



A STUDY TO ASSESS THE KNOWLEDGE AND ATTITUDE REGARDING HAND HYGIENE AMONG NURSING STAFF AND AVAILABILITY OF HAND-WASHING FACILITIES IN A TERTIARY CARE HOSPITAL

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ABSTRACT **BACKGROUND:** Practicing hand hygiene is a simple yet effective way to prevent Health Care Related Infections. The objectives of the study were to study the knowledge and attitude regarding hand hygiene among nursing staff and study the availability of hand-hygiene facilities in a tertiary care hospital. **METHODS:** A cross-sectional study was conducted and a total of 100 study participants were selected by simple random sampling. Knowledge and attitude of the nurses were captured by interviewing the nurses and recording the data on pre-tested questionnaire. The results were compiled on Windows Excel spreadsheet and summarized by calculating proportions and percentages. Chi-square test was applied to identify association between knowledge and attitude regarding hand-hygiene and likely determinants. It was found that there was significant positive association between knowledge and attitude of nursing staff and formal training received during previous one year regarding hand hygiene.

KEYWORDS : Hand Hygiene, Knowledge, Attitude, Facilities, Tertiary Care Hospital, Health Care Related Infection

INTRODUCTION

Health Care Related Infections (HCRI) in hospitals pose severe degrading effects on patients and healthcare staff worldwide. HCRI is estimated to affect 10% patients in developed and 25% in developing countries, which has a deep impact on quality care and mortality rates (Rao, M.H et al. 2012). WHO has ranked HCRI as one of the top ten causes for hospital mortality every year (WHO 2009). In developing countries, the incidence of hospital care related infections is high and poses a grave threat to patients as well as the staff working in the hospitals. A health centre is a congregation of patients suffering from wide range of diseases, thus is a habitat for large number of microbes, many of them being drug-resistant. Transfer of infection occurs from patients and their micro-environment occur to the hands of health care workers and further to other patients. (Ellingson, K., et al. 2014). So, Hand Hygiene (HH) continues to be the best method to counter HCRI (Hillier et al. 2015). Measures of HH are designed to break this chain of infection (Mandal et al. 2011). The HH being most significant and cost-effective method to prevent the infectious diseases, is cited both by WHO and Centers for Disease Control (Snow et al. 2008). World Health Organization (WHO) introduced "My five moments for hand washing" to minimize problems related to hand washing. These five moments call for the use of hand washing include the moment before touching a patient, before performing aseptic and clean procedures, after being at risk of exposure to body fluids, after touching a patient, and after touching patient surroundings (Suoud Jemal, 2018). Hand washing technique is one of the most basic process learnt during nursing training. Although the concept and its importance is well understood during the academic period, the practice often gets omitted in nursing practice (Magaldi et al. 2010) and many reasons are behind this. Despite its relevancy, simplicity and feasibility, adequate and appropriate hand hygiene is often omitted by nurses, including those who are directly engaged in care of infectious patients. A study has revealed that several staff nurses scrub or wear gloves with primary concern to protect themselves, and they consider the safety of the patients as a secondary factor (Ashley Flores et al.2020). Lack of appropriate facilities for hand washing at work places also adds to a propensity of the nursing staff not practicing hand wash. The knowledge regarding good practices of hand hygiene amongst the health care staff, strict implementation at the administration level and willful compliance by all healthcare workers can champion the cause of lowering hospital acquired infections. Nurses constitute the largest proportion of healthcare workers and are also in direct contact with patients. They, thus become instrumental in either spread or prevent, Hospital Acquired Infections. Clear guidelines, adequate and repetitive training and thorough awareness amongst nursing staff regarding the necessity of maintaining the highest standards of hand hygiene for personal safety as also to prevent inter patient transfer of infections is of utmost importance.

The current study attempts to determine the level of knowledge and attitude of nurses regarding hand-hygiene, association between knowledge & attitude with relevant variables and availability of

facilities for HH in a tertiary care hospital in Punjab to identify scope for improvement in the vital practice.

METHODOLOGY

Study Setting: A hospital-based study was conducted in Adesh Hospital, a tertiary care health centre located in Bathinda, Punjab.

Study Design: Cross-sectional Study

Sample Size: Based on pilot study, revealing adequate knowledge and attitude regarding hand hygiene as 50% among nurses, level of significance at 95% and accepted relative deviation at 20% of estimated prevalence, a sample size of 100 was calculated. An additional 10% were added to cater for refusal to join the study. However, in actual study, 100 participants could only be included.

Sampling Technique: Simple Random Technique

Inclusion Criteria

- Nurses working in the Hospital for at least 6 months.
- Willing to join the study.

Exclusion Criteria

- Nurses not employed in patient care duties, for example on administrative duties.
- OT Nurses.

Study Instruments

- A questionnaire was developed based on objectives of the study.
- The questionnaire was pilot-tested before its finalization.

Data collection method

The hospital population was identified using simple random sampling from nursing roster of the institute. The purpose of the study was explained to all selected nurses and informed consent was obtained. A pre-tested structured questionnaire was administered to determine the knowledge and attitude of the subjects. Availability and adequacy of hand-hygienic facilities at OPDs and wards was also assessed through questionnaire.

Data Compilation: The data was compiled on Microsoft Excel spreadsheet.

Data Analysis: Data was analysed for summary and inferential statistics. The summary statistics has been calculated as proportions and percentages. Cross-tabulations between variables of interest have been done using Chi-square test as test of significance; p-value less than 0.5 taken as significant.

Ethical issue:

- Approval from Ethics committee Adesh University, Bathinda was obtained.

- Informed consent was taken before collection of data.
- Data has been kept confidential.

RESULTS & DISCUSSIONS

In the present study, 100 nurses participated. Most (84%) of the study participants were below the age of 25 years, 92% were females. Analysis of knowledge scores revealed that 71% nurses had satisfactory level while 29% had unsatisfactory level of knowledge. Cross-tabulation between relevant socio-academic variables and level of knowledge has been tabulated in Table1. The analysis revealed that the level of knowledge was not associated with age, gender & work experience of the study participants. The nurses with graduate & post-graduate nursing education had significantly higher level of knowledge (p<0.05). Similarly, participation in a formal session during previous one year significantly improved the knowledge status of the nursing staff. Similar result regarding educational status was reported by Veena Maheshwari et al. (2014); and for organised training session by Dr. Fatima Fadul Ali Osman et al. (2018).

Table1 Depicts The Knowledge (Classified As Satisfactory/Unsatisfactory) Of The Study Participants As Cross-tabulated With Socio-academic Variables.

VARIABLE	CATEGORY	KNOWLEDGE (%)		p-value (Chi-square test)
		SATISFACTORY (7-12) (n=100)	UNSATISFACTORY (0-6) (n=100)	
AGE (IN YEARS)	21-25	30 (71.5%)	12 (28.5%)	p >0.05
	26-30	29 (69.1%)	13 (30.9%)	
	>31	12 (75%)	4 (25%)	
GENDER	FEMALE	65 (70.6%)	27 (29.4%)	p >0.05
	MALE	6 (75%)	2 (25%)	
WORK EXPERIENCE (IN YEARS)	1-3	44 (69.8%)	19 (30.2%)	p >0.05
	>4	27 (72.9%)	10 (27.1%)	
QUALIFICATION	GNM	68 (73.9%)	24 (26.1%)	p<0.05*
	POST BASIC/ NURSING /BSC.NURSING/MSC.	3 (37.5%)	5 (62.5%)	
FORMAL TRAINING RECEIVED DURING LAST YEAR	YES	49 (79.1%)	13 (29.9%)	p <0.05*
	NO	22 (57.8%)	16 (42.2%)	

In present study 88% nurses had positive attitude towards HH, and only 12% had negative attitude. Similarly, the studies conducted by Timothy A Ekwere and Ifeoma P Okafor (2011), Veena Maheshwari et al. (2014), Alireza Sharif et al. (2015) and Mu'taz M. Dreid et al. (2016) showed that majority of the study participants had positive attitude towards HH. Cross-tabulation between age & attitude regarding HH revealed that younger age groups (21-30 years) had significantly higher proportion of attitude as compared to the age group more than 31 years. Similarly, female nurses had significant higher proportion of attitude. To our surprise nurses with higher years of work experience (more than 4 years) and higher academic qualification showed lower proportion of positive attitude towards HH as similar results were also reported by Rawan Deham I Aledeilah et al. (2018). However, these two factors got corrected by formal training organized by the hospital in previous 12 months as those who had received the training had significantly higher level of knowledge as well as positive attitude.

Table 2 depicts the attitude (classified as positive/negative) of the study participants as cross-tabulated with socio-academic variables.

VARIABLE	CATEGORY	ATTITUDE (%)		p-value (Chi-square test)
		POSITIVE (88)	NEGATIVE (12)	
AGE (IN YEARS)	21-25	38 (90.5%)	4 (9.6%)	p <0.05*
	26-30	39 (92.8%)	3 (7.2%)	

	>31	11 (68.8%)	5 (31.2%)	
GENDER	FEMALE	83 (90.2%)	9 (9.8%)	p <0.05*
	MALE	5 (62.5%)	3 (37.5%)	
WORK EXPERIENCE (IN YEARS)	1-3	59 (93.7%)	4 (6.3%)	p <0.05*
	>4	29 (78.4%)	8 (21.6%)	
QUALIFICATION	GNM	83 (90.2%)	9 (9.8%)	p <0.05*
	POST BASIC/ NURSING /BSC.NURSING/MSC.	5 (62.5%)	3 (37.5%)	
FORMAL TRAINING RECEIVED DURING LAST YEAR	YES	58 (93.5%)	4 (6.5%)	p <0.05*
	NO	30 (78.9%)	8 (21.1%)	

Table 3: The Availability Of Facilities That Are Central To Maintenance Of Good HH Practice Are Tabulated In Table3 & Depicted Diagrammatically In Figure1.

FACILITIES	AVAILABILITY (%)	NON-AVAILABILITY (%)
24 HOUR WATER	78%	22%
HOT WATER IN WINTERS	0%	100%
SEPARATE WASH BASINS	0%	100%
HAND OPERATED TAPS	100%	0%
AVAILABILITY SOAP	79%	21%
HAND DRYERS	0%	100%

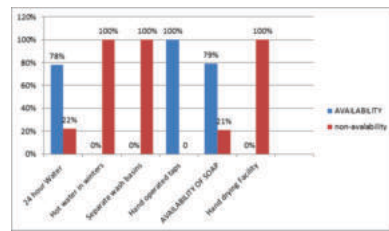


FIG.-1: THE AVAILABILITY OF FACILITIES FOR HH IN HOSPITAL

LIMITATIONS OF THE STUDY

- The Attitude and knowledge of nurses regarding HH has been studied, but actual practices could not be studied because of lack of time to observe the practices by nurses.
- The study was conducted in only one hospital. Thus, generalisation of results of this study to other hospitals should be done with due deliberations

RECOMMENDATIONS

Based on the study findings, following suggestions are submitted:

Formal Training: It is recommended that formal training sessions of nurses should be conducted periodically to update the knowledge of nursing staff regarding HH, and also motivate them towards hand-hygiene practices.

Availability of facilities: It is felt that provision of better HH facilities, specifically provision of separate wash-basins, warm water (during winters), and soap will promote HH practices.

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