Original Article

Effect of Eye Care Competence Inventory Guidelines on Nurses' Clinical Competence in Eye Care for Unconscious Patients

Zainab Salman Dawood and Serwan Jafar Bakey

ABSTRACT

Objective: Assessing nurses' clinical competency in providing eye care for patients with altered consciousness in intensive care units, and determining the relationship between nurses' sociodemographic traits and their clinical competency in providing eye care for unconscious patients.

Study Design: A pre-experimental (one group pre-test and post-test) study

Place and Duration of Study: This study was conducted at the AL-Basrah teaching hospitals in the AL-Basrah governorate from 22nd February 2024 to 30th September 2024.

Methods: The present study included a non-probability purposive sample of forty nurses, both male and female, who cared for patients with altered levels of consciousness at Intensive Care Units.

Results: There were significant differences between the two-time levels of all components of competencies (knowledge, practice, and attitude) at P = 0.000 for all domains.

Conclusion: The low and moderate level mean at the pre-test to high level of knowledge mean at posttest time duration, shifting in the mean score to very high attitudes at the post-test time, significant shifting in the mean of score of practice from low level to high level which revealed improving in nurses' practices about eye care.

Key Words: Nurses' clinical competence, Eye care for unconscious patients

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INTRODUCTION

The majority of persons admitted to intensive care units suffer from an altered level of consciousness, sensory deprivation, or any other disability which in turn affects activities of daily living as a result of disease.[1] Because the nursing staff plays a crucial role in critical care units around the world, nurses must possess specialized expertise to give critically ill patients the best, safest, and highest level of care possible.[2] The reason behind the importance of knowledge and evidence-based practices for critical care nurses is to promote high-quality and safety of nursing care to patients.[3] Evidence-based care provided by a clinically competent nurse can enhance or promote the autonomy of patients, safety, and continuity of care.[4] In addition, the main responsibilities of intensive care unit nurses are monitoring patients 24 hours a day and giving efficient direct care to them.[5]

College of Nursing, University of Baghdad, Iraq.

Correspondence: Dr. Zainab Salman Dawood, Ph.D. Scholar, College of Nursing, University of Bagdad, Iraq.
Contact No: 009647722041943
Email: zainab.salman@uobasrah.edu.iq

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Among all healthcare professionals, nurses play the most important role in a healthcare setting. Nevertheless, they also face risks, challenges, and issues.[6] The demands of their line of work require them to handle heavy workloads, put in extra hours, communicate with patients and their companions, and interact with the managers of the institution.[7]

A set of guidelines known as clinical competence for nurses directs critical care nurses to be capable of providing safe, high-quality care while safeguarding the population's health.[8] All of a critical care nurse's credentials, which include knowledge, practice, attitude, and values, are included in nursing competency.[9]

Ocular surface disease is a frequent complication in these patient populations that is rarely given clinical attention to prevent it.[10] A change in consciousness, the lack of a blinking reflex, or blinking less than five times per minute were among the various conditions that led to impairment of the eye's protective mechanisms.[11] The occurrence of ocular abnormalities was highly correlated with the patient's state of consciousness and the length of stay in intensive care units. Among ICU residents, ocular complications range from 42-60%.[12] According to earlier studies, the incidence rate of eye disorders among intensive care unit residents ranged from 3.6% to 89.3%, with an average occurrence of 6.8 days after admission.[13]

In addition to ongoing training and monitoring, the nursing staff should give the patient's eye special

attention at the start of admission because frequent eye care lowers the incidence of ocular surface issues.[14] Along with providing eye care and treatment, the nurse is in charge of evaluating and diagnosing infection-related eye problems and preventing consequences.[15]

METHODS

This pre-experimental design (one group pre-test and post-test) was employed at Intensive Care Units in AL-Basrah governorate from 22nd February 2024 to 30th September 2024. A pre-test was administered to all study participants, and a post-test was administered to the same participants following the application of the guidelines. An approach known as non-probability (purposive) sampling was used to select forty nurses from the intensive care units. Nurses at intensive care units in four teaching hospitals were included. All nurses who refused participation and nurses who did not complete the educational program were excluded. The program was applied in two lectures theoretical and practical sessions, each lecture lasted approximately 45 minutes. The post-evaluation of each individual started (3 weeks) apart from the date of the last lecture. The Eye Care Competence Inventory, a previously validated questionnaire with 35 items divided into three areas (knowledge, attitude, and practice), served as the primary instrument for this investigation. It focuses on the demographic information of the nurses, including their age, sex, education, years of experience, and eye care training. There were eighteen multiple-choice questions in the knowledge section. The score was zero for wrong answers and one for right answers. A 5-point Likert scale was used to score the seven items that make up the attitude domains (from 1 to 5). A score on a 5-point Likert scale (ranging from 1 to 5) comprised the practice domains which consist of 10 items on nurses' eye care practice. The data was analyzed through SPSS-26. Wilcoxon signed ranks test, Contingency Coefficient, and Kolmogorov-Smirnov test were used.

RESULTS

Table No.1: Sociodemographic distribution of nurses' features (n=40)

Variable	No.	%
Gender		
Male	13	32.5
Female	27	67.5
Level of Education		
Higher school of nursing	13	32.5
Diploma Degree in Nursing	9	22.5
Bachelor's degree in nursing	18	45
Sharing in a training session		
No	34	85
Yes	6	15
Age (years)	29.45±5.89	
Years of experience in nursing	7.22±6.18	

With a standard deviation of 5.89 years, the average age was 29.45 years. Moreover, women comprised 67.5 percent of the study sample, making them the majority. In terms of educational background, 45% of the research sample has a nursing bachelor's degree. The study sample had a minimum of one year and a maximum of 24 years of nursing experience, with a mean of 7.22 years and a standard deviation of 6.18 years. During training sessions, 85% of the study participants did not share (Tables 1-2).

At the post-test level, there was a substantial relationship between nurses' years of experience, age, and educational attainment and their understanding of eye care (P values =.000, 004 and .019, respectively) [Table 3]. There was no association between nurses' attitudes about eye care with their demographic characteristics at a P value higher than 0.05 (Table 4). Nurses' practices were significantly correlated with their age and year of experience, with P values of.001 and.005, respectively (Table 5).

Table No.2: Comparison between pre-test and post-test knowledge, attitude, and practice scores for the study sample at pre-test and post-test time duration (N=40)

Level and groups	M	SD	Wilcoxon Signed the Rank test					
			Type of rank	N	Mean Rank	Sum of Ranks	Z	P value
Pre-test and post-test knowledge	.32	.16	Positive ranks	0	.00	.0	-5.51	.000
	.83	.12	Negative ranks	40	20.5	820		
			Ties	0				
Pre-test and post-test Attitude about	3.95	.49	Positive ranks	2	8.25	16.5	-5.2	.000
	4.74	.32	Negative ranks	37	20.64	763.5		
			Ties	1				
Pre-test and post-test Practice About	1.28	.33	Positive ranks	0	.0	.0	-5.51	.000
	2.44	.37	Negative ranks	40	20.5	820		
			Ties	0				

Table No.3: Association between knowledge of nurses about eye care with their demographic characteristics (N=40)

Sociodemographic characteristics		Pre-test					Post-test				
		Low	Moderate	High	Contin-gency Coeffi-cient	Sig. P value	Low	Mode-rate	High	Contingency Coefficient	Sig. P value
Age	Total	26	14	-	16.6	.27	-	3	37	.40	0.000
Gender	Male	11	2	-	.274	.071	-	1	12	.005	.97
	Female	15	12	-			-	2	25		
Level of education in nursing	Preparatory	9	4		1.454	.48	-	-	13	.467	.004
	Diploma	7	2	-			-	3	6		
	Bachelor's	10	8	9			-	-	18		
Years of experience	Total	26	14	-	.446	.825	-	3	37	.645	.019
Training sessions in Eye care	No	21	13	-	.15	.307	-	2	32	.145	.355
	Yes	5	1	-			-	1	5		

Table No.4: Association between attitudes of nurses about eye care with their demographic characteristics (N=40)

Sociodemographic characteristics		Pre-test							Post-test						
		Very low	Low	Mode-rate	High	Very High	Contin-gency Coeffi-cient	Sig. P value	Very low	Low	Mode-rate	High	Very high	Contin-gency Coeffi-cient	Sig. P value
Age	Total	-	1	6	20	13	.66	.878	-	-	1	-	39	.57	.14
Gender	Male	-	-	2	7	4	.117	.906	-	-	1	-	12	.225	.14
	Female	-	1	4	13	9			-	-	-	-	27		
Level of education in nursing	Preparatory	-	1	-	8	5	.37	.387	-	-	1	-	12	.22	.345
	Diploma	-	-	1	5	3			-	-	1	-	9		
	Bachelor's	-	-	5	7	5			-	-	-	-	18		
Years of experience	Total	-	1	6	20	13	.667	.667	-	-	1	-	39	.32	.99
Training sessions in Eye care	No	-	1	4	16	13	.316	.316	-	-	1	-	33	.067	.67
	Yes	-	-	2	4	-			-	-	-	-	6		

Table No. 5: Association between practices of nurses in eye care with their demographic characteristics (N=40)

Sociodemographic characteristics		Pre-test					Post-test				
		Poor	Fair	Good	Contin-gency Coeffi-cient	Sig. P value	Poor	Fair	Good	Contin-gency Coeffi-cient	Sig. P value
Age	Total	37	3	-	.486	.576	1	16	23	.767	.001
Gender	Male	11	2	-	.203	.18	1	5	7	.225	.334
	Female	26	1	-			-	11	16		
Level of education in nursing	Preparatory	12	1	-	.08	.87	1	4	8	.34	.25
	Diploma	8	1	-			-	6	3		
	Bachelor's	17	1	-			-	6	12		
Years of experience	Total	37	3	-	.56	.22	1	16	23	.758	.005
Training sessions in Eye care	No	32	2	-	.14	.35	1	12	21	.226	.34
	Yes	5	1	-			-	4	2		

DISCUSSION

In the present study, the mean age was 29.45±5.89 years old. The mean age of nurses is consistent with an interventional study that studies the effect of ECG training on eye care clinical competence among critical care nurses.[16] Seventy-five nurses were aged 18-25 years with a mean age of 29.95±4.93. Also, the majority of the nurses in this study were between the ages of 20 and 29, which is consistent with the findings of several other studies.[17,18] More over half of the participants in this study 67.5%-were female. This study is in line with one carried out in Iran that discovered that 71.3% of study participants were female.[11] These results also, agreed with several studies[19, 20] which state the majority of the study sample was female.

Regarding educational attainment, 45% of the participants hold a bachelor's degree in nursing. This study is consistent with Güler et al.[21] They discovered that most of the nurses in intensive care units under study had bachelor's degrees. Also, the results of this study agreed with several studies[22,23] which mention the sample were graduates from secondary school in nursing.

The minimum years of experience of the participants in nursing were one year and the maximum years was 24 years in which the mean of experience was 7.22 years with SD being 6.18 years. This result is in agreement with another study Quasi-experimental research design. The finding represented that (50%) of studied nurses have years of experience between five to less than ten years of experience. Eighty-five percent of the study population did not share throughout training sessions. This result is consistent with a research conducted in 30 that revealed 91.1% of the nurses had not completed eye care training.

The results showed that, for every domain, there were statistically significant variations between the two-time levels of every competency component at P = 0.000. These results concurred with Momeni Mehrjardi et al[14], which demonstrated that the post-intervention phase's overall clinical competence score considerably increased in comparison to the pre-intervention phase.

The findings showed that, at the post-test level, nurses' knowledge of eye care was significantly correlated with age, education level, and years of experience (P values =.000, .004, and.019, respectively). This outcome aligns with Jaddoue[24], the findings indicated that the nurses' years of experience, age, and level of education were statistically significantly positively correlated with their total eye care score after the program was put into place (p values of 0.046, 0.000, 0.000, and 0.005).

Results presented that there was no association between nurses' attitudes regarding eye care with their demographic characteristics at a P value higher than .05. This finding correlate with Ebadi et al[11] represents a statistically significant positive correlation between nurses' attitudes regarding eye care and years of experience. The findings showed a substantial correlation between the age and year of experience of nurses and their practices (P values =.001 and.005, respectively). These findings were corroborated by Sayed[25] which found that, following the program, the total practice of the nurses in question was positively correlated with their age, years of experience, and type of intensive care unit (ICU), with p values of 0.046, 0.000, 0.000, and 0.005, respectively. This finding contradicts a study[24] that found no statistically significant correlations between the age or number of years of experience that nurses had in intensive care units and their behaviors when caring for unconscious patients.

CONCLUSION

Age, education level, and years of experience were significantly associated with nurses' knowledge of eye care at the post-test level; nurses' attitudes toward eye care were not associated with their demographic characteristics and nurses' practices were significantly associated with their age and year of experience.

Author's Contribution:

Concept & Design or acquisition of analysis or interpretation of data:	Zainab Salman Dawood, Serwan Jafar Bakey
Drafting or Revising Critically:	Zainab Salman Dawood, Serwan Jafar Bakey
Final Approval of version:	All the above authors
Agreement to accountable for all aspects of work:	All the above authors

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