



Research Article

Knowledge and Expressed Practice Related to Hand Hygiene among Student Nurses - A Selected College of New Delhi, India

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A B S T R A C T

Introduction: Hand hygiene is an important healthcare issue globally and is a single most cost-effective and practical measure to reduce the incidence of health care associated infection across all setting- from advanced healthcare systems to primary healthcare centres. The objectives of the present study were to assess the knowledge and expressed practice related to hand hygiene among the student nurses in a selected college of Nursing, New Delhi.

Materials and Methods: Quantitative research approach with descriptive research design were adopted for this study. Structured questionnaire was used to assess the knowledge and expressed practice checklist was used to assess the expressed practice related to hand hygiene among student nurses. Total 102 student nurses were selected through convenient sampling technique from DGNM 1st year and DGNM 2nd year of Rufaida College of Nursing, Jamia Hamdard, New Delhi, India. Data were collected in the month of September 2020. Descriptive statistics were used to analyse the data.

Result: The findings of present study revealed that out of 102 samples, 90 (88.24%) have inadequate knowledge whereas only 12 (11.76%) have adequate knowledge on hand hygiene and 78 (76.47%) have good expressed practice while 16 (15.69%) have satisfactory expressed practice and 8 (7.84%) have poor expressed practice on hand hygiene.

Conclusion: It was concluded that more observational studies should be conducted on hand hygiene as majority of samples have good expressed practice on hand hygiene whereas very few samples have adequate knowledge on hand hygiene.

Keywords: Hand Hygiene, Knowledge, Expressed Practice, Student Nurses

Introduction

Hand hygiene is one of the simplest and effective method to control the infection. Health care associated infection

is mainly spread though the contaminated hands. We can reduce this by following the proper hand hygiene techniques.¹ Relationship between the hand washing and



spread of infection was established two century ago. In mid- 1800s, Ignaz Semmelweis in a study hypothesized that “cadaverous particles” were transmitted via the hands of doctors and students from autopsy room to the delivery room. This transmission of cadaverous particles caused the puerperal fever in postnatal mother. Based on these findings he recommended that hands be scrubbed in a chlorinated lime before every patient contact and after leaving the autopsy room also. After following these recommendations mortality rate was decreased.²

Health care associated infection is caused within 24 hours of hospitalization. It is a burden on health care facility. When healthcare provider give care to the patient with contaminated hands or when they do not clean their before and after contact to each patient health care associated infection is caused.³

Experts agree that regular and proper hand hygiene using soap and water is the simplest and most effective way to promote personal hygiene and reduce infection. Infections associated with healthcare system has been targeted by the WHO for Patient Safety during the first Global Patient Safety Challenge. ‘Clean Care is Safer Care’ compliance to hand hygiene is widely acknowledged as the most important way of reducing infections in healthcare facilities and the spread of antimicrobial resistance.⁴

Hand hygiene refers to the way of cleaning one’s hands that substantially reduces potential pathogens on the hands. It includes the use of alcohol-based hands rubs (contains 60% - 95% alcohol) and hand washing with soap and water. Everyone from the WHO to the US Centres for Disease Control and Prevention has repeatedly emphasized regularly hand washing is one of the simplest ways to prevent the transmission of new corona virus. If hands are not visibly dirty 60% alcohol can be used. We can sanitize hands with this 60% alcohol though rubbing.⁵

Dutta G et al. has conducted a cross-sectional study to assess the knowledge and practice of hand hygiene and its association with the selected variables among the undergraduate students (MBBS and B.Sc. Nursing students) and junior doctors (MBBS interns and postgraduate students) in Manipur between July 2016 and October 2018. Total 924 samples taken part in this study. Self-administered questionnaire was used for the data collection. Findings of this study suggest that nearly half (49.1%) of the participants had poor knowledge about hand hygiene; more than one-tenth (14.3%) had average knowledge, and more than one-third (36.6%) had good knowledge.⁶

Mehta A, Tripathi K has conducted a cross sectional study to assess the knowledge, attitude and practices of hand hygiene among nurses and nursing students in tertiary health centre of central India. Self-administered structured

questionnaire administered to 50 staff nurse and 80 nursing students posted at a tertiary health care centre of Central India. Findings of this study shows that majority of the study participants have moderate level of knowledge and practice with marginal difference between the two groups. It was also found that nursing students exhibit remarkably higher level of attitude than the staff nurses.⁷

This extensive review on hand hygiene suggests that there should be adequate knowledge and appropriate practice related to hand hygiene among the health care, so that we can reduce the incidence of health care associated infections and we can provide the clean and safe care to the patients. Student nurses are going to be the future health care worker, who will work in the different healthcare and provide the care to patients and community also. They should know the importance of hand hygiene and, they should have adequate knowledge and practice on hand hygiene. Therefore, the researcher felt a need to conduct the study. The objectives of this study were as follows:

- To assess the knowledge related to hand hygiene among the student nurses in selected college of Nursing, New Delhi
- To assess the expressed practice related to hand hygiene among the student nurses in selected college of Nursing, New Delhi

Materials and Methods

Quantitative research approach with descriptive research design were adopted for the study. Tool (Structured self-administrative questionnaire) was prepared to collect the data from samples. The tool was consisting three sections i.e., Section A - was contained 10 items on demographic data, Section B was contained 30 multiple choice questions to assess the knowledge related to hand hygiene, and Section C was expressed practice checklist contained 21 items to assess the expressed practice related to hand hygiene. Validity of tool was done by seven experts from various nursing specialty. Formal administrative permission was taken from the Principal of Rufaida College of Nursing, Jamia Hamdard for conducting the study. Total 102 student nurses were selected through convenient sampling technique from DGNM 1st year and DGNM 2nd year of Rufaida College of Nursing, Jamia Hamdard, New Delhi. Data were collected in the month of September 2020. Study duration was 15 days. Descriptive statistics were used to analyse the data.

Consent was obtained from the participants prior to their participation. Confidentiality of the data were ensured. Anonymity of individuals participating in the research is ensured, with full autonomy to participate in the research and withdraw anytime. The tools were administered on the selected sample through google form link.

Result

The results are discussed under the following sections:

Section A: Findings related to Demographic Characteristics

Table 1. Frequency and percentage distribution of the subjects according to their demographic characteristics

(n=102)

S. No.	Demographic data	Frequency	Percentage %
1.	Age in (years)		
	18-19	37	36%
	20-21	44	43%
	21-22	17	17%
	more than 22	4	4%
2.	Gender		
	female	77	75%
	male	25	25%
3.	Education		
	DGNM 1 st year	62	61%
	DGM 2 nd year	40	39%
4.	Area of residence		
	urban	84	82%
	rural	18	18%
5.	Father's occupation		
	medical	5	5%
	non medical	15	15%
	others	82	80%
6.	Mother's occupation		
	medical	9	9%
	non medical	9	9%
	others	84	82%
7.	Previous knowledge related to hand hygiene		
	yes	101	99%
	no	1	1%
8.	Source of information related to hand hygiene		
	classroom teaching	30	29%
	clinical teaching	52	51%
	books/ newspapers/ magazine	14	14%
	Others	6	6%
9.	Previous clinical exposure to the hospital		
	HAHC hospital	60	59%

	Safdarjung hospital	0	0%
	both a and b	42	41%
	Attendant any workshop or training programmed on hand hygiene		
10.	yes	45	44%
	no	57	56%

Section B: Findings related to the Knowledge Scores on Hand Hygiene among Student Nurses

Table 2. Frequency, percentage, mean and standard deviation of knowledge score on hand hygiene

(n=102)

Knowledge score	Range of score	Obtained range	Frequency	Percentage	Mean	Standard deviation
Adequate knowledge (≥80%)	24-30	26-30	12	11.76	28.71	1.54
Inadequate knowledge (<80%)	1-23	8-22	90	88.24	13.78	3.15

Table 2, shows that out of 102 sample, majority of sample i.e., 90 (88.24%) had inadequate knowledge, mean was 28.71 and standard deviation was 1.57, whereas only 12 (11.76%) had adequate knowledge, mean was 13.78 and standard deviation was 3.15.

Section C: Findings Related to Expressed Practice on Hand Hygiene among Student Nurses

Table 3(a). Frequency and percentage distribution of expressed practice on hand hygiene

(n=102)

Expressed practice score	Frequency	Percentage
Poor (1-18)	8	7.84%
Satisfactory (19-20)	16	15.69%
Good (21)	78	76.47%

Table 3(a) shows that majority of samples i.e. 78 (76.47%) have good expressed practice while 16 (15.69%) have satisfactory expressed practice and 8 (7.84%) have poor expressed practice on hand hygiene. Table 3b shows that, mean of possible range of score was 20.49, the median was 21, the mode was 21, and standard deviation was 1.059 of expressed practice score on hand hygiene among student nurses.

Table 3(b). Mean, median, mode and standard deviation of expressed practice scores on hand hygiene

(n = 102)

Variable	Possible range of score	Obtained range of score	Mean	Median	Mode	Standard deviation
Expressed practice score	1-21	16-21	20.49	21	21	1.059

Discussion

The findings of the present study revealed that 57 (56%) samples had not attended any workshop or training programme on hand hygiene. Knowledge assessment on hand hygiene among student nurses includes that majority of sample i.e., 90 (88.24%) have inadequate knowledge whereas only 12 (11.76%) have adequate knowledge, and expressed practice assessment on hand hygiene among student nurses includes that, majority of samples i.e. 78 (76.47%) have good Expressed practice while 16 (15.69%) have satisfactory expressed practice and 8 (7.84%) have poor Expressed practice. This result shows a big difference between knowledge and expressed practice on hand hygiene among student nurses. Practice should be assessed through observational checklist for good result. In the present study we had assessed the expressed practice, it was the limitation of this study.

A similar observational study was conducted by Shanu SJ, to assess the hand hygiene practice among health care workers in CSICU, SCTIMST. 50 HCWs were taken for observational study, 50 for assess the reported hand hygiene practices. Questionnaire and observation tool were used for data collection. Findings of the study revealed that there is a disparity between the opinion and the practices of hand hygiene among health care workers. There were two studies conducted by the investigator, the observational study and reported study. The observational study shows that the overall hand hygiene compliance was 67.08% and the reported study give more than 90% of compliance among HCWs.⁸

Conclusion

Through this study it was concluded that more observational studies should be conducted on hand hygiene as majority of samples have good expressed practice on hand hygiene where as very few samples have adequate knowledge on hand hygiene. Student nurses should be updated related to hand hygiene to enhance their knowledge and practice-based skills by different teaching methods. Workshops and training programme can also be organized to increase the knowledge on hand hygiene. Other than the knowledge and practice assessment attitude of the student nurses can also be assessed. There is a need to identify the factors which are affecting the hand hygiene practice in clinical settings.

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Conflict of Interest: None

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