

Knowledge, Attitude and Practice toward Hand Washing Among Undergraduate Nursing Students in Lahore

Mehdi Hayat Khan¹, Zubaida Akhtar^{2*}, Jamila³, Nazma Bano⁴, Shamsa Rafique⁵

¹Sr. Nursing Lecturer, College of Nursing, Shalamar Hospital, Lahore, PO Box 54500, Lahore, Pakistan

²Program Coordinator, College of Nursing, Shalamar Hospital, Lahore, PO Box 54500, Lahore, Pakistan

³Nursing Officer, The Children's Hospital & the Institute of Child Health, Lahore, Pakistan

⁴Nursing Officer, Kot Khawja Saeed Hospital, Lahore Pakistan

⁵Nursing Officer, The Children's Hospital & the Institute of Child Health, Lahore, Pakistan

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*Corresponding author: Mehdi Hayat Khan

Abstract

Background: Health care associated infections and emerging multi drug resistance in nosocomial pathogens is perceived as a serious public health threat with grievous concerns. Hand hygiene if practiced properly is cheapest, simplest and most effective tool in tackling this problem. The objective of this study was conducted to assess levels of knowledge, attitude and practice in various aspects of hand hygiene in undergraduate nursing students in the study area for identifying gaps for planning necessary corrective measures. **Methods:** A cross sectional study involving self-administered pre-structured anonymous questionnaires administered to all undergraduate nursing students (182) enrolled at Shalmar Nursing College Lahore, Pakistan. **Results:** Most of the study participants exhibited moderate levels of knowledge and practice with marginal difference while attitude were found to exhibit a remarkably higher, difference being statistically significant. **Conclusions:** This study stresses upon the growing need for prompt interventions at institutional level for addressing the gaps evident from the study.

Keywords: Knowledge, Attitude, Practice, Nursing students, Hand hygiene, and Health care associated infections.

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INTRODUCTION

Thousands of people depart this life every day in the region of the world from infections acquired while in receipt of health care. Hands are the foremost pathways of germ broadcast during health care. Hand hygiene is therefore the most important compute to avoid the broadcast of dangerous microorganisms and prevent health care-associated infections. This leaflet explains how and when to put into practice hand hygiene. Any health-care worker, caregiver or person concerned in direct or indirect patient care needs to be afraid about hand hygiene and should be capable to execute it in the approved manner and at the right time ("WHO Guidelines on Hand Hygiene in Health Care," 2009.). Hand hygiene, A broad phrase referring to any action of hand decontamination ("WHO Guidelines on Hand Hygiene in Health Care," 2009.)

Sanitize your hands by rasping them with an alcohol-based formulation, as the chosen imply for regular hygienic hand antiseptics if hands are not

obviously soiled. It is more rapidly, more efficient, and enhanced tolerated by your hands than washing with soap and water. Wash your hands with soap and water when hands are obviously unclean or obviously soiled with blood or other body fluids or after using the restroom. If revelation to prospective spore-forming pathogens is powerfully supposed or confirmed, as well as outbreaks of *Clostridium difficile*, hand washing with soap and water is the favored means ("WHO Guidelines on Hand Hygiene in Health Care," 2009.) (Szilágyi *et al.*, 2013)

Founded on recommendations from World Health Organization, hand hygiene is the essentially imperative manner to manage the sickbay infections. Due to the vital role of nurses in long-suffering concern, they should have crucial and rationalized information about hand hygiene. Therefore, this study aims to assess the Knowledge, Attitude and Practice toward hand washing among Undergraduate Nursing Students in Lahore.

A wide-reaching operation on hand hygiene by the World Health Organization (WHO) is an imperative program for a fundamental fortification from a range of contagious diseases. In 2009, the WHO started an operation, "Save Lives Clean Your Hands" which encompassed the hand washing techniques and a trouble-free manner of managing drug-resistant microorganisms (Zil-E-Ali, Cheema, Ullah, Ghulam, & Tariq, 2017).

In Pakistan, contagious diseases are foremost trouble for which the WHO initiated the Hand Hygiene operation in Pakistan Institute of Medical Sciences (PIMS) in 2007. As end result of this operation, avoidance of health-care related infections (HCAIs) has developed into a high precedence patient agenda of PIMS. Each year millions of patients in the region of the world are exaggerated by infections that are transmitted by the health-care professionals (HCPs) (Melaku, Gebre-Selassie, Damtie, & Alamrew, 2012).

The majority of these infections can be prohibited through a straightforward defensive compute of suitable hand wash (Zil-E-Ali *et al.*, 2017). Unhappily, acquiescence with the hand hygiene guiding principle provided by the WHO is more often than not poor in the midst of HCPs, and the hand hygiene equipment is not up to standards (Han, Dou, Zhang, & Zhu, 2011).

A large amount of healthcare linked infections are contemplation to be transmitted by the hands of Healthcare Providers (HCPs) through direct contact, generally when the hands of HCPs relocate microbes between individuals and the environmental reservoir. It has long been known that hand hygiene surrounded by HCPs plays a vital function in preventing the broadcast of contagious agents (Pittet *et al.*, 2000).

Hand hygiene protects irritable disease in hospitals, but observance with suggested commands is usually unfortunate. We attempted to endorse hand hygiene by introducing a hospital-wide programmed, with particular prominence on bedside, alcohol-based hand disinfection. We deliberate nosocomial infections in corresponding (Pittet *et al.*, 2000). One of the major troubles and challenges in intensive care units (ICU) are hospital acquired infections (Orsi *et al.*, 2006).

Patients admitted to ICU in excess of other patients are at danger for nosocomial infection by reason of some dangerous factors such as several trauma, low levels of attentiveness, and be short of precautionary mechanisms (Nazari, Haji Ahmadi, Dadashzade, & Asgari, 2011). Moreover, The Centers for Disease Control, hand hygiene is the major imperative and trouble-free method for the control of hospital infections (V. Sharma, Dutta, Taneja, & Narang, 2013).

As a result of the grave responsibility of nurses in patient care, there is additional prominence on the responsibility of them in the control of hospital acquired infections. So, according to the crucial responsibility of nurses in precautionary of nosocomial infections, they are key members of infection control squad in hospitals. Consequently, nurses should have enough knowledge and skills in the field of infection control (JOUKAR & Taherri, 2007).

METHODOLOGY

Study design

A descriptive cross-sectional study was conducted on knowledge, attitude and practice toward hand washing of undergraduate nursing students at Shalamar hospital Lahore. The sampling technique was used convenient sampling. Close ended (likert scale) self-administer questionnaire was used.

Target population

Target population of study was all undergraduate nursing students of Lahore.

Study population

The study was conducted on undergraduate nursing students of Shalamar hospital Lahore.

Study site

The study was conducted at Shalamar hospital Lahore.

Inclusion criteria

All undergraduate nursing students of Shalamar hospital Lahore was included in this study.

EXCLUSION CRITERIA

- All charge nurses were excluded from this study
- Medical students were excluded from this study

SAMPLE SIZE

The sample size was 182 undergraduate students.

DATA COLLECTION AND EVALUATION

Data was collected from undergraduate students at Shalamar hospital Lahore. The purpose of this study was to assess the knowledge, attitude and practice toward hand washing of undergraduate nursing students at Shalamar hospital Lahore. The research tool was obtained from previous research study (Okafor, Ekwere, & Okafor, 2013). Sample size was 182 undergraduate students selected according to inclusion criteria of study. Sample size was calculated by using an equation $n = N / (1 + Ne2)$.

Ethical approval

Written approval was taken from medical superintendent of Shalamar Hospital Lahore. Informed consent has been taken from all study participants after

explaining the method of data collection and procedure of study.

STATISTICAL ANALYSIS

Data were analyzed with 95% confidence interval through SPSS version 23.0. Frequency distribution of demographical variable was checked. Results were presented in tabular and graphical form.

DATA ANALYSIS

In this cross-sectional study 182 students were enrolled from Shalamar Nursing College Lahore. The exclusion and inclusion criteria as mention in methodology section were followed. A pre design questionnaire was used to address the demographic characteristics & knowledge, attitude and practice regarding hand hygiene. The research tool Likert scale was used to assess the knowledge, attitude and practice towards hand washing:

DEMOGRAPHICS

A total of 182 questionnaires were returned. This gives a response rate 43.4% by the age group of 15-20years and 55.5% 21-25 years. Subjects participates in this study 91.2% were female. About 78.65 participants were single and 20.9% were

married.94% participants having 1-5year of working experience and 1.1% having >10years job experience.

Table-1: Demographical characteristics of Respondents

Variables	Frequency (%)	(n= 182)
Age (years)		
15-20	79 (43.4%)	
21-25	101 (55.5%)	
26-30	2 (1.1%)	
Sex		
Male	16	8.8
Female	166	91.2
Marital status		
Single	143	78.6
Married	38	20.9
Widow	1	0.5
Experience		
1-5	171	94
6-10	9	4.9
>10	2	1.1

Participant’s knowledge regarding hand hygiene

Participants having knowledge about nosocomial infection impact on patient clinical outcomes were 62.1% and prevention from nosocomial infection through hand washing 68.7%.

Table-02: Respondent’s knowledge about hand hygiene

Variables (n=182)	Frequency (%)
Impact of nosocomial infection on patient clinical outcome	
Very high	113 (62.1%)
High	64 (35.2%)
Low	5 (2.7%)
Very low	0 (0)
Effectiveness of hand washing in preventing nosocomial infection	
Very high	125 (68.7)
High	49 (26.9)
Low	8 (4.4)
Very low	0 (0)

Components of hand washing

Majority of respondents had good knowledge about components of hand washing. The awareness of respondents about hand washing through use of running

water and antiseptic was 68% and respondents they use only running tap water were 10%. 22% respondents use soap water in basin.

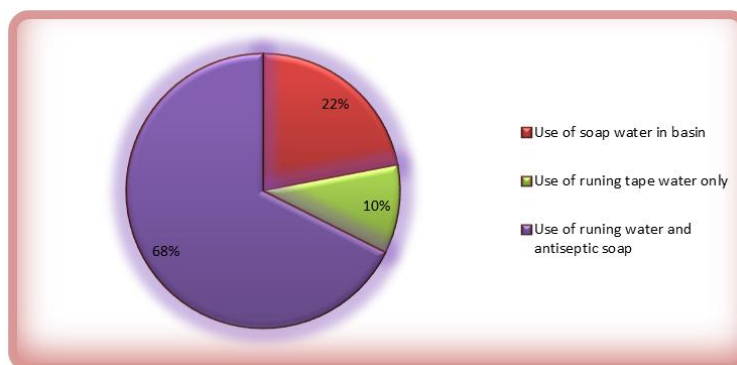


Fig-1: Participant’s response regarding components of hand washing

EFFECTIVENESS OF HAND WASHING

Almost 99% participants knew about contaminated hands can serve as a vehicle for infection

transmission and 89% participants knew that effective hand washing involve washing of hands must be for at least 30 seconds.

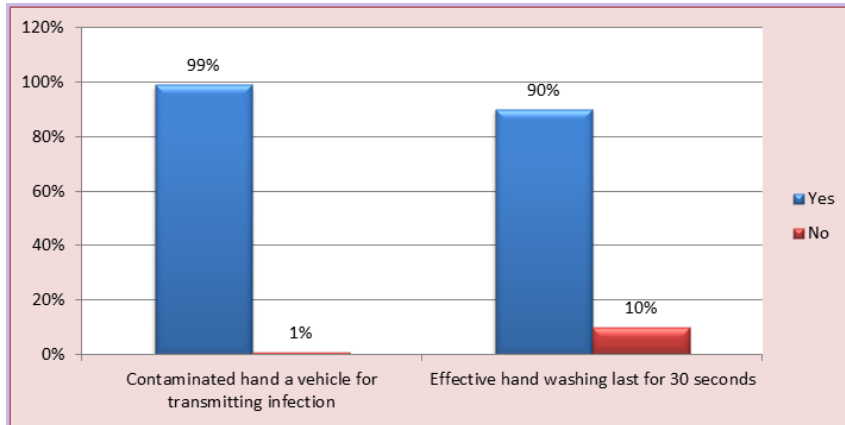


Fig-2: Participant’s knowledge regarding effectiveness of hand washing

Attitude towards hand washing

Participants were agreed about hand washing can be improved by administrative order and continuous health education 97.8%, motivation to wash their hands because of fear of contracting disease

96.7%, hand washing is often not adhered to because of busy work schedule in between patients 75.27%, hand washing should be done when in contact with patients and patient fomites 97.8% and hand washing can be protective for health providers 99.4%.

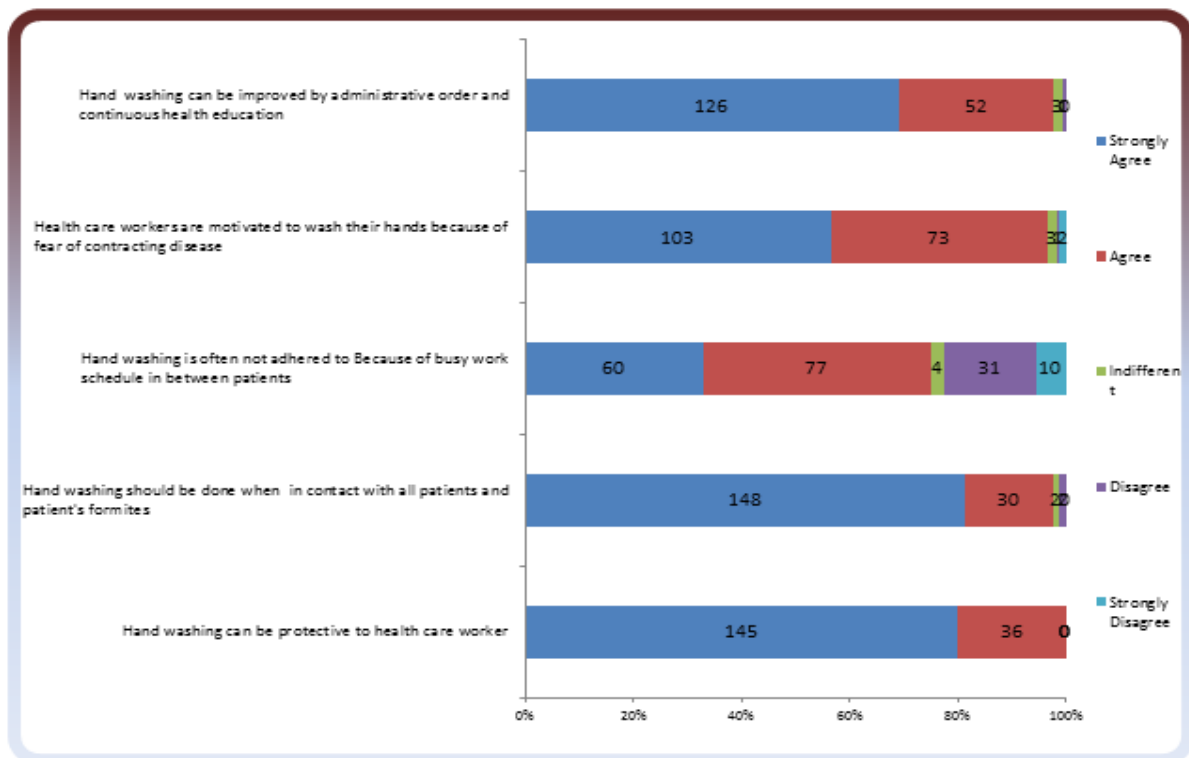


Fig-3: Participant’s attitude towards hand washing

Hand hygiene practice of participants

Regarding the hand hygiene practice 97.8% respondents wash their hands before patient contact or

bedside procedures with mean score of (1.02). Respondents do not practice their hand wash were 2.2% only. Respondents dry their hands after washing 97.8

Table-03: Participants practice towards hand hygiene.

Practice (n=182)	Frequency (%)
Wash hand before patient contact or bed side procedure	
Yes	178 (97.8%)
No	4 (2.2%)
Dry hand after washing	
Yes	178 (97.8%)
No	4 (2.2%)

DISCUSSION

Hand hygiene is consequently the significant measure to keep away from the broadcast of destructive microorganisms and put off health care-associated infections. This study explores the knowledge attitude and practice of hand cleanliness. In this study participants have enough knowledge towards hand hygiene components. The responsiveness of respondents about hand washing through use of running water and antiseptic was 68% and respondents they use only running tap water were 10% and 22% respondents use soap water in basin. This finding is dissimilar to that reported surrounded by healthcare staff in ICU of a Multispecialty sickbay in India (90%), but in some way comparable than facts reported among HCPs in Cairo in Elgalea Government Hospital (73.1%), and Cleopatra Private Hospital (72.7%)(Elaziz & Bakr, 2009; R. Sharma, Sharma, & Koushal, 2012).

An optimistic outlook towards hand washing was also established in this study. Participants having knowledge about nosocomial infection impact on patient clinical outcomes were 62.1% and prevention from nosocomial infection through hand washing 68.7%. More constructive result have been reported in other studies (Elaziz & Bakr, 2009; Nobile, Montuori, Diaco, & Villari, 2002) In Cairo, nurses were also establish to have a optimistic attitude (96.0%) (Elaziz & Bakr, 2009). similar was reported among HCPs in intensive care unit (ICU) in Italy (86.2%) (Nobile *et al.*, 2002). This optimistic outlook towards hand washing exhibited by the respondents may be accredited to their acquaintance of the penalty of deprived hand hygiene.

Knowledge and attitude towards hand washing may optimistically weight the practice of hand washing. This study has also revealed that undergraduate students have a propensity to wash their hands more often after contact with patients then before contact and also after performing a bedside procedure than before such procedure. This finding is at higher-score to other studies(Alex-Hart & Opara, 2011) (Thompson *et al.*, 1997). In one of such studies, a hand washing rate of zero percent was reported before HCPs interacted with patients, this augmented to 63% hand washing rate after undergraduates and patients interaction(Thompson *et al.*, 1997).

This finding needs for imperative intrusion measures by hospital administration respecting to hand washing guidelines, emphasizing necessitate for hand

washing before patients-undergraduates contact/interaction. The patients are evenly sheltered from transmittable agents if all undergraduate students put into practice good hand cleanliness.

CONCLUSION

The student of college having good knowledge regarding hand hygiene, Students have good knowledge about nosocomial impact on patients and as well hand washing practice reduces the risk of infection. Students will have good understanding about components of hand washing. They also have enough knowledge about how to prevent infections through hand hygiene and majority of students practicing hand washing after touching patients and surroundings then before.

RECOMMENDATION

- Emphasis on hand hygiene trainings programs
- Increase quantity of electrical hand dryers in departments of hospitals
- Provision of disposable towels and hand sanitizers
- Provision of hand sanitizer on each bed in highly infected areas and intensive care units.

LIMITATION

- Lack of hand hygiene trainings

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