

Nurses' Adherence to Infection Control Practices in Emergency Departments

Fatima Hassan Khudhur¹, Dr.Musaab Majid Abdul-Wahhab²

¹College of the Nursing/University of Baghdad Master Science in Nursing/Department of Psychiatric and Mental Health Nursing

²Assist. Professor, Adult Nursing Department College of the Nursing/University of Baghdad

KEYWORDS

Evaluation, nurse adherence, Infection Control Practice, emergency departments

ABSTRACT

Background: Follow-Up on Infection Prevention Measures It is an assortment of techniques intended to keep things free of microbes, Patient protection from diseases necessitates several actions. Preventing and controlling infections is one of the most crucial tasks for nurses. Using hand hygiene with personal protection equipment is a crucial step that can help prevent infections or their repercussions. The safety of patients and maintaining sterility and cleanliness in hospitals are the responsibilities of all nurses working there.

Objectives: to evaluate the adherence of emergency department nurses to infection control protocols and recommendations.

Methodology: This cross-sectional study selected a nonprobability (purposive) sample of 120 nurses working in emergency departments across three hospitals: Baghdad Teaching Hospital (50%), Al-Kindy Teaching Hospital (35.8%), and Sheik Zaydi Hospital 14.2%. The study was conducted from September 20, 2023, to 30 June 2024. collection tool, which consists of two parts: The first part is the demographic characteristics of the nursing staff (age, gender, level of education, years of experience in the emergency department, and participation in training courses related to infection control measures). Second part: Checklists were utilized for observation. The study instrument's reliability was assessed using the Statistical Package for Social Science Program (IBM SPSS) by applying Cronbach's Alpha.

Results: The study finding shows that, based on the data, 66.7% of the respondents reported a fair level of practices about infection control measures. Sociodemographic factors such as qualifications notably impact nurses' practices regarding adherence to infection control practices.

CONCLUSIONS: The researcher concluded that the nurses' practices were not at the level required (fair) to fit with the critical and special nature of the emergency department.

Recommendations: Standard precautions are the basic level of the infection control process. The participants may possess satisfactory knowledge and compliance levels. However, more training programs and more focus on the standard precautions by educational institutes are needed for nurses to improve their knowledge and compliance with infection-control standard precautions.

1. Introduction

Infection prevention is a significant challenge in the rapid-paced, high-volume setting of emergency care. The emergency department (ED) is a complex and dynamic healthcare environment. Patients present with undifferentiated illnesses and variable understanding, ranging from the otherwise healthy to the critically ill. Risk recognition and medical decision-making are often based on limited and evolving data under significant time and resource constraints. Patients await diagnosis, intervention, and disposition near one another. (1)

The Emergency Department (ED) is the place where patients are first exposed to the hospital's exceptional infectious environment, and this is because of is the primary entrance for patients admitted to the hospital. As the ED has specific obstacles to patient safety, involving crowding, the urgency of treatment, staff shortages, and lengthy delays in moving patients to the ICU and other facilities, the introduction of infection control measures in the ED is likely to face particular challenges. (2) The emergency department nurses are working to limit the transmission of infection and prevent harmful risks by supplying patients with health and curative care. (3)

Infection control is a priority for all nurses and healthcare staff. (4) infection control and prevention are the cornerstones in preventing and reducing microorganisms that cause harm to patients, health care workers (HCWs), and society in general. It is a scientific way and a practical resolution based on pathology, epidemiology, and the reinforcement of health systems. Infection control takes a unique position in the global health system because it cares about patient safety, prevents complications, and reduces the costs of health systems for countries. (5) nurses perform a significant role in emergency management. (6) nursing care during the patient's complete hospitalization is a difficult task to achieve within patient cases. (7)

patients it serious, life-threatening conditions with severe consequences. (8) all hospital-based healthcare professionals are expected to be proficient and competent in the performance of this life-saving. (9) Infection control and prevention are essential in preventing and decreasing germs that cause harm to patients, health care workers (HCWs), and society world in general. It's a scientific approach and a practical solution based on pathology, epidemiology, and health-system reinforcement. (10)

Infection control measures are the base of infection control and prevention strategies, and they apply to everyone, regardless of their potential or actual infectious condition. Hand hygiene, personal protective equipment (PPE) (e.g., gloves, gowns, and face masks), respiratory hygiene and cough etiquette, safe injection procedures, medical waste management, and cleaning, disinfection, and sterilization of patient care equipment are among these strategies. These measures are the first-line way to prevent infection in healthcare facilities, and they are used as a primary method for limiting infection spread. Infection control procedures limit the risk of pathogen transmission from one individual or area to another, even in high-risk conditions, and keep things and places as free of infectious agents as possible. (11)

Healthcare-associated infections cause many problems for patients, including increased complications, prolonged hospital stays, death, and increased financial costs for both patients and the healthcare system. As a result, HCWs should be more knowledgeable about HCAIs and develop infection control strategies, which will help to reduce and prevent many of these problems. (12).

2. Result and Discussion

Table (1): According to the findings of the study, as shown in Table (1), the vast majority of the nurses (53.3%) were all males, and (46.7%) were females; these results agree with (Faris & Hassan, 2016) found in their study that most of the sample's gender of males. (2) Moreover, the results of a study in Intensive Care Units at Hospitals in Kirkuk City-Iraq, found in their study that most of the sample were males. (3)

In terms of age, this study's findings indicate that most of the nurses surveyed are in the age group of (20-29) years (64.2 %). The study in Baghdad Teaching Hospital supports this finding. (13) and the study of the Effectiveness of an Moreover, the study of the Effectiveness of an Educational Program on Nurses' Knowledge Concerning the Infection Control Guidelines in Baghdad Teaching Hospital. (14)

Regarding qualification in nursing, (51.7%) of nurses graduated with a diploma in nursing; this result agrees with the study of Knowledge, practice, and associated factors of infection prevention among healthcare workers in Debre Markos referral hospital, Northwest Ethiopia. A higher proportion (47%) of the respondents had a diploma. (15)

According to the number of years of experience in the nursing field, this study found that most nurses have 1 to 5 years of experience in the ratio (62.5%). These findings agree with Eskinder. (16) This study showed that nurses had 1 to 5 years of experience in the Emergency Department. These results agree with those by Kilic, who found that the majority of nurses had 1 to 5 years of experience in the Emergency Department. (17)

Regarding participation in training courses about infection control, 76.7% of nurses reported participating in 1 – 3 training courses inside Iraq (60.8%). This agrees with the result of the study Impact of an Educational Program on Nurses' Awareness of Infection Control. (18)

Tables (2):

This finding is similar to the study at Al-Diwaniya Teaching Hospital. Done by Kareem, results show that the overall evaluation of nurses' practices was (poor) to fit. The main domains of sterilization techniques were fair practices, and the dominant age group of nursing staff is the age group (20-29) years old. According to the gender, the nurses are male. They are concerning the educational level. Regarding years of experience, the table shows that the nurses have (1-5) years of experience in

nursing. Regarding years of experience in ED, the results show that most nurses have (less than or equal to 5) years of experience in the emergency department. (19)

This result agrees with the study (Faris & Hassan,2016), which found the overall result of the study domains in applying the sterile technique was (60%) sometimes applied these practices. Another study showed that the findings demonstrated that the overall compliance with standard precautions was suboptimal and that healthcare workers' working knowledge of infection prevention and control standard precautions was optimal. (20)

Table (3,4,5,6,7,8,9,10):

This shows that the overall evaluation of the nurses' practices in the main domains of sterilization techniques was poor, except for domains (Uniform, medical waste management, and sharp disposal), which were good, and Instrument and Equipment were fair practices. These results agreed with those by Vinodhini, who evaluated infection control practices among healthcare workers in a specialty hospital and found that more than half of the study sample were poor practices related to infection control measures. (21)

The study of nurses in Kazakhstan highlighted that their compliance rate in this study was moderate. However, specific areas warrant more attention, such as their proper waste and sharps disposal compliance.(22)

Table (12,13,14,15,16)

the study showed no significant relationship between nurse practices and sociodemographic factors except qualifications impact nurses' adherence to infection control practices. These agree with the study of evaluation of nurses' Practices to Prevent Health-Care Associated Infection at Critical Care Units in AL-Hilla City, the study showed that the majority (57.5%) of the nurses who are working at the critical care unit in Hilla City Hospital sometime performed practices to prevent healthcare-associated infection and only nurse's educational attainment has been affected on performance of sterile practices.(23)

3. Conclusion and future scope

The nurses at the emergency department lack written protocols or resources for information updates to improve their practices regarding sterilization techniques (hand washing, personal protective equipment, instruments, and equipment, intravenous infusion and medication, and medical waste management). The researcher concluded that the nurses' practices were not at the level required (fair) to fit with the critical and special nature of the emergency department.

Recommendations

The Training and Development Center must be activated to offer educational programs on infection control procedures in the hospital, with a focus on Emergency Department nurses.to improve the practices of emergency department nurses by involving them in training sessions on infection control techniques. supply medical supplies, such as alcohol for sterilization and personal protective equipment, to healthcare professionals to support infection control measures

Reference

- [1] Liang SY, Theodoro DL, of emergency ... JDSA, undefined 2014. Infection prevention in the emergency department. Elsevier [Internet]. Available from: <https://www.sciencedirect.com/science/article/pii/S0196064414001917>
- [2] Haitham I, Faris H, Baker H. Evaluation of Nurses Practices Concerning Sterile Techniques Critical Care Units in Al-Najaf AL-Ashraff City Hospitals. International Journal of Scientific and Research Publications [Internet]. 2016;6(6):694. Available from: www.ijsrp.org
- [3] Omer ZA, Saleh HS. Assessment of Nurses' Knowledge Attitude and Practice regarding Infection Controls in Intensive Care Unit at Hospitals in Kirkuk City-Iraq. Mosul Journal of Nursing. 2023;11(1):113–22.

- [4] mahmud N, sanaa Abdul Sahib. Assessment of Nurses' Practices Toward Infection Control Standardized Precautions in Azady Teaching Hospital in the City of Kirkuk. Iraqi National Journal of Nursing Specialties [Internet]. 2011 Mar;24(1):52. Available from: <https://www.injns.uobaghdad.edu.iq/index.php/INJNS/article/view/94>
- [5] Effectiveness of an Education Program on Nursing Staffs' Knowledge about Infection Control Measures at Intensive Care Unit in Al-Diwaniya Teaching Hospital. Iraqi National Journal of Nursing Specialties [Internet]. 2020 Jun 30;33(1):85–92. Available from: <https://doi.org/10.58897/injns.v33i1.406>
- [6] Abdulwahhab MM, Ismail MA, Fadhil IA, Ali MN. NURSING STUDENTS' KNOWLEDGE REGARDING EMERGENCY MANAGEMENT OF PATIENTS WITH STROKE AT AL-BAYAN UNIVERSITY. Al-Bayan Journal for Medical and Health Sciences. 2022;1(2):100–7.
- [7] Fathi Khudhayer H, Majid Abdulwahhab M. Evaluation of Nurses' Practices regarding Electronic Nursing Documentation Iraqi National Journal of Nursing Specialties. INJNS (36) Supplement [Internet]. 2023;1:1–7. Available from: <https://doi.org/10.1016/injns.2023.10.002>
- [8] Thiab Ahmed A, Baker Hassan H. Assessment of Nurses' knowledge about Enteral Feeding at Critical Care Units in Hospitals of Al-Anbar Governorate. Vol. 34, Iraqi National Journal of Nursing Specialties. 2021.
- [9] Baker Hassan H, Abbas S, Majid Abdul-Wahhab M. Nurse's Knowledge toward Cardio-Pulmonary Resuscitation at critical care unit in Baghdad city. 4(4):71–4. Available from: www.iosrjournals.org
- [10] Bull FC, Al-Ansari SS, Biddle S, Borodulin K, Buman MP, Cardon G, et al. World Health Organization 2020 guidelines on physical activity and sedentary behaviour. Br J Sports Med [Internet]. 2020 Apr;54(24):1451–62. Available from: <https://bjsm.bmj.com/content/54/24/1451>
- [11] Fitzsimmons T, Jayasena W, Holden CA, Dono J, Hewett P, Moore J, et al. Assessing the impact of the 2018 National Health and Medical Research Council polyp surveillance guidelines on compliance with surveillance intervals at two public hospitals. ANZ J Surg. 2022;92(11):2942–8.
- [12] Bilal M. awareness about nosocomial infections among nurses in omdurman teaching hospital October 2017. International Journal of Development Research. 2018;8(04):19935–9.
- [13] Hattab WAA, Kadhim AJ, Abdulwahhab MM. Impact of years' experience upon nurses' knowledge and practice concerning infection control at critical care units in Baghdad City. Indian Journal of Forensic Medicine & Toxicology. 2021;15(1):2564–8.
- [14] Jissir SAR, Hassan HB. Effectiveness of an Educational Program on Nurses' Knowledge Concerning the Infection Control Guideline in Baghdad Teaching Hospital. Iraqi National Journal of Nursing Specialties [Internet]. 2017 Mar;30(1):47–58. Available from: <https://www.injns.uobaghdad.edu.iq/index.php/INJNS/article/view/266>
- [15] Desta M, Ayenew T, Sitotaw N, Tegegne N, Dires M, Getie M. Knowledge, practice and associated factors of infection prevention among healthcare workers in Debre Markos referral hospital, Northwest Ethiopia. BMC Health Serv Res [Internet]. 2018;18(1):465. Available from: <https://doi.org/10.1186/s12913-018-3277-5>
- [16] Eskander HG, Morsy WYM, Elfeky HAA. Intensive care nurses' knowledge & practices regarding infection control standard precautions at a selected Egyptian cancer hospital. prevention. 2013;4(19):160–74.
- [17] Kilic SP, Aytac SO, ... MKI, undefined 2016. Occupational health problems of nurses working at emergency. internationaljournalofcaringsciences SP Kilic, SO Aytac, M Korkmaz, S Ozer International Journal of Caring Sciences, 2016•internationaljournalofcaringsciences ... [Internet]. Available from: [http://www.internationaljournalofcaringsciences.org/docs/30_parlar_original_9_3%20\(1\).pdf](http://www.internationaljournalofcaringsciences.org/docs/30_parlar_original_9_3%20(1).pdf)
- [18] AbuEla L, Habiba A, Eldin YKZ. Impact of training program on nurses' knowledge regarding professional values in Damanhour fever hospital. IOSR Journal of Nursing and Health Science (IOSR-JNHS). 2019;8(1):51–61.
- [19] Kareem WM, Ahmed S. Evaluation of Nurses' Practices toward Some Sterilization Techniques at Emergency Department in Al-Diwaniya Teaching Hospital. Kufa Journal for Nursing Sciences. 2021;11(1):247–54.
- [20] Althiyabi FS, Khuded FM, Alzaidi FM, Alswat ASG, Alotaibi FSB, Alotaibi WSB, et al. Assessment of nursing knowledge and practice toward prevention of acquired infections in the emergency department of King Faisal Medical Complex in Taif. SAGE Open Med. 2024;12:20503121231222340.
- [21] Vinodhini K, Devi AB. Study on infection control practices among healthcare workers in a speciality hospital, Chennai.

Poll Res. 2016;35(3):549–55.

- [22] Cruz JP, Almazan JU, Kuntuganova A, Syzdykova A, Danebek K, Agazhayeva G. Standard precautions compliance and its associated factors among nurses in Kazakhstan: A Cross-sectional Study. *Am J Infect Control* [Internet]. 2024; Available from: <https://www.sciencedirect.com/science/article/pii/S0196655324001123>
- [23] Hussein HK, Muhbes FJ. Evaluation of Nurses Practices to Prevent Health-Care Associated Infection at Critical Care Units in AL-Hilla City Hospitals. *Indian J Public Health Res Dev.* 2018;9(8).