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**A study to assess the perception, practices and the factors influencing hand
hygiene among 2nd and 3rd year B.sc nursing students posted in the
Medical Surgical Unit at a tertiary care hospital, Bangalore.**

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Abstract

There are millions of workers in the healthcare industry. Though the health care includes doctors, laboratory technicians and physiotherapist, nurses are the major workforce in a healthcare industry. The number of patients admitted to the hospital is also increasing every year due to the rise in communicable and non-communicable diseases. The inadequate knowledge and practice of hand hygiene by the health care workers can leads to many healthcare associated infections to the patients. Therefore exploring nursing students' knowledge and attitude toward hand hygiene are of high importance to public health policy makers and medical educators. The findings of perception showed that all the subjects 60 (100%) had positive perception towards hand hygiene. Regarding the practice majority 58

(96.67%) of the subjects exhibited adequate practice regarding hand hygiene when soap and water is used whereas only 45 (75%) of the subjects exhibited adequate practice when hand rub is used. Regarding the factors influencing hand hygiene ,the findings revealed that 35(58%) of the subjects practiced hand hygiene due to the influence of clinical supervisors, 29(48%) of the subjects practiced hand hygiene due to the display of posters and 23(38%) of the subjects practiced hand hygiene due to the fear of getting infection from the hospital. Whereas 24(40%) of the subjects did not perform hand hygiene due to unavailability of hand hygiene materials, 13(22%) of the subjects failed to practice hand hygiene because they felt that wearing gloves negated the need of hand hygiene, 12(20%) of the subjects did not practice hand hygiene due to inconvenient location of hand hygiene facility, 10(17%) of the subjects did not practice hand hygiene due to the lack of hospital protocols, 8(13%) of subjects did not practice hand hygiene due to emergency, forgetfulness and pressure of work .Similarly 7(12%) of the subjects did not perform hand hygiene due to unpleasant cleaning products. It was found that the baseline variables such as age, gender, year of study and allergic history did not show any statistically significant association with hand hygiene practice using hand rub or soap and water and there was no correlation between perception and practices.

Keywords

Hand hygiene, Hand hygiene perception, Hand hygiene practice, Knowledge of hand hygiene

Article

Introduction

Health care associated infections (HCAIs) are a threat to the health of people. The hands of health care workers (HCWs) are one of the most common vehicle for transmission of health care associated pathogens from patient to patient and within the health care environment [1]. According to World Health Organization (WHO), Health Care Associated Infection occurs in a patient during the process of care in a hospital or other health care facility which was not present or incubating at the time of admission, including infections acquired in the hospital but appearing after discharge [2].

Problem statement

A study to assess the perception, practices and the factors influencing hand hygiene among 2nd and 3rd year B.Sc nursing students posted in Medical Surgical Unit at a tertiary care hospital, Bangalore.

Objectives

1. To assess the perception regarding hand hygiene among 2nd and 3rd year BSc nursing students.
2. To assess the practice regarding hand hygiene among 2nd and 3rd year BSc nursing students.
3. To assess the factors influencing the practice of hand hygiene.
4. To identify the association of perception and practices of hand hygiene with selected baseline variables.
5. To identify the relationship between perception and practices of hand hygiene

Methodology

Research Approach: The research approach adopted for this study was quantitative research approach.

Sampling Technique

Simple random sampling technique was used to draw the sample. In this study, the investigator adopted lottery method to choose 60 B.Sc nursing students for the main study.

Sample

The sample of the study comprised of 2nd and 3rd year BSc nursing students studying in a selected college of nursing who had posting in Medical-Surgical unit at a tertiary care hospital. From each class 30 samples were taken.

Tool

The tools used in this study were self structured questionnaire. A 5 point Likert scale was used to assess the perception and factors influencing hand hygiene and a checklist was used to assess the practices regarding hand hygiene.

Data Collection Procedure

Permission was obtained from the principal of selected college of nursing, Bangalore to conduct the study. Informed consent was obtained from the subjects. Using a structured questionnaire the perception and factors influencing hand hygiene were assessed. The practice regarding hand hygiene was assessed using a checklist [3].

Part I: Baseline variables

It consisted of 4 items such as age, gender, year of study and allergic history.

Part II: Perception regarding hand hygiene

Perception was assessed using a 5 point Likert scale which consisted of 14 items (7 positive and 7 negative).

The scoring was done as follows

1. Positive perception – above 50%
2. Negative perception- below 50%

Part III: Practices regarding hand hygiene

Checklist was used to assess the practice of hand hygiene using soap and hand rub.

Results : The analysis of the present study is presented as follows:

Table1: Distribution of baseline variables

N=60

Baseline variables	f	%
Age (in years) : 18-22	56	93.33
23-27	4	6.67
Gender :		
Male	19	31.67
Female	41	68.33
Year of study :		
2nd year	30	50
3rd year	30	50
Allergic History :		
No	59	98.33
Yes	1	1.67

Data presented in table 1 revealed that majority 56 (93.33%) of the subjects belonged to the age group of 18 – 22 years and only 4 (6.67%) subjects belonged to the age group of 23 – 27 years. Regarding gender majority 41 (68.33%) of the subjects were female and only 19(31.67%) of the subjects were male. Regarding the year of study, each were 30(50%) from

2nd and 3rd year B.Sc (N). In terms of allergic history majority 59(98.33%) of the subjects did not have allergic history and only 1 (1.67%) subject had allergic history.

Table 2: Frequency and percentage distribution of perception regarding hand hygiene
N=60

SI.No	Perception regarding Hand hygiene	f	%
1	Positive perception	60 (>35)	100%
2	Negative perception	- (<35)	-

From the above table 2 it showed that all the subjects 60 (100%) had positive perception towards hand hygiene.

Table 3: Frequency and percentage distribution of practice regarding hand hygiene

N=60

SI.NO	Practice regarding hand hygiene					
		Adequate		Inadequate		
1		Soap and Water	f	%	f	%
			58	96.67	2	3.33
2	Hand Rub		45	75	15	25

Regarding the practice, majority 58 (96.67%) of the subjects exhibited adequate practice regarding hand hygiene when soap and water is used whereas only 45 (75%) of the subjects exhibited adequate practice when hand rub is used (Table 3).

Regarding the factors influencing hand hygiene ,the findings revealed that 35(58%) of the subjects practiced hand hygiene due to the influence of clinical supervisors, 29(48%) of the subjects practiced hand hygiene due to the display of posters and 23(38%) of the subjects practiced hand hygiene due to the fear of getting infection from the hospital. Whereas 24(40%) of the subjects did not perform hand hygiene due to unavailability of hand hygiene materials, 13(22%) of the subjects failed to practice hand hygiene because they felt that wearing gloves negated the need of hand hygiene, 12(20%) of the subjects did not practice hand hygiene due to inconvenient location of hand hygiene facility,10(17%) of the subjects did not practice hand

hygiene due to the lack of hospital protocols, 8(13%) of subjects did not practice hand hygiene due to emergency, forgetfulness and pressure of work .Similarly 7(12%) of the subjects did not perform hand hygiene due to unpleasant cleaning products.

Table 4: Association between practice regarding hand hygiene using hand rub and selected baseline variables

N=60

Baseline variables	Inadequate		Adequate		χ^2 - value	p-value
	f	%	f	%		
Age (in years)						
18-22	14	23.33	42	70	0.0	1
23-27	1	1.67	3	5	(df=1)	NS
Gender :						
Male	6	10	13	21.67	0.64	0.423
Female	9	15	32	53.33	(df=1)	NS
Year of study:						
2 nd year	8	13.33	22	36.67	0.088	0.766
3 rd year	7	11.67	23	38.33	(df=1)	NS
Allergic History						
No	15	25	44	73.33	0.34	0.56
Yes	0	0	1	1.67	(df=1)	NS

From the above table 4 it is evident that, the baseline variables such as age, gender, year of study and allergic history did not show any statistically significant association with hand hygiene practice using hand rub or soap and water.

Table 5: Correlation between perception and practice using hand rub

	Perception r value (p value)	Practice (Hand rub)r value (p value)
Perception	1.000	.167 (.203)
Hand rub	.167(.203	1.000

The above table 5 revealed that there was no correlation between perception and practices.

Discussion

The present study was conducted to assess the perception, practices and factors influencing hand hygiene among 2nd and 3rd year B.Sc nursing students posted in medical surgical unit at a tertiary care hospital, Bangalore. The findings of the study were discussed under the following sections [4].

SECTION A: Baseline variable of the subjects

Regarding Age, majority 56 (93.33%) of the subjects belonged to the age group 18 – 22 years and only 4 (6.67%) subjects belonged to the age group 23 – 27 years. Regarding gender majority 41 (68.33%) of the subjects were female and only 19(31.67%) of the subjects were male. Regarding the year of study, the subjects were 30(50%) from each class. Regarding

the allergic history majority 59(98.33%) of the subjects did not have allergic history and only 1 (1.67%) subject had allergic history [5].

SECTION B: To assess the perception regarding hand hygiene among 2nd and 3rd year BSc nursing students.

In this study cent percentage of the subjects 60(100%) had positive perception towards hand hygiene.

The present study was supported by another study conducted among 117 nursing Students to assess knowledge, attitude and regarding hand hygiene in Western region of Nepal. Majority of the participants 105(90%) had positive attitude towards hand hygiene [6].

Section C: To assess the practices regarding hand hygiene among 2nd and 3rd year BSc nursing students

In the present study 58 (96.67%) of the subjects exhibited adequate practice regarding hand hygiene when soap and water is used whereas only 45 (75%) of the subjects exhibited adequate practice when hand rub is used.

The present study was supported by another study conducted to assess the compliance of hand hygiene practices among 704 health care workers revealed that health care workers were more likely to use soap and water (63.6%) compared to waterless-alcohol-based hand hygiene (36.3%) [7].

Section D: To assess the factors influencing hand hygiene

In the present study, 35(58%) of the subjects practiced hand hygiene due to the influence of clinical supervisors, 29(48%) of the subjects practiced hand hygiene due to the display of posters and 23(38%) of the subjects practiced hand hygiene due to the fear of getting infection from the hospital. Whereas 24(40%) of the subjects did not perform hand hygiene due to unavailability of hand hygiene materials, 13(22%) of the subjects failed to practice hand hygiene because they felt that wearing gloves negated the need of hand hygiene, 12(20%) of the subjects did not practice hand hygiene due to inconvenient location, 10(17%) of the subjects did not practice hand hygiene due to lack of hospital protocols, 8(13%) of subjects did not practice because of emergency situations, forgetfulness and pressure of work and 7(12%) of the subjects did not perform hand hygiene due to unpleasant cleaning products [8].

Section E: To identify the association between practice and selected baseline variables

In the present study baseline variables such as age, gender, year of study and allergic history

did not show any statistically significant association with practice using Hand rub or soap and water [9].

Section F: To identify the relationship between perception and practices of hand hygiene

The analysis of the present study revealed that there was no correlation between perception and practice-hand rub, ($r=.167$) and soap water ($r=.107$) [10].

Conclusion

This study was conducted to assess the perception, practices and the factors influencing hand hygiene among 2nd and 3rd year B.Sc. nursing students posted in medical surgical unit at a tertiary care hospital, Bangalore. The analysis of the present study reveals that majority of the study subjects had positive perception. The practice of hand hygiene using soap and water was good when compared to hand rub. It points towards the need to emphasize the correct practice of hand hygiene especially when hand rub is used since it is the most common and simple means to prevent cross infection especially in the current scenario.

NURSING IMPLICATIONS

The results of this study have implication on nursing service, nursing administration, nursing education and nursing research.

Nursing practice

- The favouring factors of hand hygiene such as posters can be displayed in clinical settings.
- More training on hand hygiene using hand rub can be given.
- Periodic training can be given to staff nurses on hand hygiene.

Nursing education

- Nursing curriculum can emphasize the importance of hand hygiene in the prevention of nosocomial infection.
- Nursing students can conduct health awareness programme in the hospital as well as in the community regarding the importance of hand hygiene in the prevention of infections and diseases.

Nursing administration

- Nurse administrators can take part in developing protocols regarding the practice of hand hygiene.
- Nurse administrators can organize in-service education programme to staff nurses on hand hygiene.

Nursing research

- Further research on perception, practice and factors influencing hand hygiene can be conducted to generate more and more evidence.
- Findings of the present study can be disseminated through conferences, seminar, publications in journals and world wide web.

RECOMMENDATION

- The study can be replicated with a larger sample size.
- Similar study can be conducted among staff nurses and other healthcare professionals in the hospital.
- Comparative study can be done between student nurses and staff nurses

LIMITATIONS

- Generalization of the findings is limited to the population studied.

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