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ORIGINAL ARTICLE

Attitudes to Hand Hygiene Performance among Nursing Staff during Covid-19 Pandemic

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ABSTRACT

Background: Proper hand hygiene was identified as one of the simplest most cost-effective Covid-19 prevention measures. However, there is no available evidence indicating that hand hygiene is fully practiced by health care workers

Objectives: This study aimed to fill this gap by assessing the attitudes regarding hand hygiene practice among nursing staff during the Covid-19 pandemic

Methodology: A descriptive cross-sectional design was carried out in three hospitals' Intensive Care Units from the period (20th December 2021 to 30th January 2022). A non-probability sampling method consists of (130) nurses who were selected purposively based on the study criteria

Results: The majority of the study participants (73.1%) had negative attitudes towards hand hygiene.

Conclusion: There were an overall high proportion of participants with negative attitudes level toward hand hygiene.

Keyword: Attitudes, Hand Hygiene, Nurse, Covid-19

INTRODUCTION

Infection control and prevention are critical components of preventing and decreasing the spread of pathogens that damage patient, health care workers (HCWs), and society in general[1]. Health-care-associated infections (HCAIs) are illnesses that patients get while hospitalized, for which they were not previously afflicted, and for which symptoms manifest 48 hours or more after admission to a health care facility[2]. Around half of all hospital, infections are caused by the hands of personnel[3]. HCWs are at the epicenter of the COVID-19 outbreak, and their ongoing exposure to sick patients and contaminated surfaces puts them at risk of contracting and transmitting the disease[4]. Nurses make up the majority of HCWs. Because they spend more time with patients than other HCWs, their compliance with hand washing standards appears to be more critical for preventing disease transmission[5].

Hand hygiene is both inexpensive and effective, and it is predicted that it can prevent between 15% and 30% of HCAIs. However, HCWs adhere to minimal hand hygiene norms[6].Additionally, another study revealed that hand hygiene is the most fundamental and effective method of avoiding HAIs[7].

Hand hygiene is a critical component of avoiding the spread of the SARS-CoV-2 virus, which causes Coronavirus illness[8].This study aimed to assess nurses' attitudes regarding hand hygiene practice. Also, the researchers tried to answer the following questions; what is the direction of nurses' attitude toward hand hygiene practice in the intensive care unit?

METHODOLOGY

Study Design and Population: A descriptive survey design was used to achieve the study's objectives. Nurses who work in ICUs were the population in this study.

Sampling and Sample Size: A non-probability (purposive) sampling method was used to collect the data. The inclusion criteria were nurses with at least one year of experience and work in the morning shift. While exclusion criteria included those who work outside the isolation wards (intensive care units). The total number of nurses who work in ICUs in the target hospitals was 195 at the time of the data collection. The minimum sample size was collected based on the margin of error of 5% and confidence level of 95%, the population size of 95%, and a response distribution of 50%; the recommended sample size would be 130. The number of questionnaires handed to the study subjects was 130 and the natured questionnaires were 130. So, the response rate was 100%.

Data Collection and Setting: The data were collected from 20th December 2021 to 30th January 2022 using a self-administered questionnaire that was adapted based on the WHO Guidelines on hand hygiene in a health care setting (WHO, 2009). The data was collected from three hospitals; Marjan Teaching Hospital, Al-Hilla Surgical Hospital, and Imam Sadiq Hospital in Babylon Governorate in Iraq.

Instrumentations :A self-administered Arabic version questionnaire was adapted based on the WHO Guidelines[9] on hand hygiene in a health care setting which includes scales to assess attitudes toward performing hand hygiene, and socio-demographic (age, gender, year of experience, educational level, and a question if participants have had formal training toward hand hygiene).

The section regarding attitude contains 11-items each item is measured on a 5-point Likert scale as (Strongly Agree = 5, Agree = 4, Neutral = 3, Disagree = 2 and Strongly Disagree = 1). The score ranges from 11- 55. Participants with a positive attitude were those with correctly answered ≥50% of the attitude questions about the WHO guidelines while a negative attitude for those who responded <50% correctly to the attitude questions about the WHO guidelines.

The structured questionnaire was written in English and translated into Arabic using Briline's back-translation approach. Then, a panel of 22 confirmed the content validity of the questionnaire. Regarding the reliability, a test and re-tests approach was done by evaluating 20 nurses that work in the intensive care unit designated for patients with coronavirus disease in Marjan Teaching Hospital. The result showed that Cronbach's Alpha was (0.89 for the attitudes scale) which is considered acceptable[10.]

Data Analysis: The data was entered into the IBM-Statistical Package for the Social Sciences (SPSS) version 21 software program and analyzed using descriptive and inferential statistics. Analysis of Variance (ANOVA) was used to measure the difference between variables.

Ethical Considerations: To conduct the study, the first step was to get the IRB approved which was done by the College of Nursing at the University of Baghdad. On the other hand, participants were ensured that the provided information will be confidential and for scientific research purposes only. Also, nurses' participations were voluntary, and they have the right to withdraw at any moment without any consequences.

RESULTS

As the results in Table 1 show, the mean participants' age was 29.2 years with an SD of 0.82, and more than half of them were male (56.2 %). The mean of nurses' years of experience was 6.7 years with an SD of 0.381. Regarding their educational level, 40.8% had a bachelor's degree in nursing. Furthermore, the majority (90%) of nurses in this study have not been trained in hand hygiene performance.

Table 1: Distribution of Participants According to their Demographic Characteristics

Demographic Characteristics		Sample analysis	
Group	**Subgroup**	**f.**	**%**
Age			
Mean ± SD			
29.2 ± 0.821			
Gender	**Male**	**73**	**56.2**
	Female	**57**	**43.8**
Years of experience			
Mean ± SD			
6.7 ± 0.381			
Level of education	**Nursing school graduate**	**24**	**18.5**
	Diploma	**46**	**35.4**
	Bachelor's degree	**53**	**40.8**
	Master's or Ph.D.	**7**	**5.4**
Training for hand hygiene performance	**No training**	**117**	**90.0**
	Training	**13**	**10.0**

f. = Number of frequencies, %=Percentages.

Regarding the overall score of nurses' attitude level toward hand hygiene practice, it was a negative attitude with Mean ± SD (2.85 ± 1.10). Table 2 shows that the majority of the attitude level for hand hygiene practice was a negative attitude (73.1%) among ICUs nurses and only positive attitudes in item number seven with Mean ± SD (4.10±0.97) and item number eleven with Mean ± SD (4.30 ± 0.832). Also, the high percentage of negative attitudes was in item number three with Mean ± SD (2.00 ± 1.010).

Table 2: Nurses' Attitudes regarding Hand Hygiene Practice

N.	Items	Means	SD	Result
1	The necessary commitment to practice proper hand hygiene at all times	2.88	1.207	N
2	Adequate knowledge about hand hygiene practices is essential to improving health	2.91	1.103	N
3	Sometimes I have more important things to do than practice hand hygiene	2.00	1.010	N
4	Emergencies and other priorities sometimes make practicing hand hygiene more difficult	2.59	1.002	N
5	Wearing gloves reduces the need to clean hands	2.02	1.236	N
6	I feel frustrated when others ignore the process of hand hygiene	2.69	0.99	N
7	All nurses should practice proper hand hygiene	4.10	0.97	P
8	Newly qualified personnel have not been properly trained in hand hygiene practices	2.69	1.01	N
9	I feel guilty if I neglect the process of cleaning my hands	2.57	0.95	N
10	Committing to the practice of hand hygiene is easy nowadays	2.60	1.00	N
11	Critical health care workers in the field should be role models for others in washing and hand hygiene.	4.30	0.83	P

f. =Frequencies, %=Percentages, M.s = Means, SD = Stander deviation. Interval: *Positive Attitude ≥ 50 for correct answer, Negative Attitude ≤ 50 for correct answer

Table 3: Relationships between Attitudes to Hand Hygiene practice and their Participants' Demographics characteristics

Attitudes	Demographics characteristics	
Analysis	p. value	
Cc = .375	.652	Age
F = .361	.060	Gender
Cc = .457	.093	Years of experience
F = .31	.002	Level of education
F = .304	.008	Training

=P=probability value, NS: S: Significant at P < 0.05, HS

In Table 3, the results show that there is no statistically significant correlation between attitudes concerning nurses' age and years of experience at the p-value of 0.652. Also, nurses' attitudes to hand hygiene were not different among male and female nurses at a p-value of 0.6. On the other hand, nurses' attitudes to hand hygiene were significantly different among nurses' educational levels at a p-value of 0.002. Also, nurses' attitudes to hand hygiene were significantly different between nurses who took training courses and who do not at a p-value of 0.008.

DISCUSSION

The findings of the study indicated that 40.8% of the nurses had bachelor's degrees in nursing. In Iraq, nurses can be registered by graduating from high school in nursing, two years of studying after high school (nursing institutes), or having Bachelor's and higher degrees in nursing. Study showed that 64% of the participants were graduated from the college of nursing[11]. Regarding participants' years of experience, the mean was 6.7 years which was compatible with study which show that mean was 6.24 years[1].

Concerning participation in training courses, only 10% of the nurses entered training courses about hand hygiene techniques. This can be due to the lack of courses in continuing education[11.]Also this study found that none of the Iraqi nurses have taken any training courses in hand hygiene[11]. The findings indicated that most of the study sample had negative attitude levels (73.1%). The lack of training courses about hand hygiene can be the main reason [11]. This was not only in Iraq, Where study mentioned that 71.3 % of nurses had a negative attitude toward hand hygiene[12].

Item number three “Sometimes I have more important things to do than practice hand hygiene” was the item with the highest negative attitude among the nurses in this study. Indeed, this can be due to nurses' focus on their patients' needs rather than hand hygiene practice. This is consistent with study done by Al Ghafari,and AbuRuz[1].

No statistical correlation was shown between participants' age or years of experience with nurses' attitudes toward hand hygiene. Study found no relationship between nurses' age and years of experience concerning their attitude[13]. However, other studies stated that age and years of experience increase nurses' attitude toward positivity[14]. The findings in this study presented that male and female nurses did not significantly differ in their attitudes to hand hygiene performance. This can be related to the contingency of the study sample regarding their work environment and opportunities to participate in continuous education to take courses about hand hygiene results of study showed that attitudes and levels of practicing hand hygiene did not differ among nurses' gender[15].

Nurses with different educational levels scored differently on attitudes level were statistically approved. Also similar results were shown by two study[16 17]. This was expected for researchers as nurses with high educational levels learn more about hand hygiene in their curricula. Regarding training courses, the results showed that nurses' attitudes to hand hygiene differed between nurses who took training courses and who do not. Many studies proved that educational training improves hand hygiene practices among nurses [1, 12, 18]

CONCLUSION

Negative attitudes can harm nursing hand hygiene which may lead to an increase the infectious diseases in hospitals. Also, this study revealed that focusing on hand hygiene training courses within continuous education in hospitals can make nurses' attitudes more positive toward hand hygiene.

Recommendations: There is a need for optimizing hand hygiene practices by conducting continuous training programs and providing the supplies necessary for hand hygiene to improve the attitude toward compliance with hand hygiene guidelines. As Also, observational studies are needed to investigate the practices of nursing staff toward hand hygiene.

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