

Nurses Knowledge Towards Infection Control Measures in Burn Unit

Nurses Knowledge
Towards Infection
Control in Burn

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ABSTRACT

Objective: To assess knowledge the nurses concerning measures of infection control among in burn units at al-Nasiriya city.

Study Design: Descriptive study

Place and Duration of Study: This study was conducted at the Al-Hussein Teaching Hospital in Al-Nasiriyah City, Iraq from 15th March 2024 to 2nd April 2025.

Methods: Seventy-two nurses selected purposively from the burn unit. Qualified nurses who were working in the hospital's burn unit, a nurse who was directly involved in the care of burn patients while working on locum bases for more than six months were included. Nurse who refused to participate in study, nurses were not involved directly in patients care e.g. nurse managers and nurses were excluded.

Results: The highest percentage of nurses working the burn unit were 56.2% with age 21-30 years and majority of them female nurses were with nursing diplomas. Most of the participants had a fair level of knowledge regarding infection control measures in burn unit. There is statistically significant relationship between nurses' knowledge and their age, training program and the Protocol availability about infection control, whereas non-significant association with the other variables.

Conclusion: Nurses in burns specialty wards must be proficient in aseptic technique practices since they play a critical role in preventing sepsis during burn patient care. Nurses who work in the hospital's burn units in Al-Nasiriya City are have fair level of on how to prevent infections in burn patients.

Key Words: Nurses knowledge, Infection control, Burn unit

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INTRODUCTION

About 180,000 individuals die from burn injuries annually, making burn injuries a serious public health concern globally. In low and middle-income countries, the number of burn-related deaths is seven times higher than in a high-income nation.¹ A burn episode in low-and middle-income nations occurs every 15 seconds which consider one of the primary causes of disability-adjusted life years lost is.²

Varity of infections have been frequently reported among patients with burn. Throughout the past ten years, the most frequent clinical consequences among patients admitted to a burn center were pneumonia, cellulitis, and urinary tract infections.³ Up to 2.2% of hospitalizations for burn patients resulting from pneumonia complications, which consider the most common systemic infection in those patients.

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After a burn injury, invasive infection considered the primary cause of morbidity as well as mortality, with percent 51% of fatalities.⁴ Moreover, the main causes of increased infection rates in burn wounds are low socioeconomic status, a lack of funds, a lack of prophylactic measures, a shortage of skilled health-care providers, beside to limited access to the primary healthcare facilities.^{5,6}

Total body surface area (TBSA) of burn patient is often larger; increases the risk of infection since the skin's protective layer is lost; as well as 75% of all mortality in burns patients with more than 40% TBSA are as a result of burn site infection.⁷ Within two weeks of admission, sepsis and the related invasive infection were the leading reasons of death after the first twenty-four hrs following a burn injury.⁸

Burn wound infections are dangerous and occasionally fatal conditions that can develop after an injury, with major consequences for burn individuals.^{2,9} Thus, it was crucial that health-care providers who treat burn patients have knowledge beside abilities needed to ensure that standard care given to the patients and thereby avoid infection.⁸ Since infection is a constant concern in hospital settings, the facility needs to develop a thorough plan to treat infection cases. This protocol should include infection surveillance, health education for medical staff, as well as isolation measures.^{10,11} For infection prevention and control to be

implemented successfully, nurses' participation is essential.¹²

Because they work in an environment that encourages infections, nurses have a great responsibility to protect themselves, their families, as well as their patients. In their clinical work, nursing staff members are regularly exposed to a range of pathogens.¹³

In order to prevent as well as control infections, nurses are crucial. In order to lower the risk of infections as well as its complications, care for burn patients must be provided by knowledgeable as well as competent nurses who adhere to certain guidelines or protocols.¹⁴

The rate of hospital-acquired infections can increase due to lack of knowledge among nurse regarding infection control measures.¹⁵

METHODS

This descriptive study was conducted at Al-Hussein Teaching Hospital in Al-Nasiriyah City, Iraq from 15th March 2024 to 2nd April 2025 vide letter No. 5 dated 4-3-2024. Seventy-two nurses selected purposively from the burn unit. Qualified nurses who were working in the hospital's burn unit, a nurse who was directly involved in the care of burn patients while working on locum bases for more than six months were included. Nurse who refused to participate in study, nurses were not involved directly in patients care e.g. nurse managers and nurses were excluded.

Sociodemographic data has six items. It focuses on gathering basic sociodemographic information from research participants, such as age, sex, nursing qualification, years of experience in burn unit, participation in training program and protocol availability about infection control. Nurse's knowledge concerning measures of infection control in burn unit was involved 20 multiple-choice questions. For the right response, these are evaluated at (2), and for the incorrect response, at (1). Aggregate knowledge scores range from 0–20

The validity of the Instrument and the Instructional program had been accomplished by 20 experts from various scientific branches having at least 10 years of expert. Reliability was established by using test–retest reliability coefficient ($r = 0.83$). Data analysis and

handling through IBM 25 SPSS software. Inferential statistical techniques, such as Chi-square.

RESULTS

The majority of the subjects were female (75%). According to age the results showed that most of the subjects were aged 21-30 years with percent (56.2%), and Diploma level of education with percent (69.4%). Regarding period of experience in a burn unit the results presented that most participants 37.5% have 1-2 years and 35.4% less than 1 year respectively. Only 9 of the nurses have training program about infection control guidelines and 77.1% of nurses in burn unit stated that there is no protocol available concerning infection control (Table 1).

Table No. 1: Sociodemographic characteristics of the nurses (N=72)

Category	No.	%
Gender		
Female	54	75.0
Male	18	25.0
Age (years)		
21-30	41	56.2
31-40	28	39.6
41 or above	3	4.2
Qualification		
Secondary	7	9.7
Diploma	50	69.4
Bachelors	15	20.8
Experience in the burn unit (years)		
< 1	25	35.4
1-2	27	37.5
3-5	18	25.0
> 5	2	2.1
Training about aseptic technique		
Yes	9	11.9
No	63	88.1
Availability of protocol about infection control		
Yes	16	22.9
No	56	77.1

Table No. 2: Nurses' total knowledge about infection control

Overall Items	Assess.	Freq.	%	Mean of score	Assess.
Knowledge about infection control measures	Poor	1	1.38	1.45	Fair
	Fair	47	65.27		
	Good	24	33.33		

Table No. 3: The Correlation between sociodemographic variables with nurses' knowledge related infection control measures at burn unit (n=72)

Sociodemographic variables	Chi	D.F.	P value	Significant
Age	13.375	2	0.010	S
Nursing qualification	13.644	2	0.762	NS
Experience	8.71	3	0.586	NS
Training about aseptic technique	1.443	1	0.02	S
Protocol availability regarding infection control	8.140	1	0.01	S

Nurses' knowledge concerning infection control is fair was 65.27% (Table 2).

Table 3 demonstrates that knowledge of burn nurses about infection control was statistically significantly correlated with their age ($P=0.009$), training program ($P=0.02$), also protocol availability ($P=0.01$), but not with the other variables.

DISCUSSION

The findings of the present study revealed most of subjects are female, this result congruent with a study conducted by Bandojoat¹⁶, who found that 74 are female. This is not surprising because that nursing is viewed as a historically female profession and that women predominate in nursing schools.

More than half of studied subjects were within age group 21-30 yrs. These finding in agreed with study by Kadhim & Hamza¹⁷ presented that 75% of the nurses were with age group 21-30 years. Sixty- nine of them had earned a diploma in general nursing. According to another study, 85.3% of the sample has a nursing diploma.¹⁸

The years of experience in the current study range from one to two years (37.5%). According to the study, 45% of the study sample had one year or less of experience.¹³ The present study findings showed that only 11.9% of the burn nurses attended sessions for prevention of infection, on the other hand, 88.1% of them not attending these sessions. A study conducting in the Middle Euphrates teaching hospitals at burns units to determine nurses' knowledge about nosocomial infection conclude that more than half of burn nurses not attending training sessions concerning nosocomial infection at burns units.¹⁹

Many of nurses (77.1%) stated that there is no available protocol about infection management. In contrast, 90% of the nurses in the study stated that there is a strategy available for infection management.¹³

Nurses in the current research had a fair level of knowledge regarding infection management in burn patients, according to the statistics. In order to equip nurses for infection prevention, in-service education programs must be developed, even though they learned this information through practice.

The prevention of hospital-acquired infections in burn patients is largely dependent on nurses' understanding of infection management. The finding showed that fair level of knowledge about infection control in burn patients. These findings are comparable to AL-Salih et al¹⁹ that reported that most of the nurses at burn unit were passed knowledge concerning nosocomial infections with 69.8%.

The results of the current investigation showed a statistically significant link correlation between age, training program as well as the protocol availability about infection control and knowledge the studied nurses. On the other hand, indicated there was no

significant association between sex, levels of education as well as experience of burn nurses and their knowledge. This result proved by Kadhim¹⁴ findings. The researchers believe that availability of the required equipment as well as training regarding infection control for burn patients making the nurses aware of how to utilize the equipment properly, they have learned how to control the infection. But AL-Salih et al¹⁹ found no correlation between the demographic characteristics of the nurses and their level of knowledge in the burn units.

CONCLUSION

Nurses in burns specialty wards must be proficient in aseptic technique practices since they play a critical role in preventing sepsis during burn patient care. As stated by the study's findings, nurses who work in the hospital's burn units in Al-Nasiriya City are have fair level of on how to prevent infections in burn patients.

The highest proportion of the burn nurses were (21-25) years old, female, With experience is 1-2 year, Diploma, and the majority of them did not participating in training program

There is significant correlation between age, training program as well as the Protocol availability about infection control and knowledge the studied nurses. Whereas sex, levels of education, nurse's experience did not statistically significant correlate with nurses' knowledge related to measures of infection control in burn unit. However, there was no statistically significant relationship between nurses' experience, education, sex, and their knowledge of infection control measures in burn units.

Recommendations

- To improve adherence to aseptic technique among nurses in burn wards, there should be a continuous medical education program and reference policy materials available.
- A sufficient quantity of tools and supplies, such as colour coded bins, to help nurses in the burn units separate waste efficiently.

Author's Contribution:

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Final Approval of version:	All the above authors
Agreement to accountable for all aspects of work:	All the above authors

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