiene was not in their priority. Nearly 36.4% of medical students and 63.5% of the nurses had the misconception that wearing gloves obviates the need for practicing hand hygiene. Most (79%) of the nurses and few medical students (43.9%) in our study felt that following hand hygiene was difficult in the current set up. This could be due to the lack of facilities in our institution and could be overcome by setting up bedside handrubs, maintaining the patient to sink ratio etc. In our study we identified various gaps in the knowledge of the health care workers. Though the overall knowledge of the participants was satisfactory, there was a wide gap between the it and practice of hand hygiene. Hence it is essential to conduct training sessions for medical students and nurses addressing these gaps in knowledge and on the correct hand hygiene procedures. On the other hand, it is also important to improve the current training programmes targeting hand hygiene practices in medical and nursing students. Previous studies have shown that self reported compliance of hand hygiene is higher than the actual compliance during the working shift.

CONCLUSION

Our study shows wide gaps in the knowledge and practice of hand hygiene among the medical students. Hence it is important to conduct regular training programs on hand hygiene for medical students with continuous monitoring and performance feedback to encourage them to follow correct hand hygiene practice.

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