Nurses' Knowledge based on Evidence Based Practice toward Eye Care for Intensive Care Units Patients

Sabah Abdullah Jaafr[1], Mohammed Baqer Al-Jubouri[2], Dergham Majeed Alfatlawee[3]

[1]Assistant Instructor, Adult of Nursing Department, College of Nursing -University of Al Muthanna , Samawah, Iraq, [2] Ph.D., Adult of Nursing Department. College of Nursing - University of Baghdad, Iraq, [3] Prof., Adult of Nursing Department, College of Nursing -University of Al Muthanna, Samawah, Iraq

Abstract

Background: Eye care in intensive care units is crucial to avoid eye problems associated with infections, use of medications, effect of mechanical ventilators, and patient position. Indeed, there is no specific guideline or protocols use in eye care in Iraqi intensive care units, so the study focused on nurses to assess their knowledge regarding evidence-based practice toward eye care.

Objectives: The objective of this study was to assess nurses' knowledge regarding evidence-based practice toward eye care in intensive care units, and to find out relationships between their demographics and total knowledge.

Method: A descriptive study using a purposive sample (non-probability) was used to survey 30 nurses who met the sampling criteria in two teaching hospitals in the south of Iraq to assess their knowledge regarding eye care. A valid and reliable tool was used after getting the permission from the copyright holder.

Results: More than one-third of study sample were (22-26) years old they account (40%). Majority of them were male (56.7%), and (53.3%) of the study sample had bachelor's degree in nursing. Regarding years of experience half of the study sample had more than five years of experience in intensive care units. Majority of the study sample (63.3%) has no participation in training courses about eye care and (83.3%) was day shift of work. The total mean of score of nurses' knowledge was poor (0.33).

Conclusion: There is a need to conduct training courses for nurses who work in intensive care units about eye care based on standard as the results in this study indicated that there is a significance association between, nurses' knowledge and participation in training course, about eye care.

Keywords: *Eye Care, Nurse, Evidence Base, ICU Patients.*

Introduction

The application of nurses' knowledge in the critical care units promotes the professional identity of nursing practice. In intensive care units (ICU), the kingdom of nursing, nurse can play role, not only delivery of eye care and treatment, but rather assessment and diagnosis of eye disorders related to infection and can prevent complications if well trained and utilize right knowledge [1,2]. Unfortunately, nurses' backgrounds regarding knowledge, even practice, toward eye care remains to be performed based on individual beliefs and tradition and documentation oftentimes unsatisfactory and poor [3,4]. The Royal college of Ophthalmologist (2017), designed guidance for non-ophthalmic staff in ICU includes, most common eye problems, identify disease and treatment when deliver to the eye when it is prescribed also, addressed factors such as, long length stay of mechanical ventilation, use of sedative drugs, and positive pressure ventilation as factors that can increase

Corresponding author:
Sabah Abdullah Jaafr
Assistant Instructor, Adult of Nursing Department, College of Nursing -University of Al Muthanna , Samawah, Iraq. sabah.abd@mu.edu.iq

risks of eye problems for patients with unconscious state [5]. Also, eye closure control, loss ability of blinking and tearing among ICU patients who are mostly comatose, sedated, paralyzed and under mechanical ventilation, because the altered level of consciousness (LOC), can cause ocular surface disease [6]. Eye closure is important to protect ocular surface (OS) via prevent not only the dryness but also bacterial growth. On the other hand, long-term eye closure decreases tear secretion and distribution, causes hypoxia and hypercapnia [3]. Blinking is important for distributing tears and sustaining eye health. Guler Eser & Fashafsheh in their international comparison study reported, that the impact of mechanical ventilation, intubation and tight securing taping for the artificial airways increase the intra-ocular pressure and aggravate cause chemosis (ventilator eye) [1]. Many literatures confirmed, not only pressure and infection related mechanical ventilation has effects on the eye, also patient positioning [3,7]. The prospective study investigates the effect of body position on intraocular pressure (IOP), confirmed the prone position record highest pressure among both, investigated and healthy groups [7]. Although, there are many studies in the world focused on eye care in intensive care units, in Iraq the information on this subject is inadequate [1,2,8,9,12,14]. In Iraq also, literatures published about eye screening and care in many types of eye disease in public, there is no study yet, assess nurses' knowledge based on evidence-based practice toward eye care in ICUs [10]. The main goal of this study was to fill the gap and assess nurses' knowledge based on evidence-based practice toward eye care for ICU patients in Iraq. The author hypothesized that most of nurses' who works in ICUs in Iraqi hospitals have no enough knowledge toward eye care based on evidence-based practice.

Material and Method

Design: This is a descriptive study that was conducted to describe Iraqi nurses' knowledge toward eye care using a questionnaire that contains questions based on evidence.

Ethical Approval: This study approved and permitted by Center of Staff Development and Scientific Research in the health directorate. The IRB was obtained from University of Al Muthanna. The purpose of the study was explained to the nurses who work in the ICUs in the selected hospitals. The informed consent was reviewed and permitted by the Center of Staff Development and Scientific Research. Every participant had the right to withdraw from the study at any time without any penalties.

Study sample: A non-probability (purposive) sample technique was used to collect the data. The populations are nurses who work in ICUs in Iraqi hospitals. The target population that provided the sample data was a group of nurses who met the sampling criteria. All male and female nurses with different educational levels who work in ICUs were included in this study. Also, nurses who work in day and night shifts were included in this study.

The total sample size was 42 who agreed to participate in this study. 12 participants did not wish to continue in the study or their responses were not complete, so they were excluded from the study sample. The total of 30 completed surveys was included in the statistical analysis.

Instrument: A valid and reliable tool that was developed by Fasafsheh et al. 2013, was used to collect the data in this study. The reliability of this tool shows, Cronbach's alpha was 0.854, he permission to use this tool was obtained via email [11]. This tool consists 30 questions regarding eye care for ICU patients that are based on evidence. The total score for the tool measured based on the mean of the answers (<0.53= poor knowledge, 0.53- 0.79 =fair knowledge and > 0.79= good knowledge).

Also, the questionnaire included nurses' demographics: age, gender, level of education, years of experience in the ICU, years of experience as a nurse, shift of work, and participation in training courses about eye care.

Data Analysis: The statistics done by the Statistical Package for the Social Sciences (SPSS) version 24 software was used to perform the statistical analysis that included descriptive statistics (frequency, percentage, cumulative percent and mean of score) and inferential statistics(standard deviation and Chi- square).

Findings

From the total 42 participants, 30 nurses completed

the survey and included in the statistical analysis. 40% of the nurses were between (22-26) years old with the mean of age (29.63) and standard deviation is (6.77). 60% of the study sample were married. Regarding to the gender distribution, male nurses were more than half of study subject (57.7%). Most of the nurses (83.3%) worked in day shift. Regarding their educational level, more than half of the nurses have bachelor's degree in nursing (53. 3%). The years of experience in ICU were half (50%) less than five years of the study sample, and 56.7% of them had more than five years of experience as a nurse in hospitals. Regarding the participation in training courses in eye care, 63.3% of study subject did not participate in any training courses about eye care for ICU patients.

. Table (1) Significance association between total mean of scores of nurses' knowledge and their demographic characteristics (Age groups, gender, marital status, educational level, years of experience in ICUs, years of experience in nursing, and shift of work). The results showed that there are no significance differences between nurses' knowledge toward eye care and their demographics. The total nurses Knowledge poor the mean of score (0.33). However, the results highlighted that participation in training courses regarding eye care has a significance association with nurses' knowledge ($X^{2=}$10.622, p value=0.004)

Table (1) Significance association between total mean of scores of nurses' knowledge and their demographic characteristics (n=30)

Variables	X^2	P value	Significance level
Age	73.466	.221	NS.
Gender	19.819	.100	NS.
Marital status	19.508	.814	NS.
Educational status	25.969	.465	NS.
Length of time in ICU	32.616	.174	NS.
Total length of time in Nursing	27.750	.371	NS.
Participation in training course related to eye care	10.622	.004*	Sig.*
Shift of work	15.600	.271	NS

Sig.=significance <0.005, NS= Non significance >0.005

Discussion

This study assessed nurses' knowledge who work in ICUs in Iraqi hospitals. Even eye care are not top priority in nursing care, but it is basic for every nurse work in ICUs even, non ophthalmic nurses. The results in this study revealed that nurses' knowledge toward eye care is not significantly differ regarding demographics such as age, gender, marital status, educational level, years of experience in ICUs, years of experience as a nurse, and the work shift. It was not expected for researchers to see these results because logically high level of education and long years of experience in ICU or hospitals could increase nurse's knowledge toward evidence-based practice. However, this can be explained as nurses in Iraqi hospitals, especially in ICUs, do not practice based on evidence, and the results of this study clearly found that most of the nurses had poor knowledge regarding eye care based on standard care. Therefore, further

studies can be conducted to assess Iraqi nurses' practice regarding eye care based on evidence-based practice.

The results in this study showed that most of the study sample was highly educated and had bachelor's degree in nursing this result agree with Khalil et al. 2019 [12]. However, there was no significant difference between nurses' educational level and their level of knowledge regarding eye care for ICU patients. This indicates that evidence-based practice is not a focused topic in nursing education. The researchers in this study recommend that evidence-based practice must be more engrossed in nursing curriculum in undergraduate programs. Although most of the study sample in this study reported that they have not participated in any training courses regarding eye care, the results highlighted that there was a significant difference between nurses' knowledge and participating in training courses regarding eye care, Alghamdi et al. 2018, assessed ICU nurses' knowledge and perception bout eye care were the most of their study sample not participated training course about eye care and no significance with thier knowledge [13]. These results were expected by the researchers, and the current study recommends conducting training courses regarding eye care based on standard care for nurses in Iraqi hospitals within continuous education to increase their knowledge, which can lead to patient safety and enhance quality of care.

Conclusion

The results in this study showed that little of nurses' who work in ICUs have enough have knowledge regarding eye care for ICU patients that should be done based on evidence-based practice. The study is suggesting conducting training courses for nurses within continuous education in hospital is crucial to increase nurses' knowledge toward standard practices. Also, teaching based on evidence-based practice in undergraduate nursing programs can play an important role to increase students' knowledge who will be those nurses that would work in ICUs. All these steps can enhance the quality of care, provide patient safety, reduce costs, and decrease work burnout.

Conflict of Interest: Not declare

Source of Funding: The researchers have no funding support.

Ethical Clearance: This study was approved by the Institutional Ethics Committee, and The IRB was obtained from University of Al Muthanna.

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