ORIGINAL RESEARCH PAPER

Medicine

Volume - 7 | Issue - 1 | January - 2017 | ISSN - 2249-555X | IF : 3.919 | IC Value : 79.96

Knowledge, Attitude and Practice of Hand Hygiene among Nurses at a Teaching Hospital

KEYWORDS: Hand hygiene, Nurses, Knowledge, Attitude, Practices

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ABSTRACT

Background: *Hand Hygiene is recognized as one of the most effective infection control measure in order to prevent nosocomial infection. The compliance of nurses with hand washing guidelines seems to be vital in preventing the disease transmission among patients. This study was undertaken to assess the knowledge, attitude and practice of hand hygiene among nurse in our institute.*

Material and Methods: *A cross sectional study was conducted among 127 nurses in a teaching hospital in North India. Knowledge was assessed using WHO hand hygiene questionnaire. Attitude and practices were evaluated by using another self-structured questionnaire. 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: *The overall Knowledge on hand hygiene among the participants was good (116 out of 127, 91.33%). Their overall score on attitude (75%) and practices (58%) were found good and moderate respectively, which shows a positive finding. Though gaps in execution of knowledge were identified.*

Conclusion: *This study reveals the necessity of refresher training on periodic basis so that their standard of practice could be increased.*

Introduction

Hand hygiene is considered one of the most significant and predominant infection control measures for preventing hospital acquired infections. Nosocomial infections are a serious problem in health care services as they may cause prolonged hospital stay, high mortality, long-term disability, and excess health care costs. Majority of health care-associated infections can be transmitted from patient to patient via the hands of health care workers.[1] Health care associated infections (HAI) contributing 7-10% of the hospital admissions.[2] Hand hygiene is very simple procedure, despite the relative simplicity of this procedure, compliance with hand hygiene among health care providers is as low as 40%.[3] Hands of health care workers are the most accustomed genre of vehicles for the transmission of health care-associated infections due to substandard hand hygiene exercises. Nurses constitute the largest percentage of the health care workers (HCW) and they are the nucleus of the health care system.[1] In view of these poor compliance and their high impact on health sector, Centers for Disease Control and Prevention's (CDC) Healthcare Infection Control Practices Advisory Committee (HICPAC) published comprehensive Guideline for Hand Hygiene in Health-Care Settings in 2002[4] and World Health Organization (WHO) emphasized on evidence-based concept of "My five moments for hand hygiene ".[5] These models have been used to enhance understanding, training, monitoring, and reporting hand hygiene among healthcare workers.[6] In Asia there is a paucity of studies exploring this subject, although the prevalence of health care associated infections is high in this region.[7,8] Therefore, this study was undertaken with the objective of assessing the knowledge, attitude and practice of hand hygiene among Nurses, so that appropriate strategies can be developed to promote hand hygiene compliance.

Material and methods

The present Cross-sectional study was conducted at Jaipur National University Institute for Medical Sciences and research Centre, Jaipur, North India in the month of September 2016. This is a 360 bedded teaching hospital. About 127 nurses were enrolled in this study. The written consent was obtained from participants after briefing them about the study.

A self-administered questionnaire containing a set of questions regarding hand-hygiene knowledge, attitudes, and practices was distributed to all participants.

Knowledge was assessed using World Health Organization (WHO's) hand hygiene questionnaire for health care workers. This proforma includes multiple choice and "yes" or "no" questions. Attitude and practice were assessed using another self-structured questionnaire which consists of 10 and 8 questions, respectively.

A scoring system was used where 1 point was given for each correct response to knowledge, positive attitudes and good practices. A score of zero (0) was given for incorrect knowledge, negative attitudes and poor practices. A score of 75-100% was considered good, 50-74% moderate and less than 50% was taken as poor.

Data was analyzed using R software to assess the various parameter of hand hygiene.

Table 1: Knowledge of Nurses on Hand Hygiene (N=127)

Sl. No	Questions	Correct Answers by Nurses N (%)
1	Which of the following is the main route of transmission of potentially harmful germs between patients?	123 (96.85)

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2	What is the most frequent source of germs responsible for health care associated infections?	117 (92.12)
3. Which of the following hand hygiene actions prevents transmission of germs to the patient?		
3.1	Before touching a patient	126 (99.21)
3.2	Immediately after risk of body fluid exposure	125 (98.42
3.3	After exposure to immediate surroundings of a patient	18 (14.17)
3.4	Immediately before a clean/aseptic procedure	127 (100)
4. Which of the following hand hygiene actions prevents transmission of germs to the health care worker?		
4.1	After touching a patient	127 (100)
4.2	Immediately after a risk of body fluid exposure	124 (97.63)
4.3	Immediately before a clean/aseptic procedure	127 (100)
4.4	After exposure to the immediate surroundings of a patient	98(82.67)
5. Which of the following statements on alcohol-based hand rub and hand washing with soap and water is true?		
5.1	Hand rubbing is more rapid for hand cleansing than hand washing	109 (85.82)
5.2	Hand rubbing causes skin dryness more than hand washing	51 (40.15)
5.3	Hand rubbing is more effective against germs than hand washing	86 (67.71)
5.4	Hand washing and hand rubbing are recommended to be performed in sequence	92 (72.44)
6. Which type of hand hygiene method is required in the following situations?		
6.1	Before palpation of the abdomen	103 (81.10)
6.2	Before giving an injection	106 (83.46)
6.3	After emptying a bed pan	127 (100)
6.4	After removing examination gloves	119 (93.70)
6.5	After making a patient's bed	91 (71.65)
6.6	After visible exposure to blood	127 (100)
7. Which of the following should be avoided, as associated with increased likelihood of colonization of hands with harmful germs?		
7.1	Wearing jewellery	124 (97.6)
7.2	Damaged skin	125 (98.4)
7.3	Artificial fingernails	115 (90.5)
7.4	Regular use of a hand cream	96 (75.6)
8. What is the minimal time needed for alcohol-based hand rub to kill		41 (32.28)

Table 2: Responses of Attitude based questions related to Hand Hygiene Practices among Nurses

Sl. No	Statement	Nurses (N=127)
1	I have sufficient knowledge about hand hygiene	125 (98.42%)
2	Hand hygiene is no negotiable part of my role	117 (92.12%)
3	There are adverts or newsletters about hand hygiene in my workplace	101 (79.52%)
4	The frequency of hand hygiene is not difficult for me to carry it out as often as necessary.	82 (64.57%)
5	Facilities are adequate for hand hygiene in my area of work	119 (93.70%)
6	lnfection prevention team will have a positive influence on my hand hygiene	120 (94.48%)
7	lnfection prevention notice boards will remind me to do hand hygiene	53 (41.73%)
8	I am willing to attend hand hygiene courses regularly	54 (42.51%)

Table 3: Hand Hygiene Practices among Nurses

Sl. No	Statement	Nurses N=127
1	I adhere to correct hand hygiene practices at all times	102 (80.31%)
2	I keep hand hygiene on priority even if there is lot of rush in the ward.	99 (77.95%)
3	I never forget it.	103 (81.10%)
4	Hand hygiene is not difficult even in emergencies and other priorities.	101 (79.52%)
5	Wearing gloves does not reduce the need for hand hygiene	26 (20.47%)
6	I feel frustrated when others omit hand hygiene	86 (67.71%)
7	I used to ask others to engage in hand hygiene	61 (48.03%)
8	Newly qualified staff are being properly instructed in hand hygiene in their training	109 (85.82%)
9	I feel guilty I omit hand hygiene	101 (79.52%)
10	Adhering to hand hygiene practices is easy in the current setup	106 (83.46%)

Result

There were total 127 study participants. In this a majority (95.27%, 121 out of 127) had claimed to have received formal training in hand washing and rest gave vague answer. When asked about the correct technique of hand washing, 119 out of 127 participants (93.7%) said they knew the correct technique of hand washing.

Knowledge on Hand Hygiene

The overall Knowledge on hand hygiene among the participants was good (82.86%). On analysis the results based on scoring system, 22.8% participants scored moderate, while most (73.3%) scored good, few (3.9%) scored poor. The responses of the participants based on individual questions on hand hygiene knowledge as given in Table 1.

Attitudes to hand Hygiene

The majority of participants had good attitudes (76%) with regard to hand hygiene. The response of the participants to attitude based questions is given in Table 2.

Practices of Hand Hygiene

On analysis of the hand hygiene practice among the participants, most of them showed moderate on scoring system (70%). The percentages of correct responses of the participants to the individual question on hand hygiene practices are given in Table 3

Discussion

In this study, participants had good knowledge on hand hygiene and their overall score on attitude and practices were also good, which has a positive finding, minor gaps in execution of knowledge were identified which should be addressed during the future training session. Another finding in this study was that around 50% of the participants did not know the minimal time required for alcohol based hand rubs to kill the germs. Feather et al.[9] studied the 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 and 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. The situation in healthcare centers of developing countries is even more unacceptable [9]. Unlike most previous studies[10, 11] our study showed that the overall compliance of hand hygiene by HCWs was more than 50%.

Our study shows the importance of refresher training of hand hygiene for HCWs.

The participants also felt that presence of infection control notice boards in the working area will have a positive influence on adherence to hand hygiene. With the help of infection control nurses practical problem related to poor compliance can be sorted out.

Volume - 7 | Issue - 1 | January - 2017 | ISSN - 2249-555X | IF : 3.919 | IC Value : 79.96

Hence the institutional support is necessary for overcoming the practical problems related to poor compliance.

Conflict of interests: No conflict of interest

Recommendation:
Refresher training should be conducted at periodic interval.
Infection control nurses should be appointed.

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