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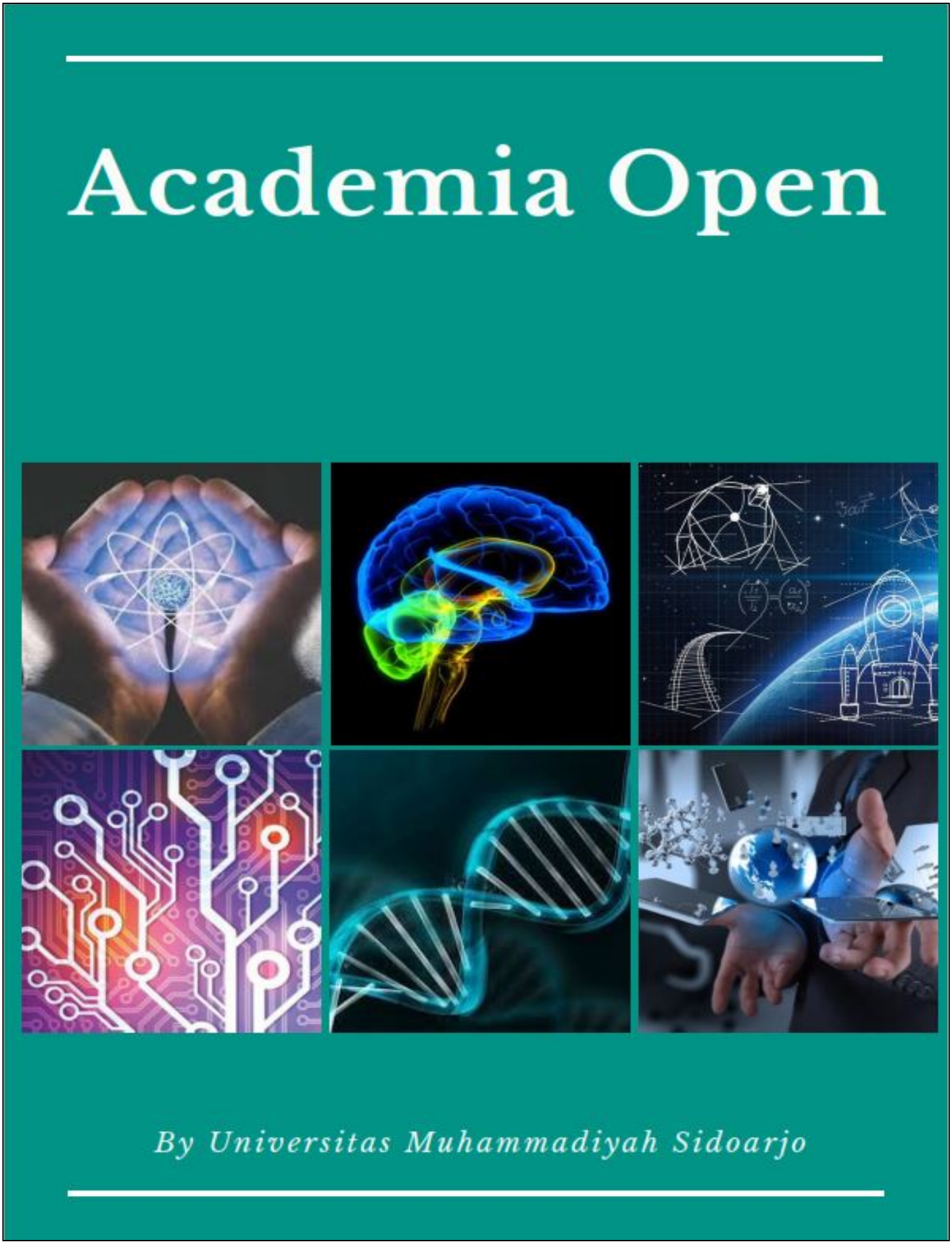

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Intensive Care Unit Staffs' Knowledge about Glasgow Coma Scale

Pengetahuan Staf Unit Perawatan Intensif tentang Skala Koma Glasgow

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Abstract

The Glasgow scale is a crucial tool for evaluating the awareness level of patients with neurological disorders in intensive care units and neurological centers. This scale involves three items for assessing: the degree of eye response, the degree of verbal response, and the degree of motor response in a range between 3-15 score, where 3 is the lowest score on the scale, which indicates loss of consciousness or a deep coma, and 15 is the highest score, which represents full consciousness. The study aims to evaluate the understanding of the Glasgow coma scale among Intensive Care Unit Staff. A descriptive study (cross-sectional design) was used. A study was carried out in the Intensive Care Unit at Al-Diwaniya Teaching Hospital in The Al-Dıwanıyah City,Iraq. The study was conducted from November 2sd , 2023, to 16th April , 2024. Non-probability (purposive) sample consisting of (50 staff) working in the ICU. The results of this study included (64%) are female and (36%) are male from 50 staffs in intensive care unit. while , the overall level of ıntensive care unit staffs' knowledge about the glasgow coma scale was fair level (68%) at mean of scores (1.42). The researchers concluded that the level nurses' and anesthesia technicians' knowledge about the Glasgow coma scale was not at the level required to fit with the critical and special nature of ICU. The study recommended activating the work of the continuous medical education unit correctly in order to give educational courses related to Glasgow coma scale

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Introduction

The Glasgow Coma Scale (GCS) is a metric used to assess the level of awareness in patients suffering from nervous system illnesses or injuries. The Glasgow Scale is an objective and reliable measure for assessing a patient's state of awareness (1).

The Glasgow Coma Scale (GCS) is used to describe and record a person's conscious state for both initial and follow-up assessments. One of the main responsibilities of physicians and nurses who treat patients with neurological or neurosurgical issues is deemed to be determining the patient's state of awareness. Identification of the patients' neurological issues and appraisal of medical therapies are aided by the examination. In emergency situations, it may serve as a signal for assistance or treatment (2).

GCS was developed and is now used globally because it facilitates improved communication between medical professionals by offering a common reporting language. Its use to the evaluation of consciousness in many clinical specializations and research endeavors has grown throughout time (3). According to Mattar et al. (2015), it has been proven to be a trustworthy method for classifying the seriousness of various medical situations and forecasting their results, including acute stroke, subarachnoid hemorrhage, acute poisoning, and other critical illnesses (4).

The Glasgow Coma Scale is designed to measure three different parameters: verbal response (V), motor response (M), and best eye reaction (E). Response levels on the Glasgow Coma Scale are "scored" from 1 (no answer) to an average of 4 (eye-opening response), 5 (verbal response), and 6 (motor response). With 3 being the lowest and 15 representing the highest, the total Coma Score consequently has values ranging from 3 to 15. Totaling the individual elements' scores yields the score As an illustration, a score of 12 might be written as GCS12 = E4V3M5) (5).

a final score that falls between 3 and 15. According to Mayoclinic, 2023 and Mattar et al. (2013), brain injuries are divided into three groups based on the overall score: mild (13–15), moderate (9–12), and severe (3–8) (6,5).

Glasgow Coma Scale		
Response	Scale	Score
Eye Opening Response	Eyes open spontaneously	4 Points
	Eyes open to verbal command, speech, or shout	3 Points
	Eyes open to pain (not applied to face)	2 Points
	No eye opening	1 Point
Verbal Response	Oriented	5 Points
	Confused conversation, but able to answer questions	4 Points
	Inappropriate responses, words discernible	3 Points
	Incomprehensible sounds or speech	2 Points
	No verbal response	1 Point
Motor Response	Obeys commands for movement	6 Points
	Purposeful movement to painful stimulus	5 Points
	Withdraws from pain	4 Points
	Abnormal (spastic) flexion, decorticate posture	3 Points
	Extensor (rigid) response, decerebrate posture	2 Points
	No motor response	1 Point
Minor Brain Injury = 13-15 points; **Moderate Brain Injury** = 9-12 points; **Severe Brain Injury** = 3-8 points		

Figure 1. *Glasgow Coma Scale (GCS)*

Measurement and transmission of the GCS at various times and by various observers must be done consistently for in-patient treatment. The truth is, however, that empirical studies have demonstrated the inconsistent and inaccurate nature of GCS performed by nurses in a mentorship system—a crucial aspect of patient assessment and care for those with neurological sequelae, trauma, or surgery. As simply as they would other regular vital sign

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observations, critical care nurses should also use assessments of consciousness levels (7) . According to Reith et al. (2016), they ought to be equipped with the skills, information, and credentials required to perform a neurological assessment based on the GCS (8) .

According to the aforementioned, intensive care unit staff members' capacity to make therapeutic decisions when interacting with unconscious patients is hampered by any ignorance of the Glasgow scale, particularly in critical care units. Consequently, the aim of this study was to examine and describe the existing knowledge gap (Researchers).

Methods

A descriptive study (cross-sectional design) has been carried out. The study was conducted from November 2nd , 2023, to April 16th, 2024. The study was conducted in Al-Diwaniya Teaching Hospital at the Intensive Care Unit. A non-probability (purposive) sample was selected to obtain representative and accurate data. From (65) staff working at ICU in Al-Diwaniya Teaching Hospital, (15) staff were excluded from the study (11 staff have less than one year of employment, and four staff did not fill out the questionnaire correctly). So the total number of ICU staff participating in the study was (50) staff. Doctor & pharmacist working in intensive care unit department and Anesthesia Staff less than one year’s experience were excluded from the study according Criteria for Exclusion.

To accomplish the goals of the study, the researchers developed the instrument (Santos et al., 2016) (9), which is divided into two sections., includes the following:

Part I: Demographic Data Form: This part was developed to collect of demographic data from the nurses and anaesthetic techniques and consists of (6) items including gender, age, level of education, years of experience, years of experience in ICU, and courses training related to the GCS.

Part II: Knowledge about the Glasgow Coma Scale Form: This part was developed to assess anaesthetia staff' knowledge about GCS. It consisted of one domain that involves 11 multiple-choice questions. In order to gauge each Intensive Care Unit staff member's level of knowledge for the purposes of this study, the number of correct responses was employed; a response was assigned a value of (2) for correct answers and (1) for erroneous ones.

The Arabic version of the questionnaire was used for individual interviews with subjects, and data was gathered through the use of self-reporting and interview procedures with the designed questionnaire. It took ten to fifteen minutes for each subject to finish the questions. The period of data collecting was March 2, 2024, to 24 March 2024

SPSS version 25 statistical analysis system and Microsoft Excel 2013 were used to examine the data. The study's findings were analyzed and evaluated using descriptive statistical data analysis techniques, which included statistical figures (bar charts and pie charts) and tables with frequencies, percentages, and mean scores.

Result and Discussion

This section describes the data analysis after collected and being processed and tabulated then statistically management, and the results is explained scientifically and logically according to the objectives of the study.

Variables		Frequency	Percent
Age	<25 years old	10	20
	26-30 years old	30	60
	31-35 years old	4	8
	36 and more	6	12
	Total	50	100.0
Gender	Male	18	36
	Female	32	64
	Total	50	100.0
Educational level	Secondary Nursing School	4	8
	Diploma/Nursing	5	10
	Diploma/ Anesthesia	15	30
	Bachelor/Nursing	25	50
	Bachelor/Anesthesia	1	2
	Total	50	100.0
Years of experience	<5	30	60

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	6-10	12	24
	11-15	4	8
	16 and more	4	8
	Total	50	100.0
Years of experience in ICU	<5 years	38	76
	6-10	9	18
	11-15	2	4
	16 and more	1	2
	Total	50	100.0
Training sessions	Yes	0	0
	No	50	100.0
	Total	50	100.0

Table 1. *Sociodemographic characteristics of ıntensive care unit staffs' (50)*

% = Percent; Freq.= Frequency

Table (3.1) displays the demographic data of the study sample. The study results show that the dominant age group of study sample is (60%) of age group (26-30) years old. Regarding years of experience, .regarding gender , the study showed that a relatively high percentage in the stydy participent was female (64 %) respectively. the study showed that a relatively high percentage 50%, of the participating is nursing college graduate, the table shows that (60%) of the staff have (<= 25) years of experience in employment. In regards to experience in ICU, the results show that the majority of ıntensive care unit staffs' in (88%) have (<= 25) years of experience in ICU. Furthermore, there are no GCS training sessions in any of the samples.

levels of self management	Frequency	Percent	Mean	ASS.
Poor	14	28	1.42	Fair
Fair	34	68		
Good	2	4		
Total	50	100.0		

Table 2. *Overall Assessment of Intensive Care Unit Staffs' Knowledge about the Glasgow Coma Scale*

"M.S= mean score, ASS=assessment, Cut off point (0.33): poor (1-1.33); Fair (1.34- 1.67) , and Good (1.68 and more)

In Table 2, overall assessment of Intensive Care Unit Staffs' Knowledge about the Glasgow Coma Scale, the findings indicate that (68%) reported a fair level for the knowledge, poor level (28%) and good levels (4 %).

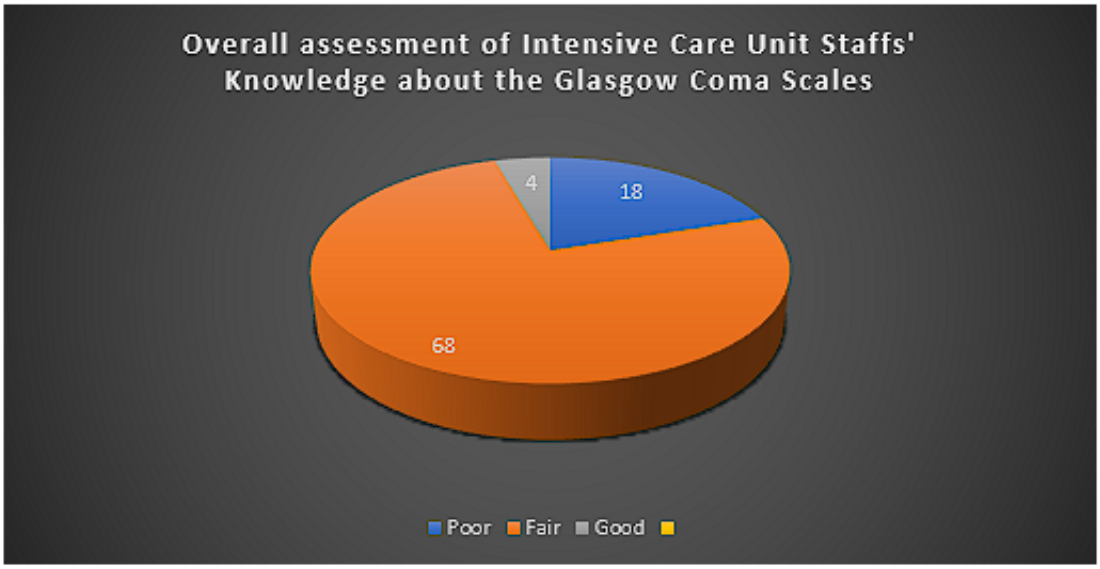

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Figure 2. *Overall Assessment of Intensive Care Unit Staffs' Knowledge about the Glasgow Coma Scale*

The findings presented the Overall related knowledge. Finding reveals that (68%) reported a fair level of knowledge , poor levels (28%), and good levels (4%) respectively. (figure 1).

Dıscussıon

Regarding staff age, the characteristics of the study sample show that the highest percentage (60%) was between (26-30) years old. This means that the majority of ICU employees are young people, and this is what is required because this unit requires young ages to tolerate the nature of the complex and focused work in this unit. Concerning years of experience in recruitment, (60%) of the ICU staff have (<= 5) years in the jobs, which means that more than half of them have a good job service in the field of health work. About years of experience in the critical care unit, the study revealed that the majority of ICU staff (88%) have (<= 5) years; this indicates that they have satisfactory job service in the field of work in the ICU and this qualifies them to manage the work in this unit. With respect to the level of education, the study appeared that (60%) of the study sample graduated from nursing college, this is due to a large number of nursing colleges that have been created in the country, in addition to a large number of graduates from them, as well as according to the instructions of the Ministry of Health, which stresses that working in these units require people with bachelor’s degrees or above. Concerning ICU staffs gender, more than half of the participant was female (64%), this revealed, this is due to the fact that nursing colleges, technical colleges, and institutes accept females with lower acceptance rates than males, so the percentage of females on the job side increases.

As for Table (2), related to the Iknowledge of ICU staff regarding the GCS. Also, in figure (1) shows a relatively high percentage (68%) reported a fair level of knowledge, poor levels (28%), and good levels (4%) respectively. Where the stat68istical mean of the overall knowledge of nurses participating in the study was (1.42) and the overall assessmeet of their knowledge was fair. this is due to the fact that the ICU staff did not take specialized courses related to GCS, and this affects their level of knowledge about that. In such places, the staff is supposed to be at a high level of information due to the critical nature of the ICU and the patients in it.

This finding was supported by a study done by (Kurniawan et al., 2020)(10) who found that ICU staff had insufficient knowledge about GCS, so they need to refresh their knowledge about it continuously. Also (Kebapçı et al., 2020)(11) found that the ICU staff's knowledge of GCS was moderate (not near perfect), which requires that ICU staff have adequate knowledge and skills about it.

Conclusion

The researchers conducted a study to assess Intensive Care Unit Staffs' knowledge about the Glasgow Coma Scale in ICU. Through this study, the researcher concluded that the knowledge of ICU staff was not at the level required (modarete) at the mean of the score (1.39) to fit with the critical and special nature of ICU

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