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Knowledge, attitude and practice of hand hygiene among medical students: A questionnaire based survey

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Abstract

Hand hygiene is recognized as the leading measure to prevent cross infection of microorganisms. It is vital in preventing the disease transmission among patients. There is a paucity of studies exploring this subject in this part of the country in North India. A cross-sectional study was conducted among 100 medical students (63 females and 37 males) in a tertiary care medical college and hospital in North India. Knowledge was assessed using WHO's hand hygiene questionnaire. Attitude and practices were evaluated by using another self-structured questionnaire. 51% of participants (51 out of 100) had good knowledge regarding hand hygiene.

Keywords: Hand hygiene, medical students, WHO questionnaire, cross infections

1. Introduction

Infections acquired while receiving health care have significantly increased the mortality rate around the world by thousands. Hands have been identified as the major source of germ transmission while providing health care ^[1].

Hand hygiene is recognized as the leading measure to prevent cross-transmission of microorganisms and to reduce the incidence of health care associated infections ^[2]. Despite the relative simplicity of this procedure, compliance with hand hygiene among health care providers is as low as 40% ^[3-5]. Precise use of hand hygiene techniques can go a long way in reducing cross-transmission of microorganisms, nosocomial infections and the risk of occupational exposure to infectious diseases. *Klebsiella* spp., *Staphylococcus aureus*, *Clostridium difficile*, Methicillin-resistant *Staphylococcus aureus* (MRSA) and gram-negative bacteria are some of the organisms that are likely to be found on healthcare workers' hands. However, direct patient contact is not the sole method of pathogen transmission. Bacteria can also be acquired on the workers' hands by touching contaminated surfaces in the patient environment ^[6].

In Asia especially in North India there is a paucity of studies ^[7-9] exploring this subject, the prevalence of health care associated infections is high in this region. The observance of hygiene by students is reported as being weak ^[11-12].

Therefore, it is absolutely essential to investigate the knowledge, attitudes, and practices about hand hygiene among medical students so that appropriate strategies can be developed to promote hand hygiene compliance.

2. Materials and Methods

This study was conducted in Chintpurni Medical College and hospital Pathankot Punjab, India. The College is situated at the Junction of three states Punjab, Himachal and Jammu & Kashmir. This college primarily caters to the health needs of rural areas of this region in North India. CMC provides tertiary medical care for residents of Punjabs and patients referred from neighboring states.

Ethical clearance was obtained from the Ethical Review Committee of CMC Pathankot. Verbal consent was obtained from 100 medical students who volunteered to participate. A self-administered questionnaire containing a set of questions regarding hand-hygiene knowledge, attitudes, and practices was distributed to all participants. Pretest was conducted. Posttest as conducted following a sensitization CME on knowledge, attitude and practices of hand hygiene.

Type of study: Descriptive cross sectional study.
Study area: Medical College campus
Study population: Students studying MBBS 3rd year in medical college.
Study period: Three months
Sample size: 100 (63 females and 37 males)
Sampling method: Convenient
Selection criteria: Students who volunteered themselves for the study
Instrument used: Structured questionnaire on knowledge, attitude and practice of hand hygiene was used
Quality control: Questionnaire of WHO (World Health organization) is a pretested Tool by different researchers.
Confidentiality: All subject's confidentiality was strictly maintained. Subjects were assured of the confidence handling of their responses.

Knowledge was assessed using WHO's hand hygiene questionnaire for health care workers. This Performa of 25 questions includes multiple choice and "yes" or "no" questions. Attitude and practice were assessed using another self-structured questionnaire which consists of 10 and 6

questions respectively. Respondents were given the option to select on a 1- to 7-point scale between strongly agreed and strongly disagree. A score of 0 was given for negative attitudes and. 1 point was given for each correct response to positive attitudes and good practices. Maximum score for attitude is 10 and for practice it is 6. A score of more than 75% was considered good, 50-74% moderate, and less than 50% was taken as poor. Data was analyzed using EPI info version software. Descriptive statistics was used to calculate percentages for each of the responses given. A value less than 0.05 was considered significant.

3. Results

There were total of 100 students who volunteered to take part in the present study (63 females and 37 males). None of the students had received formal training on hand washing but had good knowledge of hand washing learned by observing or talking to their seniors. A very significant difference was not observed between female and male students but female students showed slightly better knowledge of hand hygiene. When asked about the correct technique of hand hygiene, 37 out of 63 female medical students (58.7%) and (16 of 37) male students (43.2%) expressed that they knew the correct technique of hand hygiene.

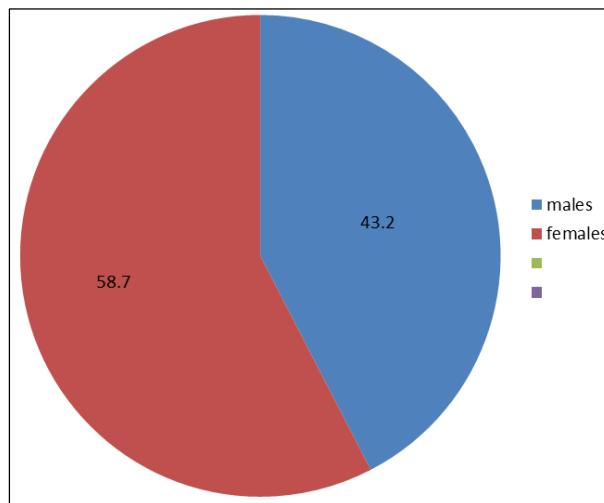


Fig 1: shows that out of 100 students 37(58.7%) and 16(43.2%) male students knew the correct technique of hand hygiene.

4. Practice of Hand hygiene

Regarding practice on hand hygiene very moderate response was seen before intervention. Only 41% of the students

showed practice of hand hygiene and it showed positive Indication to 62% after intervention.

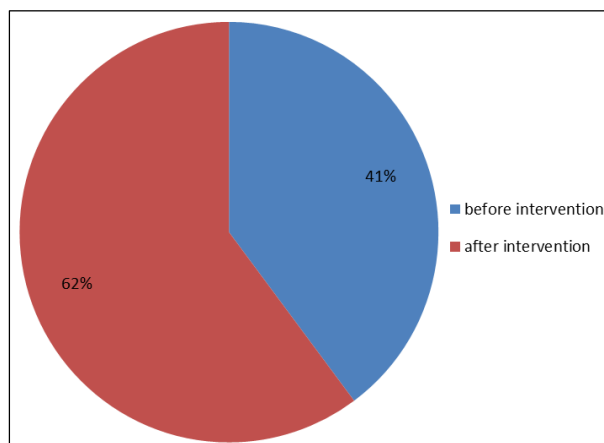


Fig 2: Shows results of intervention, before intervention it was 41% and 62% after intervention

5. Attitudes to Hand hygiene

The majority of students had moderate attitudes with regard to hand hygiene. It was seen as 32% in pretest and 48.5% in post test

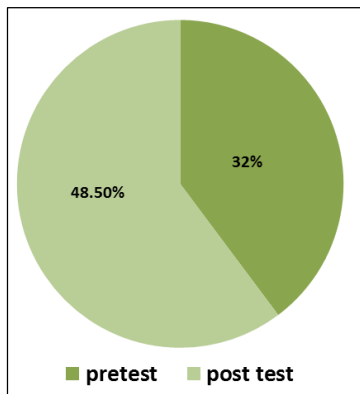


Fig 3: Shows attitude to hand hygiene as 32% in pretest and 48.5% in post test

6. Discussion

In our study, it was seen that students had moderate knowledge on hand hygiene, which was a positive finding. A study on hand hygiene practices of 187 candidates during final MBBS OSCE (Objective Structured Clinical Examination) at The Royal London Hospital School of Medicine and Dentistry in UK found that only 8.5% of candidates washed their hands after patient contact, although the figure rose to 18.3% when hand hygiene signs were displayed [10]. The situation in healthcare centers of developing countries is even more unacceptable [9]. In an earlier study from Saudi Arabia adherence to hand hygiene was seen in 70% of medical students, 18.8% of nurses, and 9.1% of senior medical staff, but the technique was suboptimal in all [12]. Like most previous studies, our study showed that the overall compliance of hand hygiene by medical students was 51%. However, compliance with hand hygiene practice differed among different professional categories of HCWs. Compliance among the physician category was low [13].

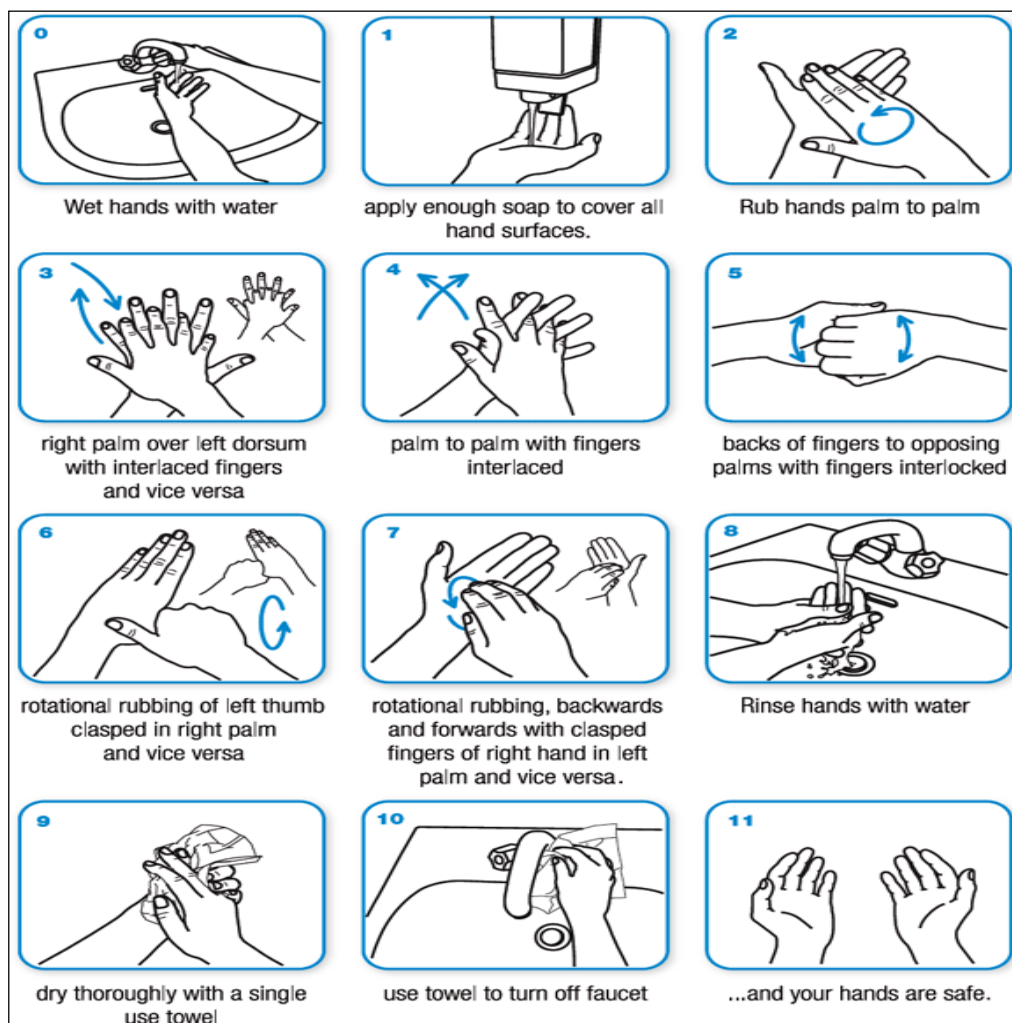


Fig 4: Hand Washing Technique by World Health Organization

7. Conclusions

Our study shows the importance of improving the current training programs targeting hand hygiene practices among medical students. Hand hygiene training sessions may need to be conducted more frequently for medical students with continuous monitoring and performance feedback to encourage them to follow correct hand hygiene practices.

7.1 Conflict of Interests

The authors declare that there is no conflict of interests regarding the publication of this paper.

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