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Awareness of hand hygiene among healthcare workers in a tertiary care hospital

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ABSTRACT

Hand hygiene is the single most important infection control practice that prevents the occurrence of Nosocomial infections (16). In our study we attempted to understand the knowledge, awareness, attitude and practice of hand hygiene among health care workers in a tertiary care teaching hospital in Chennai , South India.

A Cross Sectional analytic study was conducted in a teaching hospital in Chennai, South India in the month of February 2019. Simple random sampling method was used to include 100 health care workers. The health care workers included medical undergraduates, nurses, nursing assistants and nursing students. A World Health Organization (WHO) Hand Hygiene Knowledge Questionnaire was used to collect data from health care workers. Data was entered into MS Excel and analysed.

Among the health care workers 76 of them had moderate knowledge on hand hygiene and practiced the hand hygiene technique. Hand hygiene was practiced more after patient contact. Medical students had more knowledge than nurses. Infection control training sessions encouraged hand hygiene practice among health care workers.

Keywords: Knowledge, Attitude and Practice of Hand hygiene

INTRODUCTION

Hospital acquired infections are an important cause of increased mortality and morbidity among patients. It increases the duration of hospital stay and increases health care costs. Compliance with hand hygiene practice is the single most important factor to prevent hospital acquired infections. World Health Organization sets out guidelines as to when hand hygiene should be practiced. However, there is evidence that the defined measures to reduce hospital acquired infections are not always followed. There are many factors which may result in non-compliance with hand hygiene practices. They include lack of awareness, increased workload, non-availability of soap or alcohol based hand rub, poor acceptability and attitude of health care workers. Compliance with hand washing

practice differs among different categories of health care workers (17).

Methods

This study was a cross sectional study done at a tertiary care teaching hospital in Chennai, India. The study was done among health care workers including medical students, Nurses, Nursing Assistants, and nursing Students. A World Health Organisation hand hygiene awareness questionnaire was used to obtain the data. Participants were enrolled using simple random sampling method. The data were entered in MS Excel computer software and analysed. Ethical committee approval was obtained from the Institutional Ethical Committee.

RESULTS

A total of 100 participants were included in the study. The study included 32 Nurses, 57 Medical Students and 11 Paramedical staff.

Table: 1 Demographic Details

	Number of responses
Gender	
Male	34
Female	76
Profession	
Nurses	32
Medical Students	57
Paramedical staff	11
Total	100

Training

According to the analysis 65 of the study group had received formal training in hand hygiene in the past three years. Out of the 65 participants who received formal training in hand hygiene, 31 were nurses, 27 were medical students and 7 were paramedical staff.

Knowledge on Hand Hygiene

76 participants had moderate knowledge on hand hygiene, their score ranged from 30% to 70%. The 76 % participants included 28 nurses, 40 medical students and 8 paramedical staff.

21 participants of the total participants had good knowledge on hand hygiene, they scored above 70%. The 21 participants included 3 nurses, 15 medical students and 3 paramedical staff.

3 participants of the total had poor knowledge on hand hygiene, they scored below 30%. The 3 participants included 1 nurse and 2 medical students.

Table 2: Analysis of knowledge level of hand hygiene

	Good	Moderate	Poor
Medical students	15	40	2
Nurses	3	28	1
Paramedical staff	3	8	
Total	21	76	3

Attitude towards hand hygiene

In the study group, 88% said that they adhere to hand hygiene practices at alltimes.87 of the total participants said emergency and other priorities make hand hygiene difficult at times also, and 73 of the total participants were of the opinion that wearing gloves reduces the need for hand hygiene. hence more than half of the total participants showed poor attitude towards hand hygiene.

Practice of hand hygiene

When asked about hand hygiene 88 of the total participants said they practiced hand hygiene most at all times. However, they were not observed

directly and it was a questionnaire based result and has its own limitations.

DISCUSSION

In our study, 76 participants of the total participants, had moderate knowledge on hand hygiene. Similar results were obtained in previous studies by Veena Maheshwari et al, Hosein Zakeri et al, Hosseini alhashemi et al, Askarian et al (1,2,3,4). However, most of them were aware of actions which prevent the transmission of infection among patients and from health care workers to patients and vice versa. The mean knowledge level of healthcare workers who had received formal training in hand hygiene in the past three years (14.43) and the health care workers who did not receive training in hand hygiene in the past three years (14.17) were assessed and the results showed no significant difference between them. Studies by Hosein Zaveri et al, Hosseini al Hashemi et al, Calabro et al showed that the mean knowledge level of healthcare workers who had received formal training in hand hygiene was lower than those who had not received it. (2,3,5). However, in a study by Suchitra et al reported that education and training had a positive impact on retention of knowledge, attitude and practice of hand hygiene in health care workers (7). A study by Duggan et al reported inverse correlation of education and compliance of hand hygiene (6). According to our study the training in hand hygiene did not show any significant difference hence it is important to increase the impact of the training sessions. Studies by Salamati et al reported that interactive training, educational materials, posters, motivational interviews increased the effect of training on health care workers (8, 9). The mean hand hygiene knowledge level of medical students (14.36) was higher than that of nurses (14) though the difference was not very significant. Different studies by Hosein Zakeri et al, Calabro et al, Duggan et al, Suchitra et al, Van de Mortel et al reported that the mean knowledge level of nurses was higher than that of medical students (ref 2,5,6,7,10,11). The participants were aware of the actions that prevents transmission of germs from health care workers to patients. Many participants (84) said that hand rubbing is more rapid than hand washing however more than half of them (62) believed that hand rubbing causes skin dryness. Study by Hosein Zakeri et al also suggested that health care workers believed that hand rubbing causes skin dryness (2). On assessing the attitude towards hand hygiene more than half of the participants showed poor attitude towards hand hygiene. Similar results were obtained in other study by Jose GE (12). Most of them (87) said that emergency and other priorities made hand hygiene difficult at times. When participants were asked about their practice of hand hygiene many had good practice of hand hygiene after touching the patient, however many failed to do it before touching the patient. The participants were not observed in the workspace and the results are based on their response to the questionnaire hence we are not sure how many of them followed the steps and movements of hand hygiene.

CONCLUSION

More than half of the participants had moderate knowledge on hand hygiene. Most of them had poor attitudes towards hand hygiene many believed that wearing gloves reduces the need for hand hygiene. More than half of the participants said that they practiced hand hygiene all the time. The study has its own limitations as the results were obtained based on the answers given to the questionnaire and were not directly observed. A cross sectional study design was used to obtain the data regarding knowledge, attitude and practice of hand hygiene. The facilities were adequate for performing hand hygiene in the workspace.

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Which of the following hand hygiene action prevents transmission of germs to the patient?

a. Before touching a patient

Yes 89

b. Immediately after risk of body fluid exposure

Yes 87

c. After exposure to the immediate surroundings of patient

17 No

d. Immediately before a clean/aseptic procedure

Yes 89

Which of the following hand hygiene action prevents transmission of germs to the health care worker?

a. After touching a patient
Yes 90
b. Immediately after a risk of body fluid exposure
Yes 86
c. Immediately before a clean/aseptic procedure
No 12
d. After exposure to the surroundings of a patient
Yes 85
Which of the following statements on alcohol based hand rub and hand washing with soap and water are true?
a. Hand rubbing is more rapid than hand washing
True 84
b. Hand rubbing causes skin dryness more than hand washing
False 38
c. Hand rubbing is more effectiveagainst germs than hand washing
False 40
d. Hand washing and hand rubbing are to be performed in sequence
False 38
What is the minimal time needed for alcohol based hand rub to kill most germs on your hands?
20 seconds 32
Which type of hand hygiene method is required in the following situation?
a. Before palpation of the abdomen
Rubbing 67
b. Before giving an injection
Rubbing 53
c. After removing a bed pan
Washing 79
d. After removing examination gloves. Rubbing
38 Washing 56
e. After making patients bed
Rubbing 30
f. After visible exposure to blood
Washing 70
Which of the following shouldbe avoided as associated with increased likelihood of colonization of hands with harmful germs?
a. wearing jewellery
Yes 61
b. Damaged skin
Yes 71
c. Artificial fingernails
Yes 86
d. Regular use of a hand cream
No 41

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