

Assessment of the level of consciousness in adult patients admitted to an Intensive Care Unit (ICU)

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Abstract— *Objective: This study made it possible to analyze the level of consciousness through the Glasgow scale, of adult patients hospitalized in Intensive Care Units. Method: This is a descriptive study, with a quantitative and qualitative approach. The research was carried out in the three Intensive Care Units in a hospital in the interior of Bahia (Brazil). The study population consisted of 20 patients admitted to these units, aged 18 years or over, of both sexes, who were hospitalized in the sector for at least 24 hours and who had already performed at least three physiotherapy sessions during the period. January to October 2019. The Glasgow Coma Scale and sociodemographic questionnaire were used. Results: The results resulted from the division of two categories: I) Assessment of the level of consciousness; II) Sociodemographic data. Only three patients did not have the maximum score on the Glasgow Coma Scale (15 points). The sample consisted of 55% (n = 11) women and 45% (n = 9) men. Most patients, exactly 70%, were aged 60 years or over. As for the reasons for the individuals' admission to the ICU, respiratory (25%), heart disease (25%) and neurological (15%) were the most frequent, followed by other causes such as trauma, neoplasms and post-surgery (40%) . Conclusion: The results obtained are relevant to the planning and execution of actions in intensive care units aimed at assistance to the elderly and qualified care.*

Keywords— *Intensive Care Unit; Inpatients; Glasgow scale; Qualified Care.*

I. INTRODUCTION

Intensive Care Units (ICUs) are hospital sectors that receive patients who need intensive care and specific resources that provide necessary support for life (GOMES & CARVALHO, 2018).

Since its creation, people have acquired a view that the ICU is related to the finitude of life, thereby generating tension, fear and anxiety, when it comes to

hospitalization in this unit (NEPOMUCENO JUNIOR & SILVA, 2018; MOREIRA & COSTA, 2018).

According to studies by Bonfada et al., (2017) and Bini et al., (2018), the age group that has high rates of hospitalization in these units are the elderly, which can reach 52% of hospitalizations in Brazil, and the longer I live, the greater the commitment to health, generating longer hospitalization.

Patients hospitalized in these sectors are constantly evaluated by the multidisciplinary team, who use resources and scales to examine the health status of these individuals (ALBUQUERQUE, 2015; BASILE-FILHO et al., 2018). And the Glasgow Coma Scale Score (GCS) is one of the most used scales.

The GCS score was developed to combine the results of the three factors of the scale into a single index, assigning a score according to the level of awareness presented spontaneously or through stimuli. They are: eye opening, verbal response and motor response. Their possible values ranged from 3 to 15 (TEASDALE et al., 1979).

In 2018, it became the Glasgow Coma Scale-Pupil score (GCS-P), in which the assessment of pupil reactivity as a reflection of brainstem function was added to the scale. Passing values from 1 to 15, by combining the score of the previous factors subtracting the pupil score (BRENNAN et al., 2018).

The assessment of the level of consciousness must be a simple, objective, accurate and reliable examination that facilitates communication between the team (TEMIZ et al., 2018). And the GCS-P provides this standardized and universal approach.

Thus, the aim of this research was to assess whether patients admitted to the ICU are lucid and oriented, through the application of the Glasgow Scale. Such analysis generates subsidies for the performance of more qualified care, since the profile of the hospitalized patient enables health actions that are more adequate to the reality of the population that is there (ROCHA et al., 2007).

2007).

Therefore, knowing the sociodemographic characteristics and the level of awareness of a population served in the ICU enables the planning and insertion of assessment tools and methodology for the assistance of qualified professionals (ROCHA et al., 2007).

II. METHODOLOGY

This study is part of a larger project entitled: "Physiotherapeutic Care and Humanization in Intensive Care Units in a Public Hospital", and met the requirements of Resolution 466/12, which discusses research involving human beings (BRASIL, 2012), accepted by the Ethics and Research Committee of the State University of Southwest Bahia (UESB), under number 3,050,221 on November 30, 2018.

It is a descriptive study, with a quantitative and qualitative approach. This type of research describes phenomena and exact facts, the qualitative one perceiving and describing it through numbers, while the qualitative one, by subjective aspects (FERREIRA, 2015).

All researchers received on-the-spot training on the data collection instrument. For this, a structured form was used containing questions directed to the study variables related to the Glasgow scale and sociodemographic profile.

The research was developed in three adult Intensive Care Units (ICU) of a hospital in the interior of the state of Bahia in Brazil. The study population consisted of 20 patients admitted to these units, aged 18 years or over, of both sexes, who were hospitalized in the sector for at least 24 hours and who had already performed at least three physiotherapy sessions in the period. January to October 2019.

As an inclusion criterion, the patient should have preserved oral and / or written verbalization skills, be lucid and guided, proven by the Glasgow Scale, to respond to the research instruments and agree to participate in it, being assured to stop participating in research. any stage of the research, without any penalty or loss, as well as the confidentiality and anonymity of the data collected, signing the Free and Informed Consent Term (ICF).

Patients who had a reduced level of awareness and a deficit in understanding were excluded, being considered vulnerable by the research ethics guidelines.

A questionnaire consisting of closed questions related to sociodemographic data was used for collection. Addressing topics such as: name, sex, education, age, primary diagnosis, marital status, length of stay in the ICU, sessions held in Physiotherapy. It is an open question for the patient to describe what it is like to experience hospitalization and its permanence in this sector.

The Glasgow Coma Scale (ECG), which has 3 behavioral indices, was used to assess the level of consciousness, considering eye opening, verbal response and motor response, totaling 15 scores plus pupillary reaction evaluation.

The variation in the scores regarding the eye opening response is 1 to 4, verbal response 1 to 5, motor response 1 to 6 and pupillary reaction 0 to 2. To reach the result, it is necessary to subtract the ECG value from the pupillary evaluation. The minimum score is 01 and the maximum is 15 points. It is the scoring system most used internationally to assess comatose patients in intensive care.

This scale was developed by Teasdale and Jennett in 1974, at the University of Glasgow, and was created to standardize the clinical observations of adults with severe TBI, with alterations in consciousness. The scale was intended to minimize the variation between observers, to allow comparative studies on different behaviors and to have a guide to estimate prognosis. In 1979 it was revised with the addition of a sixth value in the motor response (TEASDALE et al., 1979). In 2018 an update was made, where the pupil assessment was integrated (BRENNAN et al., 2018).

The analysis of the two categories was performed using descriptive statistics and presented as a form of absolute numbers and percentages of the software Statistical Package for Social Sciencespor (SPSS), version 22.0 for Windows.

III. RESULTS AND DISCUSSION

The results are presented in two categories: I) sociodemographic data; II) assessment of the level of consciousness.

3.1. Sociodemographic data

The research was carried out with 20 patients aged 18 years or older, with an average age of 60.45 (\pm 15.1 years), who were at least 24 hours hospitalized in the ICU and who were already being treated by physiotherapy, for at least three calls. The sample consisted of 55% (n = 11) women and 45% (n = 9) men. Table 1 shows the socio-demographic data regarding marital status, education and diagnosis of hospitalization at the unit.

Table 1 – Characteristics of patients admitted to the intensive care unit. Jequié/BA, 2019.

Variables	% answer	N	%
Gender	100%		
Female		11	55%
Male		9	45%
Age	100%		
18 a 39 years		2	10%
40 a 49 years		1	5%
50 a 59 years		3	15%
60 a 69 years		8	40%
70 a 79 years		5	25%
80 a 89 years		1	5%
Marital status	100%		
Single		8	40%
Married		9	45%
Widowed		3	15%
School	100%		
Incomplete primary		15	75%
Complete high school		3	15%
Illiterate		2	10%
Diagnosis of Intensive Care Unit admission	100%		
Systemic lúpus		1	5%
Arm Fracture		1	5%
Aneurysm		3	15%
Chronic obstructive pulmonar disease		4	20%
Pneumonia / Pleural effusion		1	5%
Exploratory Laparotomy		1	5%

Neoplasm	2	10%
Hepigastric hernioplasty	1	5%
Polytrauma	1	5%
Cardiopathy	5	25%

There is a significant portion, exactly 70% of the elderly, when the age groups equal to or above 60 years are added. Such data are expected, given that population aging is a worldwide phenomenon and that around one million people turn 60 every month worldwide. There is a worldwide trend towards an increase in the age group of the population, which is reflected in the profile of hospitalized patients. It should be noted that the technological advances of recent times allow to prolong life and contribute to this fact (QUEIJO, 2002; SIEBENS et al., 2000; SALES-JÚNIOR et al., 2006).

Specifically in the national context, it is estimated that in 2020, the elderly will be 30.9 million, around 13% of the Brazilian population, placing Brazil among the seven countries with the largest elderly populations in the world. As a result of this process, the number of diseases that are characteristic of the elderly increases, resulting in organic destabilization that leads to the need for ICU beds to meet the demands of these patients (BENTO, 2007; MARIK, 2006).

Regarding the predominance of sex (55%) was female, this data can be explained by means of (table 1), in which the highest percentage of the number of hospitalizations is between cardiopathy (25%) and Pulmonary Disease Chronic Obstructive (COPD) (20%), mischaracterizing data from the literature in which the prevalence is male, as well as in the study by Freitas et al., (2017), that 50.7% of the patients were male and had diagnosis of Ischemic Heart Disease. These data can be explained due to the high number in the records of car accidents and violence, which often undergo surgery and / or need intensive support in the first hours (MATIAS et al., 2018; PERÃO et al., 2017).

As for the reasons for the individuals' admission to the ICU, respiratory (25%), heart disease (25%) and neurological (15%) were the most frequent, followed by other causes such as trauma, neoplasms and post-surgery (40%) (Table 1). What corroborates with other studies, Matias et al., (2018) and Castro et al., (2016), in which they describe that the main pathologies that lead to hospitalizations in intensive care units are related to cardiovascular and respiratory problems, being justified due to physiological aging and susceptibility to the development of chronic problems.

Regarding the hospitalization period, 50% of the patients remained for 3 to 6 days, a figure equivalent to that found in the literature. With regard to marital status, the majority (45%) are married, data that differ from those found in the literature in which the elderly profile is widowed (CAMPOS et al., 2016).

Regarding the level of education of the participants, 75% have incomplete elementary education. When analyzed in the light of larger research, but also from the perspective of age by time of schooling, it is noted that the individuals in this research have a lower level of education than is common for their ages. The northeastern region, in which the state of Bahia is located, has the lowest educational level by age in Brazil. However, the participants in this research have an even lower level of education than those found in most of the citizens surveyed in this region (IBGE, 2019).

Table 2 describes the amount of time that patients were hospitalized in the ICU and the number of visits made by physiotherapy within the sector. For this, we divided into groups of those who performed from 3 to 5; 6 to 10 and above 10 sessions.

Table 2: Number of days of hospitalization, Physiotherapy sessions performed and Age of Patients.

Age	ICU Length of stay	Number of Physiotherapy sessions performed
68 years	3 days	3 a 5 sessions
43 years	3 days	3 a 5 sessions
20 years	3 days	Over 10 sessions
71 years	4 days	3 a 5 sessions

71 years	4 days	3 a 5 sessions
71 years	4 days	6 a 9 sessions
72 years	4 days	6 a 9 sessions
63 years	5 days	3 a 5 sessions
56 years	6 days	6 a 9 sessions
64 years	6 days	6 a 9 sessions
50 years	7 days	3 a 5 sessions
60 years	7 days	3 a 5 sessions
83 years	7 days	Above 10
61 years	10 days	3 a 5 sessions
76 years	10 days	6 a 9 sessions
57 years	10 days	Over 10 sessions
62 years	12 days	Over 10 sessions
30 years	12 days	Over 10 sessions
62 years	13 days	Over 10 sessions
69 years	approx. 1 month (about 30 days)	Over 10 sessions

The average length of stay of patients in the ICU was approximately 7.61 days, with 95% of these patients remaining hospitalized after completing the survey collection (Table 2).

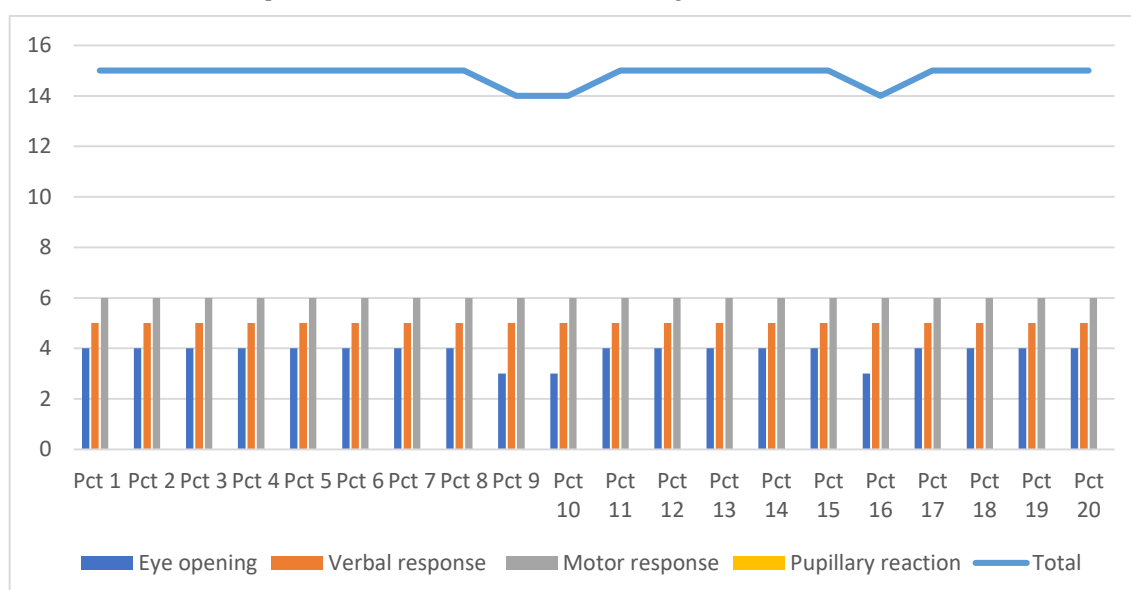
When crossing the data of ICU stay with the patient's age, it is observed that the older the age, the longer the hospital stay. A study carried out by Rodriguez et al., (2016), found that most ICU admissions (19%) occur in the 50 to 59 age group, followed by the 60 to 69 age

group (17.1%) and , in third place, aged 40 to 49 years (15.1%).

3.2 Assessment of the level of consciousness

All patients were assessed using the Glasgow Coma Scale to check their level of consciousness. Only three did not have the maximum score (15 points), with a reduction of 1 point in the item “eye opening” (Graph 1).

Graph 1. Patients who scored on the Glasgow Coma Scale (ECG)



The highest score for responses on the Glasgow Coma Scale (ECG) occurred between verbal and motor responses, obtaining 100% of the values. The three patients who scored below 15 points on the Glasgow scale, were on average 68.6 years old.

It is noted that, possibly, older patients tend to have lower ECG scores. Despite this study evidencing this, other specific factors must be observed in each patient, such as, for example, the patient's difficulty with the verbal response due to difficulties in understanding due to age or associated mental comorbidities, as well as the degree of unconsciousness that the patient has. finds.

Other studies highlight the importance of ECG for the classification of patient profiles with factors associated with both pathological conditions and public health issues. A survey of 1.354 trauma victims found that 95.5% of the traumas were classified as mild by the ECG (score from 13 to 15). However, the traumas evaluated as severe by the scale (score from 3 to 8) corresponded to 2.6% of the visits, being more frequent at night (47.1% of the serious traumas occurred between 18 and 24 h), on Sundays (26 , 47%) and Fridays (23.52%) (GUIZZO et al., 2020).

In another study, composed of 1,289 patients, it was found that individuals with a higher ECG had higher survival. Still, it was noticed that of the patients evaluated by ECG, male patients had lower survival when compared to female. In addition, greater survival was noted in patients using vasoactive drugs (ARRUDA et al., 2019). Thus, it is understood that ECG is important both as an assessment tool and in the design of patient profiles.

IV. CONCLUSION

Finally, some limitations of the present study must be considered, among them the fact that a considerable population was not used in relation to the Brazilian population, which may restrict the validity of the results. The data found in this study are representative when compared to the same sector in other hospitals or sectors in the same hospital.

However, this is one of the few recent studies that characterize patients admitted to intensive care units in a developing country and certainly represents an advance for a better understanding of the national profile of patients admitted to this specific service. The study made it possible to identify that the patients admitted to the ICU are lucid and oriented about the Glasgow scale and that 70% of these patients are elderly.

In view of these considerations, new perspectives for studies to be developed emerge, in order to expand the

knowledge about hospitalized patients, classify them and, consequently, dimension the entire team so that the workload is in accordance with the care demand. required by patients in their specificities, seeking quality care and professional improvement.

Thus, it is concluded that the method used proved to be capable of being used due to the ease in verifying the accuracy of the evaluated responses and the reduced time for application, which averaged 5 minutes.

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