



Assessment of Nurse's Knowledge Concerning Glasgow Coma Scale at Al-Hussein Teaching Hospital in Al-Nasiriya City

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Abstract

Objective of the study to assess nurses' knowledge regarding Glasgow Coma Scale for critically ill patients. Descriptive study was carried out in intensive care units and emergency department at AL-Hussein Teaching hospital. The study conducted during the period from 28th, October, 2021 to 21th, June 2022. Involving a non-probability (purposive) sample of (72) nurses. The data collection process was performed from 24th \ November \ 2021 to 17th \ February \ 2022. A questionnaire was constructed by the researchers which consisted of 2 parts involving demographics and Nurses Knowledge regarding Glasgow Coma Scale. The validity is determined through a panel of experts. Highest percent (54.2%) were (From 18 – 27 yrs.) years old, most of them were married female, With Bachelor nursing qualification. The highest percentage of the participants (58.3%) were having moderate knowledge Concerning Glasgow Coma Scale. Non-significant correlation between socio-demographic variables and nurses' Knowledge. Training programs and periodic assessment and training sessions should be conducted for new nurses working in critical care units to improve their knowledge related to Concerning Glasgow Coma Scale.

Keywords: Assessment, Nurses Knowledge, Glasgow Coma Scale

تقييم معارف الممرضين فيما يتعلق بمقياس غلاسكو للغيبوبة في مستشفى الحسين التعليمي في مدينة الناصرية

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المستخلص

اتهدف هذه الدراسة إلى تقييم معارف الممرضين فيما يتعلق بمقياس غلاسكو للغيبوبة للمرضى المصابين بأمراض حرجية. أجريت دراسة وصفية في وحدات العناية المركزة وقسم الطوارئ في مستشفى الحسين التعليمي. أجريت الدراسة خلال الفترة من 28 أكتوبر 2021 إلى 21 يونيو 2022. وشملت عينة غير احتمالية (قصدية) مكونة من (72) ممرضاً وممرضة. تمت عملية جمع البيانات في الفترة من 24 نوفمبر \ 2021 إلى 17 فبراير \ 2022. تم إنشاء استبيان من قبل الباحثين والذي يتكون من جزأين يتضمنان المعلومات الديموغرافية ومعارف الممرضين فيما يتعلق بمقياس غلاسكو للغيبوبة. تم تحديد الصلاحية من خلال لجنة من الخبراء. أعلى نسبة (54.2%) كانت أعمارهم (من 18 – 27 سنة)، معظمهم من الإناث المتزوجات، الحاصلات على مؤهل بكالوريوس تمريض. أعلى نسبة من المشاركين (58.3%) كانت لديهم معرفة متوسطة فيما يتعلق بمقياس غلاسكو للغيبوبة. لا وجود لعلاقة معنوية بين المتغيرات الاجتماعية والديموغرافية ومعارف الممرضين. ينبغي إجراء برامج تدريبية وتقييم دوري ودورات تدريبية للممرضين الجدد العاملين في وحدات الرعاية الحرجية لتحسين معرفتهم فيما يتعلق بمقياس غلاسكو للغيبوبة.

الكلمات المفتاحية: تقييم، معارف الممرضين، مقياس غلاسكو للغيبوبة

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Introduction

The state of consciousness should be evaluated first throughout the neurological evaluation since the results may, if required, be used to guide the

rest of the test. The Glasgow Coma Scale (GCS) is built on easy-to-understand patient response criteria that deliver reliable evaluation information.

It is used to assess the likelihood of a fast decline in awareness. If a patient is in a coma, the Glasgow Coma Scale is the most often utilized neurological evaluation in clinical treatment [1].

Glasgow coma scale enables professionals to efficiently and routinely measure adult consciousness and identify trends that are simple to comprehend and communicate to other colleagues [2]. Neurological observations are carried out on individuals who might be susceptible of neurological decline and include a variety of indicators. The major goals of recording the observations are to establish a baseline, spot changes, and quickly recognize potentially fatal circumstances. The GCS measures three indications of awareness, including eye opening, the best verbal answer, and the best muscular reaction. Pupil response, vital signs, limb movements, and strength are additional factors and crucial indicators that describe the patient's fundamental general neurological health and, when frequently observed, enable early change detection [3].

In order to identify changes in the consciousness level early and implement therapies quickly, which improves patient outcomes, a nurse must be knowledgeable with neurological evaluation and the GCS. When doing GCS scoring, greater information improves accuracy. Neurological problems, needless and inaccurate diagnostic procedures, mortality, and morbidity can all be reduced with quick and accurate evaluation. Correct practice might not be used because of things like nurses' ignorance of how to use/score patients using the GCS, which could impair the reliability of GCS scoring [4].

Nurses have a special opportunity to assist patients in examining their lifestyle, identifying risks and

possible areas for change, providing advice on a targeted personalized plan, and assisting them in reaching their objectives. That requires highly skilled and knowledgeable staff, in particular for critical care settings like those in our study's sample, as they must possess effective assessment and evaluation competencies to deal with and handle patients, especially those with disturbed levels of consciousness through the use of GCS [1]. The study aims to Assess Nurses Knowledge Concerning Glasgow Coma Scale.

Methodology

A quantitative descriptive study was carried out in order to achieve the initial stated objectives. The study was conducted in al Nasiriyah City at AL-Hussein Teaching Hospital (intensive care unit and emergency department) from 28th, October, 2021 to 21th, June 2022. A non-probability (purposive) sample of (72) nurses working in intensive care unit and emergency department at AL-Hussein Teaching hospital were selected to achieve the objectives of the study.

The researcher constructed the questionnaire based on the review of previous related literature and related studies. The study instrument comprised of (2) parts: Part I: Socio- Demographic Data: It consists of (7) items. It is concerned with the collection of basic socio-demographic data gained from study participants, including (age, gender, marital status, nursing qualification, working shift, working unit and years of experience in intensive care unit or emergency department). Part II: Nurses Knowledge Glasgow Coma Scale Part: It was composed of (15) multiple choice Items. The items were true and false questions. These rated as (2) for correct answer and (1) for the wrong

answer. The time of questionnaire answer list, for each participant took about (20 - 30) minutes.

Validity of the study instrument are determined by the panel of (10) experts, who had more than five years' experience in their fields in order to achieve study objectives.

The reliability was determined through the use of test and re-test approach on 7 nurses revealed that the person correlation coefficient is ($r= 0.84$).

The data were collected to achieve purpose of the present study for the period from 24th \ November\ 2021 to 17th \ February\ 2022. All participants received the questionnaire. Demographical data which are related to the patient (age, gender, nursing qualification, marital status, working shift, working unit and years of experience in intensive care unit or emergency department) collected from all participants as well as nurse's knowledge. The items were rated and scored according to the following designs: Multiple choice Likert scale was used to collect data from the study sample (2) for correct answer and (1) for wrong answer. The higher grade of scoring, the greater knowledge.

Data were analyzed through the use of SPSS application version 25.0. Descriptive data analysis including Frequency, Percentage, Mean of score (M.S) with their Standard Deviation (S.D). Inferential data analysis includes Pearson Correlation Coefficient, ANOVA .

Limitations of this study included: lack of national studies and previous studies, lack of resources to

support research findings as well as limited research population that could affect the generalization of research findings.

Results

Table (1) displays the frequency counts for selected variables as mentioned above. This table indicates that most participants are within age group range (18 – 27 years) with percent 54.2%. Most of the participants according to their gender are females ($n= 57$; 79.2%). With respect to the marital status, the majority of the participants in the study group are married ($n= 51$; 70.8%).

Regarding nursing qualification, the greater number of them are Baccalaureate degree ($n= 27$) with percent 37.5 %. Related to Working shift, the results indicated that the highest percentage of the study sample are morning shift and they are accounted for ($n= 54$; 75%) as mentioned in table (1).

Regarding to years of Experience in Intensive Care Unit or Emergency Department, the majority of the participants are from 1-5 year ($n= 45$) with percent 62.5%. Related to Working unit, the results indicated that the study sample are equal 50% of them working in Intensive Care Unit and 50% in Emergency Department. Only 29.2 % of the study population participated in training program, while 70.8% weren't participated in training program as shown in Table (1).

Table (1): State the Distribution of the Study Sample according to the Socio-Demographical Data

Variable	Groups	Frequency	Percentage (%)
Age Groups	From 18 – 27 yrs.	39	54.2
	From 28- 37 yrs.	33	45.8
	Total	72	100

Gender	Male	15	20.8
	Female	57	79.2
	Total	72	100
Marital Status	Married	51	70.8
	Single	21	29.2
	Total	72	100
Nursing qualification	Secondary	3	4.2
	Diploma	18	25
	Baccalaureate	27	37.5
	Post-graduate study	24	33.3
	Total	72	100
Working shift	Morning	54	75
	Night	12	16.7
	Both	6	3.8
	Total	72	100

Freq. = frequency, % = percentages.

Table (2) shows that information of study (1,2,4,5,7,9,11,12, and15), and they (failed) in participants was presented (pass) in items other items. as shown in Table (2).

Table (2): State the Distribution of the Study participants According to their Knowledge Concerning Glasgow Coma Scale

No.	Items	Correct		False		M.S
		F	%	F	%	
1	The Glasgow Coma Scale was initially devised to	63	87.5	9	12.5	1.87
2	What are the specific sections that comprise the Glasgow Coma Scale?	42	58.3	30	41.7	1.58
3	What part of the brain is being assessed when you are assessing eye opening?	27	37.5	45	62.5	1.37
4	Which part of the brain is being assessed when you are assessing verbal response?	42	58.3	30	41.7	1.58
5	Which part of the brain is being assessed when you are assessing motor response?	48	66.7	24	33.3	1.66
6	Vital signs are a component of the Glasgow Coma Scale.	21	29.2	51	70.8	1.2
7	When testing the best motor response, you	48	66.7	24	33.3	1.66
8	To test motor response in a tetraplegia patients (paralyzed in all four limbs),	24	33.3	48	66.7	1.3

9	The lowest score of the Glasgow Coma Scale is	42	58.3	30	41.7	1.53
10	Patients with a Glasgow Coma Scale score of—and below are considered comatose.	18	25	54	75.0	1.2
11	The Glasgow Coma Scale cannot assess intubated patient’s level of consciousness.	45	62.5	27	37.5	1.6
12	On asking a patient, “Do you know where you are now?” the patient states he is at his daughter’s condominium. He is	66	91.7	6	8.3	1.9
13	On assessing a patient’s motor response, he is unable to comply. You inflict a painful stimulus, and he pulls his arm away. He	27	37.5	45	62.5	1.3
14	The Glasgow Coma Scale score is if the patient opens his eyes only after the verbal command, uses an inappropriate word and identifies the area of pain stimuli.	3	4.2	69	95.8	1.04
15	The best possible score for a GCS.	24	25	48	75	1.75

Table (3) shows that the majority of the study sample was having a moderate with percent (58.3%) knowledge regarding Glasgow Coma

Scale, while only (4.2%) of them having adequate knowledge. as shown in Table (3)

Table (3): State the Total nurses’ knowledge category regarding Glasgow Coma Scale

Category	Frequency	Percent
Inadequate < 50% score	27	37.5
Moderate 50- 75% score	42	58.3
Adequate >75% score	3	4.2
Total	72	100.0

Table (4) shows non-significant correlation between socio-demographic variables including (age, gender, marital status, nursing qualification,

working shift, years of experience and working place) and nurses' Knowledge Related to Glasgow Coma Scale. as shown in Table (4).

Table (4): State the Correlation between Socio- Demographic Variables with Nurse's Knowledge Concerning Glasgow Coma Scale

Socio- demographic variables	Study group (N= 72)				
	Sum of squares	df	Mean square	F	Sig.
Age	.001	1	.001	.080	.779
Gender	.001	1	.001	.044	.836
Nursing qualification	.121	3	.040	2.996	.055
Marital status	.010	1	.010	.565	.460
Working shift	.011	2	.005	.296	.747
Years of Experience in ICU or ED	.090	2	.045	3.123	.065
Working unit	.051	1	.051	3.324	.082

Discussion

The findings of data analysis that were shown in table (4.1) indicated that more than half of the sample age range from 18 to 27 yrs. years old, which accounted for (39). This result agreed with a study carried out to assess Effectiveness of Self-Instructional Module on Knowledge and Skills Regarding Use of Glasgow Coma Scale in Neurological Assessment of Patients among Nurses Working in Critical Care Units by Teles, et al. (2013) that showed the highest of study sample were at age group (20-25) years [5].

Related to gender, the results indicated that (79.2%) of the study sample were females which accounted for (57); while, the remaining were males. In comparing with other studies, a study conducted Dhafra Hospitals, Abu Dhabi, United Arab Emirates (2018) by Ayoub, et al. who found that females accounted for 54 of 85 participants [6].

According to the participants' marital status, the majority of them were married (51) accounted for (70.8%) of the total sample. This result was similar to a study done by Shehab, et al. (2018) who stated that the largest proportion of nurses working in Intensive Care Unit were married (73.3%) [7].

Concerning nursing qualification, the greater number of the study sample were Bachelor that comprised 37.5% of total study sample. This finding agreed with study conducted by Al-Quraan & AbuRuz (2016) at Jordan in order to assess Jordanian nurses' knowledge to perform Glasgow Coma Scale who reported that the percent of Bachelor participants were 98.9% of the entire sample [8]. As well as supportive evidence for these findings have been found in a study carried out by Ayoub, et al., (2018) who reported that 96.5 % of them are Bachelor [7].

In regards to experience in ICU or Emergency Department, the majority of the study sample is from 1 to 5 year with the percent (62.5%). This finding agreed with a study conducted by Jaddoua, et al. (2013) at Al-Shaheed Gahzee Al-Harery for surgical specialties hospital, Neuro Science hospital and Neuro surgical hospital which indicated that the majority of participants were from 1 to 5 year (44%) [8].

Relative to received training, the results indicated that a highest percentage of the nurses aren't received training program about Glasgow Coma Scale with the percent 70.8%. Supportive evidence for these findings reported that the majority of respondents weren't received training program about Glasgow Coma Scale that accounted for (68.9%) [8].

Glasgow Coma Scale (GCS) is a reproducible tool used by nurses in almost every healthcare facility to assess level of consciousness in a patient with a neurological problem. It is important to have the skill and knowledge when assessing and applying critical thinking to interpret the findings. The results of present study indicated that the majority of the study sample was having a moderate knowledge regarding Glasgow Coma Scale with percent (58.3%). Additional support a study conducted by Singh et al. (2016) to assessing Nurses Knowledge of Glasgow Coma Scale in Emergency and Outpatient Department in Malaysia, who found out that (41.48%) of nurses with satisfactory knowledge [9].

The results of this study show non-significant correlation between socio-demographic variables including (age, gender, marital status, nursing qualification, working shift, years of experience and working place) and nurses' Knowledge related to Glasgow Coma Scale. These findings agreed

with a study conducted to assess the nurses' knowledge related to Glasgow Coma Scale in Bagdad by Jaddoua, et al. (2013) who concluded no significant correlation was observed among socio-demographic variables and nurses' knowledge. Also, Previous studies (Heron, 2001) also showed inconsistent results regarding this area. Further support to this study finding a study conducted to assess Jordanian Nurses' Knowledge to Perform Glasgow Coma Scale by Al-Quraan & AbuRuz (2016) who found out no significant correlation between socio-demographic variables and nurses' knowledge [8].

Conclusions

The current study concluded that a fair percentage of nurses have an unacceptable level of knowledge regarding GCS.

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