OPEN ACCESS
Saudi Journal of Nursing and Health Care
Abbreviated Key Title: Saudi J Nurs Health Care
ISSN 2616-7921 (Print) |ISSN 2616-6186 (Online)
Scholars Middle East Publishers, Dubai, United Arab Emirates
Journal homepage: https://saudijournals.com

Original Research Article

A Study to Assess Knowledge Practice and Attitude Regarding Hand Hygiene among Health Care Professionals

Zohour Ali Assiri[1], Zainah Mushabb[2], Dohan Mahdi AlDohan[3], Mohammed Meshal AlQurayshah[4], Mohammed Mosfer Al Salaim[5], Ali Meshal Hassan Alqurishah[6], Saleh Mohammed Al duways[7], Abdurrahman Hussain Lslom[8], Bedoor Himed Al Mutairi[9], Manasser Ali lsloom[10], Motared Ali Al Sulaiman[11]

[1]Senior Nursing Specialist, Riyadh, Saudi Arabia
[2]Radiologist, Najran General Hospital, Najran, Saudi Arabia
[3]Health Administration Specialist, Quality Department, Najran, Saudi Arabia
[4]Head of Health Awareness Department, Eradah Complex for Mental Health, Najran, Saudi Arabia
[5]Health Administration Specialist, Public Health Department, Najran, Saudi Arabia
[6]Head of home healthcare department, Maternity and Children Hospital, Najran, Saudi Arabia
[7]Head of training Department, Maternity and Children Hospital, Najran, Saudi Arabia
[8]Health Administration Specialist, Public Health Department, Khobash Hospital, Najran, Saudi Arabia
[9]Nursing specialist, Al Zulfi General Hospital, Riyadh, Saudi Arabia
[10]Health Administration Specialist, Eradah Complex for Mental Health, Najran, Saudi Arabia
[11]Physiotherapy Technician, Public Health Department, Najran, Saudi Arabia

DOI: 10.36348/sjnhc.2021.v04i12.009 | **Received:** 29.09.2021 | **Accepted:** 03.12.2021 | **Published:** 30.12.2021

***Corresponding author:** Zohour Ali Assiri

Abstract

Background: Hand washing is the most effective way to stop bacterial transmission and lower the risk of infections related to medical care. Hospital acquired infections (HAI) are known to transmit from patient to patient and within the healthcare environment most frequently from healthcare personnel. It has been proven that healthcare workers' hand hygiene practices are an effective way to lower the incidence of hospital acquired infections. ***Aim:*** A study to assess Knowledge practice and attitude regarding hand hygiene among health care professionals. ***Methods:*** The study used a cross-sectional research design. The New Najran General Hospital served as the study's location and to choose the 100 samples, a consistent sampling technique was applied. The WHO's hand hygiene questionnaire for healthcare workers was utilized as the research instrument for the study to evaluate healthcare professionals' knowledge, behavior, and attitudes toward hand hygiene. Statistics, both descriptive and inferential, were used to calculate the results. ***Results:*** The knowledge, practice, and attitude on towards hand cleanliness was adequate and the practice score was 3.72 with a standard deviation of 0.514, and the overall mean total knowledge score was 8.36 with a standard deviation of 1.599. The attitude rating was 2.48, with a 1.176 standard deviation. ***Conclusion:*** The results of this study showed that healthcare workers at New Najran General Hospital have acceptable knowledge, attitudes, and hand hygiene practices. We advocate for the supply of these necessities as well as teaching sessions to help caregivers and patients understand the value of hand washing.

Keywords: Hand hygiene, knowledge, practice attitude, health care professionals.

INTRODUCTION

Hand washing is acknowledged as the most effective way to stop the spread of microorganisms and lower the frequency of infections linked to medical care [1, 2]. The most frequent means of transmitting Hospital Acquired Infections (HAI) from patient to patient and within the healthcare environment have been identified as healthcare personnel [3,4]. The flora that was previously on healthcare workers' hands progressively gives way to pathogenic microorganisms, which can quickly spread throughout the hospital environment [5]. These pathogens pose a threat to patients' health as well as the wellbeing of any exposed healthcare professionals [6]. Hand hygiene is a generic word that refers to any activity of washing hands with water and soap and/or using alcohol-based hand sanitizer to remove fugitive microorganisms from hands

[7]. An estimated 2.4 M deaths each year might be avoided with proper hygiene, dependable sanitation, and access to clean water [8]. Improvements in hand washing decreased the incidence of URTI and gastrointestinal disorders by 21% and 31%, respectively, according to a meta-analysis [9]. Among HCWs, hand hygiene compliance rates seldom exceed 50%. Contact precaution is suggested to raise HCWs' awareness of hand hygiene [10].

The primary factor causing morbidity and mortality are infections related to healthcare (HCAIs). Hand washing is a powerful preventative measure. All patients admitted to hospitals face a very real and dangerous hazard from hospital acquired infections? HCWs can easily spread pathogens through their hands, although practicing good hand hygiene significantly lowers the likelihood of this happening. There are evidence-based recommendations for HCWs about hand cleanliness; however these are generally not well followed [11]. Despite the relative ease of this process, only 40% of healthcare professionals actually follow it [12,13]. Continuous attempts are being made to find viable and successful solutions to this issue. One of these initiatives is the World Health Organization's adoption of the scientifically supported "My five moments for hand hygiene" concept. Before handling a patient, before performing aseptic and clean operations, after being at danger of exposure to bodily fluids, after touching a patient, and after touching patient surroundings are the five situations that necessitate the usage of hand hygiene. This idea has been effectively applied to enhance healthcare personnel' comprehension, instruction, monitoring, and reporting of hand hygiene practices [14].

In our environment, where health facilities are ill-equipped to provide comprehensive support in terms of molecular diagnosis of infectious diseases and high antibiotic resistance due to widespread over-the-counter procurement [15]. The study was conducted to assess the knowledge, attitude and practice of hand washing among health care professionals at New Najran General Hospital, Najran Saudi Arabia.The results of this study will assist the hospital's administration and infection control department in institutionalizing appropriate methods to raise the rate of compliance with basic hygiene with the ultimate goal of decreasing the prevalence of HAI.

MATERIALS AND METHODS

Research Approach

A quantitative approach is used in the study to assess the Knowledge, Attitude, and Practice of hand hygiene among health care professionals at New Najran General hospital in Najran, Saudi Arabia.

Research Design

A cross sectional research design was adopted in the study.

Research Setting

The study was carried out at the New Najran General Hospital, a 300-bed Ministry of Health Hospital with CBAHI (Central Board for Accreditation of Health Care Institutions) accreditation.300 healthcare professionals working in various departments, and all contemporary amenities and services for all people and southern region residents.

Study Participants, Sample Size and Sampling Technique

Health personnel employed by the New Najran General Hospital in Najran, Saudi Arabia, were chosen as study participants. Conveniently, the research population was used to select the sample. The suggested sample size, 100, was chosen using a non-probability random sampling technique. The selection of the healthcare professionals was entirely voluntary. The inclusion criteria required that respondents be currently employed by the New Najran General hospital, Najran, have at least one year of experience there, hold a license as a healthcare specialist from the Saudi Commission for Health Specialties, and be able to read, write, and speak English language and respondents not meeting these criteria were excluded from the study.

Research Scale/Instrument

The WHO's hand hygiene questionnaire for healthcare professionals was employed in the study. The questionnaire contained 35 closed-ended questions (knowledge = 19, practices = 10, and attitude = 6). Because such data was simple to handle, the Likert scale it used—Strongly Agree (5), Agree (4), Undecided (3), Disagree (2), and Strongly Disagree (1)—provided better uniformity of replies. There are four sections to the survey. Part 1 contained data on the respondents' ages, genders, educational backgrounds, and years of experience. Part 2 contained questions about knowledge (which has 19 items), Part 3 contained questions about practices (which has 10 items), and Part 4 contained questions about attitude (which has 6 items). A score of more than 75% was considered adequate knowledge, 50-74% moderate knowledge and less than 50% was taken as inadequate knowledge. The same rating was given for practice and attitude.

Data Collection Procedure

The researcher used the current study's data collection technology while adhering to all ethical guidelines. The introduction served as the foundation for verbally communicating informed consent to the study's subjects. In this approach, the researcher gave a brief introduction to the participants and explained the goal of the study. All respondents had the option of voluntarily ceasing participation in the study. The necessary information regarding the study, including its risks and advantages, was given to the participants.

Additionally, the researcher respects the participants' privacy and confidentiality of information. In conducting the research, professionalism criteria were upheld to the highest degree. In addition, the administrative permission was obtained from the hospital before data collection procedure.

Ethical Consideration

The study was adhered to the ethical principles by the Research Ethical Committee. The primary researcher got the ethical approval from the Institutional Review Board of New Najran General Hospital after providing a complete explanation of the aim and the nature of the study. Informed consent was obtained from the study samples after providing them with details about the nature of the study including the benefits and risks. Participants were informed that the study is voluntary, and they have the right to withdraw without any responsibility. Moreover, they were assured that their data are coded, and their personal information is kept confidential.

Data Analysis

The data collected was analyzed using IBM SPSS Statistics 20.0. In the analysis of data frequency and percentage was utilized and present the demographic characteristics of the participants including gender, age, educational qualification, and length of experience. Using the mean and standard deviation, health care professionals' knowledge, attitudes, and hand hygiene practices were evaluated (SD). The results were computed by using descriptive and inferential statistics.

RESULTS

Table 1: Knowledge of hand hygiene practice among health care professionals

	Items	Mean	SD
K1	Which of the following is the main route of transmission of potentially harmful germs	3.3	2.34
K2	What is the most frequent source of germs responsible for health care associated infections	4.6	0.81
K3	Before touching a patient (yes)	4.6	0.76
K4	Immediately after risk of body fluid exposure (yes	5.7	0.89
K5	After exposure to immediate surroundings of a patient (no)	3.8	1.03
K6	Immediately before a clean/aseptic procedure (yes)	4.7	1.02
K7	After exposure to immediate surroundings of a patient (no)	4.8	1.02
K8	Immediately before a clean/aseptic procedure (yes)	4.7	1.03
K9	After touching a patient (yes)	5.7	0.68
K10	Immediately after a risk of body fluid exposure (yes)	3.8	0.81
K11	Immediately before a clean/aseptic procedure (no)	4.7	0.76
K12	Immediately before a clean/aseptic procedure (no)	4.7	0.76
K13	After exposure to the immediate surroundings of a patient (yes)	4.8	0.56
K14	What is the minimal time needed for alcohol-based hand rub to kill most germs on your hands? (20 seconds)	4.7	0.81
K15	After emptying a bed pan (washing)	5.7	0.76
K16	After visible exposure to blood (washing)	3.8	0.89
K17	Hand washing and hand rubbing are recommended to be performed in sequence (false)	4.7	1.03
K18	Hand rubbing is more rapid for hand cleansing than hand washing (true)	4.8	0.68
K19	Hand rubbing is more effective against germs than hand washing (false)	4.7	0.56
	Overall	**8.36**	**1.599**

Table 1 shows the mean and standard deviation of knowledge on hand hygiene among health care professional staffs. The aforementioned table makes it abundantly evident that the mean total knowledge score was 8.36, with a standard deviation of 1.599.

Table 2: Practice of hand hygiene practice among health care professionals

	Items	Mean	SD
P1	I adhere to correct hand hygiene practices at all times	2.6	1.23
P2	I have sufficient knowledge about hand hygiene	5.4	0.8
P3	Sometimes I have more important things to do than hand hygiene	1.6	0.61
P4	Emergencies and other priorities make hygiene more difficult at times	3.0	0.33
P5	Wearing gloves reduces the need for hand hygiene	6.2	0.54
P6	I feel frustrated when others omit hand hygiene	2.4	0.56
P7	I am reluctant to ask others to engage in hand hygiene	5.5	0.33
P8	Newly qualified staff has not been properly instructed in hand hygiene in their training	5.2	0.13
P9	I feel guilty if I omit hand hygiene	2.1	0.38
P10	Adhering to hand hygiene practices is easy in the current setup	3.2	0.23

	Over all	**3.72**	**0.514**

Table 2 displays the mean and standard deviation of hand hygiene practices among health care professionals and it is crystal clear from the aforementioned data that the mean overall practice score was 3.72 with a standard deviation of 0.514.

Table 3: Attitude of hand hygiene practices among health care professionals

	Items	Mean	SD
A1	Sometimes I miss out hand hygiene simply because I forget it	3.6	1.8
A2	Hand hygiene is an essential part of my role	5.6	1.49
A3	The frequency of hand hygiene required makes it difficult for me to carry it out as often as necessary	3.6	1.46
A4	Infection prevention team have a positive influence on my hand hygiene	3.0	1.12
A5	Infection prevention notice boards remind me to do hand hygiene	6.2	2.56
A6	It is difficult for me to attend hand hygiene courses due to time pressure	2.8	3.33
A7	**Over all**	**2.48**	**1.176**

The mean and standard deviation of healthcare workers' attitudes toward hand hygiene are shown in Table 3. The figures above clearly show that the mean overall attitude score was 2.48 with a standard deviation of 1.176.

DISCUSSION

Health care professionals must be aware of proper hand washing techniques and adhere to WHO guidelines in order to reduce the spread of illnesses related to patient care. In our study Seventy-five respondents answered correctly when asked about the main route of transmission of potentially harmful germs between patients. Our results were comparable with other studies [16] which reported that 82% of participants knew that unhygienic hands of health care workers were the main route of transmission. However, only 65% of residents & 35% of nurses knew that the most frequent source of germs responsible for HCAI's were the germs already present on or within the patient, with residents having significantly better knowledge in this aspect. It is abundantly clear that the mean overall knowledge score was 8.36, with a standard deviation of 1.599, as stated in the current study, along with the mean and standard deviation of knowledge on hand hygiene among health care professional personnel. WHO recommends alcohol based hand rubs for hand antisepsis based on its intrinsic advantages of fast acting, broad spectrum microbicide activity and to improve compliance by making the process faster, but due to its non-availability in some of the hospitals, adherence is doubtful. In this study, knowledge that alcohol free hand rub is more rapid and more effective against germs than handwashing was better among residents. However, only some of the residents and nurses (35% and 25% respectively) were aware about the minimum time needed for effective hand hygiene as mentioned in WHO guidelines. According to the aforementioned findings, our study, which examined the hand hygiene habits of healthcare professionals, found that the mean overall practice score was 3.72 with a standard deviation of 0.514. The same as the attitudes toward hand cleanliness, the average overall attitude score was 2.48 with a standard deviation of 1. 176.The study results were in line with the Saudi Arabian study hand hygiene compliance was seen in 70% of medical staffs 18.8% of nurses, and 9.1% of senior medical professionals; nevertheless, the approach was not ideal in any of these groups. Our study, like the majority of earlier investigations, revealed that less than 50% of HCWs generally complied with hand hygiene regulations [17]. However, different professional categories of HCWs had varying levels of compliance with the hand hygiene practices.

CONCLUSION

According to the study's findings, the New Najran General Hospital's medical staff demonstrates adequate knowledge, attitudes, and hand hygiene practices. In addition to teaching workshops to assist caregivers and patients in understanding the importance of hand washing, we support the provision of these necessities. Their views regarding hand cleanliness will alter considerably as a result of this. We think doing so would lower unnecessary infections, shorten hospital stays, and lower expenses. In order to lower HAI, HCW in clinical settings must have more knowledge, teaching, and communication.

ACKNOWLEDGMENT

The authors thank the Health Care Professionals who actively participated in the study

Conflict of Interest

The authors declare no conflict of interest.

REFERENCES

1. D. Pittet, S. Hugonnet, S. Harbarth et al., "Effectiveness of a hospital-wide programme to improve compliance with hand hygiene," The Lancet, vol. 356, no. 9238, pp. 1307-1312, 2000.
2. J. M. Boyce and D. Pittet, "Guideline for hand hygiene in health-care settings. Recommendations of the healthcare infection control practices advisory committee and the HIC-

PAC/SHEA/APIC/IDSA hand hygiene task force," Morbidity and Mortality Weekly Report, vol. 23, no. 12, pp. S3-S40, 2002.

3. Pittet D, Allegranzi B, Sax H, Dharan S, Pessoa-Silva CL, et al. (2006) Evidence based model for hand transmission during patient care and the role of improved practices. Lancet Infect Dis 6: 641-652.
4. Andersson AE, Bergh I, Karlsson J, Nilsson K (2010) Patients' experiences of acquiring a deep surgical site infection: an interview study. Am J Infect Control 38: 711-717.
5. Borkow G. Use of Biocidal Surfaces for Reduction of Healthcare Acquired Infections. Heidelberg: Springer Press, 2014.
6. Gupta, P, Ansari SK, Jais M, Satia, S, Gogoi, S, Nangia, S,Raza M, W. Assessment of the Knowledge, Attitude and Practices Regarding Hand Hygiene amongst the Healthcare Workers in a Tertiary Health Care Centre. International Journal of Pharma Research and Health Sciences, 2015, 3 (3), 720-726.
7. Rabbi SE,Dey NC. Exploring the gap between hand washing knowledge and practices in Bangladesh: a cross-sectional comparative study. BMC Public Health.2013; 13:89.
8. Aiello AE, Coulborn RM, Perez V, Larson ED. Effect of Hand Hygiene on infectious disease risk in the community setting: a meta-analysis. Am J Public health.2008; 98:1372-1381.
9. Mahaedo B Shinde, Vaishali R Mohite. A Study to assess Knowledge, Attitude and Practices of Five Moments of Hand Hygiene among Nursing Staff and Students at a Tertiary Care Hospital at Karad. International Journal of Science and Research (IJSR).2014.
10. Gilbert K, Stafford C,Crosby K, Fleming E, Gaynes R. Does hand hygiene compliance among health care workers change when patients are in contact precaution rooms in ICUs? AMJ of infection control. 2010; 38(7): 515-7.
11. Gould DJ, Chudleigh JH, Moralejo D, Drey N. Interventions to improve hand hygiene compliance in patient care.AMJ Crit 2007; 18;(2)
12. Y. Longtin, H. Sax, B. Allegranzi, F. Schneider, and D. Pittet, "Videos in clinical medicine. Hand hygiene," The New England Journal of Medicine, vol. 364, article e24, 2011.
13. J. Tibballs, "Teaching hospital medical staff to hand wash," Medical Journal of Australia, vol. 164, no. 7, pp. 395-398,1996.
14. World Health Organization. (2009) WHO Guidelines on Hand Hygiene in Health Care: First global safety challenge: clean care is safe care. Geneva: WHO
15. Ciofi degli Atti ML, Tozzi AE, Ciliento G, Pomponi M, Rinaldi S, et al. (2011) Healthcare workers' and parents' perceptions of measures for improving adherence to hand-hygiene. BMC Public Health 11: 466.
16. Ariyaratne MHJD, Gunasekara TDCP, Weerasekara MM, J Kottahachchi J, Kudavidanage BP, Fernando SSN. Knowledge, attitudes and practices of hand hygiene among final year medical and nursing students at the University of Sri Jayewardenepura. Sri Lankan Journal of Infectious Diseases. 2013;3(1):15-25.
17. M. Basurrah and T. Madani, "Hand washing and gloving practice among health care workers in medical and surgical wards in a tertiary care center in Riyadh, Saudi Arabia," Scandinavian Journal of Infectious Diseases, vol. 38, no. 8, pp. 620-624, 2006.