

A study to assess the knowledge regarding hand hygiene practices among the staff nurses of general wards of bharati hospital, Pune

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Abstract

Nurses are the 'nucleus of the health care system' as they spend maximum time giving care to patients. Therefore, hand hygiene is recognized as an essential practice among staff nurses in preventing transmission of nosocomial infection among patients¹. An exploratory study was conducted to assess the hand hygiene practices among 100 staff nurses, identified from a multispecialty hospital using non-probability purposive sampling technique from a crowd with maximum experience of 1-10 years including both male and female staff nurses. The knowledge of the nurses was assessed with a set of questionnaire and item analysis was done. Findings of the study revealed that 55% of staff nurses had average knowledge and 27% staff nurses has good knowledge regarding hand hygiene practices, yet there is a large group of staff nurses (i.e 18%) who had knowledge of hand hygiene below the average.² These categories of nurses provide regular patient care and practice various nursing procedures. They are at risk of developing and spreading nosocomial infection.

Keywords: knowledge, hand hygiene practices, staff nurses, general wards

Introduction

Hand hygiene is the practice of cleaning the hands with the use of detergent and water, to keep the hands free from dirt, soil and micro-organisms causing diseases. Medical hand hygiene refers to a practice of procedures to reduce the load of micro-organisms during the medical care given to patients to keep the hands clean from pathogens including bacteria, viruses, and chemicals that can cause personal harm and severe diseases^[3]. It is observed that in many hospitals the Nurse-patient ratio is not maintained, this results in ignoring the basic prevention method that is hand washing in order to complete the work that is patient care and documentation in time. Therefore, it is essential to investigate Nurses knowledge, attitude and regarding hand hygiene practices. So that appropriate strategies can be made to improvise the practices of hand hygiene even in general wards^[4].

Research Objectives

1. To assess the knowledge regarding Hand hygiene practices of staff nurses in general wards of selected tertiary care hospital
2. To associate the findings with selected demographic variables (Age, Gender, Clinical Experiences, working area etc.).

Materials and Methods

In order to achieve the desired objectives of the present study Quantitative research approach with Non-experimental research design. The validity was done by the experts from nursing field, Reliability was done by test-retest method ($r=0.95$), which suggest tool was reliable. Pilot study was done by 10 samples. The study was conducted in multispecialty hospital, Pune. The study consists of 100 samples which were selected by non-probability convenient sampling method. Data

collection was accomplished by using structured questionnaire. The data was analyzed by using descriptive and inferential statistics.

Results

Data was analysed as per the objectives.

Table 1: Analysis of demographic data, n=100

S. No	Demography	Frequency	Percentage	
1.	Age in year	21-30 years	66	66%
		31-40 years	26	26%
		41-50 years	8	8%
		51-60 years	0	0%
2.	Gender	Female	88	88%
		Male	12	12%
3.	Education	RGNM	50	50%
		BSC	46	46%
		PBBSC	4	4%
		MSC	0	0%
4.	Clinical Experience	<1 year	40	40%
		1-5 years	43	43%
		6-10 years	15	15%
		>10 years	2	2%
5.	Working area	Surgical ward	43	43%
		Medical ward	37	37%
		Paediatric ward	20	20%

Maximum number of (66%) of the staff nurses is younger in age, 26% are in middle age and 8% of staff nurses are elder in age. Most 88% of the staff nurses were female and only 12% were males staff nurses. Maximum 50% of the staff nurses are qualified in RGNM course and 54% of the staff nurses are qualified in BSC nursing and PBBSC nursing course. Maximum number of (83%) of staff nurses have 1-5 years of clinical experience, and only 2 of the staff nurses had clinical

experience more than 10 years. Maximum number of staff nurses (43%) is working in surgical area, 29% are working in

the medical ward and 20% of the participants are from the paediatric ward.

Table 2: Knowledge related hand washing according to WHO recommendation: n=100

S. No	Question	Right answers	Wrong answers
1	According to WHO, how many steps are there in surgical hand washing?	20%	80%
2	Which of the following is a recommended by WHO to perform hand washing by the healthcare personnel?	67%	33%
3	The "world hand washing day" is celebrated on which day?	27%	73%

The table no.2 depicts that, though 86% of staff nurses have good knowledge regarding the prevention of spread of infection and 87% of staff nurses have good knowledge about

the mode of spread of infection, it is clear that only 25% were aware about the severity of the spread of infection through wet hands.

Table 3: Knowledge regarding hand washing procedure: n=100

S. No	Question	Right answers	Wrong answers
1	After hand washing the hands should be kept at what level of your body?	65%	35%
2	What should be the method of Medical hand washing practices?	36%	64%
3	Which is the best method for drying hands after hand washing?	37%	63%
4	Why should the health care professional remove rings, bracelets or wrist watches?	47%	53%

Table no.3 shows that 67% of staff nurses have good knowledge regarding recommendation of WHO for hand washing. Surprisingly, only 20% of staff nurses were aware

about steps in the surgical hand washing. It is note worthy that though 27% of staff nurses had correct Knowledge regarding world hand washing day on 15th October and its importance.

Table 4: Knowledge related to anti-microbial agents used for hand washing: n=100

S. No	Question	Right answers	Wrong answers
1	Which antimicrobial agent was used in earlier days to decontaminate hands?	34%	66%
2	Which of the following solution has "no effect" in removal of micro-organisms?	68%	32%

Table no 4 depicts that though 65% of staff nurses have good knowledge regarding placement of hands after hand washing, yet substantive number (35%) of staff nurses did not know

that the hands should be kept above the waist level after hand washing.

Table 5: Knowledge related to hand hygiene practices (microbiology): n=100

Sr.no.	Question	Right answers	Wrong answers
1	What is the Purpose of maintain hand hygiene by health care personnel?	86%	14%
2	Most health care associated infection is transmitted to patient from by means of which of the following?	44%	56%
3	Which of the following is not a portal of entry for bacteria, but survival of bacteria?	70%	30%
4	What is the impact of Cuts or abrasions present on the fingers of healthcare personnel on infection causation?	45%	55%
5	Which part of the hand contains most micro-organism?	29%	71%
6	What is the effect of decorated finger nails with nail polish on infection causation?	66%	34%
7	Why do Health care personnel are restricted to have long nails?	59%	41%
8	How can MRSA infection can commonly be transmitted?	53%	47%

Table no 5 depicts that 34% of staff nurses are aware of the antimicrobial agents which were used in early days to decontaminate hands, yet it clearly says that maximum number of staff nurses 66% did not know about the antimicrobial agents which were used in early days to

decontaminate hands regarding the solution which has "no effect" in removal of microorganism 68% of staff nurses knew the correct answer, while 32% of the staff nurses were not aware that diluting the hand rubs has no effect of removal of microorganisms.

Table 6: Association of demographic variables n=100

Association of demographic variables	Chi Square (X ²)	P-Value	Table Value	Significance
1. Working area	10.243	0.924	28.869	No significance
2. Age	1.445	0.998	16.919	No significance
3. Gender	2.541	0.671	7.815	No significance
4. Education	2.187	0.948	16.919	No significance
5. Clinical experience	4.488	0.486	16.919	No significance

The data in the table no 6 shows that x² value is smaller than Table value (p-value) hence there is no association between demographic variables of staff nurses regarding knowledge of hand hygiene practices.

Conclusion

The finding of the study shows that knowledge of staff nurses (27%) regarding hand hygiene practices was good and 55% of staff nurses had average knowledge yet 18% of the staff

nurses had knowledge below average level. Therefore it is important that staff nurses should have a continuing education based on knowledge deficiencies regarding hand hygiene practices.

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