

KNOWLEDGE OF NURSING TEAM ABOUT NEUROINTENSIVISM AND INFLUENCE OF CONTINUING EDUCATION

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ABSTRACT

The practice of nursing in the Intensive Care Unit demands retrofit scientific knowledge about neurointensivism. This study aimed to characterize the knowledge of the nursing staff about the neurointensivism, as well as compare if this differs according as the professionals participate in educational activities relevant to this theme. The study is composed of a quantitative research, done in October 2008, in two Intensive Care Units for adults at hospitals of Paraná. In the research was used as instruments demographic and professional data of the interviewed, and eight questions about their knowledge on neurointensivism. Simple and Inferential Statistical Analysis was performed (Fisher Exact test or Yates corrected) with the EpiInfo 3.5.2. Female (82.9%) and the age of 40 years old (89.3%) were predominant. The nurses scored higher (average=6) than technicians and/or nursing assistant (average=3), only 15 (31.9%) professionals participated in educational activities about neurointensivism and only nursing care to manipulation of patient with intracranial pressure monitoring (Question 3) were associated with the implementation of educational practices ($p=0.0485$). As a result, it is necessary technical improvement of the nursing staff for interpretation of the parameters monitored and adoption of safe behaviors when dealing with neurocritical patient.

Keywords: Intensive Care Units. Intensive Care. Nursing Care.

INTRODUCTION

With the installation of the hospital's intensive care units (ICU), patients serious now are watched continuously and specific resources for the restoration of its bodily functions⁽¹⁾. From the rules of operation, the medical and nursing continuing has been facilitated by the use of materials and equipment for monitoring high-tech⁽²⁾.

It is known, however, that during the undergraduate nursing student does not receive sufficient basis to assist patients hospitalized in ICUs. In this sense, the nurse should seek knowledge in evidence-based practices, either through specific training, such as holding postgraduate courses, either by participation in scientific events and / or activities of the Continuing Education Program.

According to data from a survey of 26 graduates of the Specialization Program in Nursing, Style Residence in ICU, in São Paulo, despite not having been met all expectations of nurses as to the field of new technologies, the

completion of this course allowed to acquire self-confidence, practical skill and expansion of knowledge to overcome the increasingly fierce competition in a demanding job market and increasing number of nursing graduates each year⁽³⁾.

In ICUs, the shares legally granted to nurses⁽⁴⁾ require quick decisions and appropriate, supported at a high level of knowledge about the direct care of the seriously ill and / or high complexity. In addition, the nursing staff under their supervision should also be able to (re) learn classic signs and symptoms of clinical deterioration and hemodynamic changes.

Educational practices as courses, training, training, etc., Are then required, so there is enhancement of the professional and the assistance offered, mediated by the acquisition of knowledge, skills and attitude changes⁽⁵⁾. In the ICU, the place where there is high specificity of techniques, procedures, materials and equipment, become necessary knowledge and professional preparation more productive, including neurointensive assistance, represented by neurocritical care to patients such as those

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with severe brain trauma (TCE).

The ECA represents a high incidence of injury among youth and young adults, especially among men who engage in auto accidents^(6,7); so can potential cause irreversible damage to the individual himself, his family and society.

TBI is a physical injury that results in functional deterioration of the intracranial contents, usually secondary to abrupt changes of mechanical energy produced by traffic accidents, falls or assaults⁽⁸⁾, and its treatment should be optimized by the use of knowledge and resources costly⁽⁹⁾.

There are two types of TBI: 1) focal brain injury, with an area of contusion, laceration, and intracranial hemorrhage by direct local trauma, and 2) diffuse brain injury, which occurs in diffuse axonal injury and cerebral edema by movement acceleration / deceleration. As a result, there is the primary injury manifested at the time of trauma and / or developing secondary injury, disease process which features delayed clinical manifestations^(10,11).

It is noteworthy that the morphology of the ECA is represented by intracranial lesions as diffuse brain injury, epidural hematomas, subdural and intra-brain, bruises and concussions. To quantify the severity of the injury we use the Glasgow Coma Scale (GCS) stratified into three levels, namely: a score of 14 or 15 points represents a mild TBI; a score 9-13 points corresponds to a TBI moderate, and a score of 8 points or less a severe TBI⁽¹⁰⁾.

In view of the high risk of morbidity and mortality, patients with moderate to severe TBI should be assisted in an ICU⁽⁹⁾, to try to minimize the occurrence of secondary lesions. The intensive care must be facilitated by monitoring of intracranial pressure (ICP), which is a medium to be used as therapeutic guidelines, these patients⁽⁹⁾. The PIC is given by the sum of the three major brain components: 80% of neural tissue, cerebrospinal fluid of 10% and 10% of blood, and because of the elastance and compliance, the brain adapts temporarily to elevations of ICP. In this perspective, the normal value of PIC in adults is about 15 mmHg. A value between 20 and 40mmHg indicates an intracranial hypertension (ICH) moderate, a value greater than 40 mmHg represents a severe

ICH, and levels above 60 mmHg indicate absence of cerebral blood flow⁽¹¹⁾.

One must remember that the ICP monitoring, although some possible benefits, is an invasive procedure and involves risks to health and safety of those who use it⁽¹²⁾.

Besides monitoring the CIP should sustain cerebral perfusion pressure (CPP) above 70 mmHg and mean arterial pressure (MAP) above 90mmHg⁽¹³⁾, since hypotension and hypoxia increase the risk of mortality. Thus, the adequacy preload can be controlled by measuring central venous pressure (CVP) between 8 and 12 mmHg for those who are not under controlled mechanical ventilation (CMV) and between 12 and 15 mmHg in VMC⁽¹⁴⁾. To maintain adequate blood volume so as to ensure a cerebral blood flow (CBF) and PPP satisfactory and avoid hypoxia / ischemia brain, it is recommended pulse oximetry monitoring the bulb-jugular vein (SvjO₂) and the extraction rate Brain oxygen (ECO₂)⁽¹¹⁾, whose values are to be maintained, respectively, between 55 and 75% and 31.6%⁽¹⁴⁾.

As the main goal of treatment is to prevent secondary injury TBI by strict control of hypotension and hypoxia cerebral monitoring of ICP and CBF, and other guidelines recommended by guides based on specific evidence⁽¹⁰⁾, aimed to characterize the knowledge nursing team that acts in ICUs about neurointensivism and identify whether this differs between professionals participating and those not participating in educational activities relevant to this theme.

METHODOLOGY

The study is descriptive and exploratory quantitative approach, and was held in October 2008 in two ICUs for adults (A-ICU) of hospitals in Northwestern Paraná, which were designated as A and B.

We chose the hospital with ICU-A to be a public school that has permanent education service, which focuses primarily on the training of its professionals for a quality of care that complies with the requirements in force in each sector. This hospital provides assistance to high complexity, including victims of TBI, and has

the operational capacity to 123 beds, of which eight are ICU-A.

In turn, the hospital is a charity hospital B and does not maintain the service continuing education; has operational capacity of 131 beds, of which fifteen are intended for ICU-A, to meet the particular demand, the operators of health plans and users of the Unified Health System (SUS).

While no one wants to compare the two institutions, it was assumed that the composition of the sample would include professionals who have had the opportunity to participate in courses and specific training for care neurointensive.

The functional ICU nursing-A the hospital was that of 30 professionals (10 nurses and 20 nursing technicians), and hospital B was composed of 21 workers (three nurses, nursing technicians 14 and four auxiliary).

In the composition of the sample was adopted as inclusion criteria the professional acting as a member of the nursing staff (nurses, nurse or nursing assistant) in the ICU-A investigated and formally agree to participate in this study. Thus, we excluded two professionals who were on vacation or leave and two who refused to participate, a total of 47 research subjects.

Data collection was performed according to the availability of each interviewee, and it used a semi-structured instrument previously validated by a body of three judges (specialists in ICU nurses) not worked in hospitals investigated, but worked effectively in the ICU. The instrument was developed for the purposes of this research and is composed of two parts: Part I - with demographic and professional data, and Part II - eight structured questions about neurointensivism.

Data were compiled and processed into spreadsheets and statistical analysis (Fisher's exact test or Yates corrected with Odds Ratio, OR and significant when p-value less than or equal to 0.05, with a confidence interval - CI 95 %) was taken by EpiInfo 3.5.2, with the presentation of the results in tables.

This research followed ethical and legal regulations and was approved by the Ethics in Research (COPEC) University Center of Maringá (Cesumar), by Opinion nº 234/2008.

RESULTS AND DISCUSSION

Characterization of research subjects and participation in educational practices

The study population consisted of forty seven nurses working in ICUs, of which 12 (25.5%) were nurses, 31 (66%) were nursing technicians and 4 (8.5%) were nursing assistants. It should be remembered that the nursing assistant is allowed only perform simple and repetitive nature, which, because they constitute a very small portion of tasks, should not justify the presence of this professional teams in ICU⁽¹⁵⁾.

Group of nurses, 9 (75%) worked in hospital A, and 3 (25%) in hospital B. This group was made up exclusively of women, and 10 of them (83.3%) had up to 40 years of age, half of those investigated had more than five years in the ICU. Regarding knowledge related to nursing care of neurocritical patients, 6 (50%) of the 12 nurses respondents acquired it through participation in educational practices.

Called attention to the fact that only 3 (35%) of nurses working in the institution and no institution B have completed specific expertise in the area of intensive care. Although the institution the qualification and strive for continuous improvement of its professionals, the intrinsic characteristic of being a teaching hospital, there are few specialist nurses working in the ICU. On the other hand, it is recognized that the disparity in the results obtained from the two institutions demand a deeper investigation, it may be due to the differences in pay and workload between them, which influence the availability of time and opportunity to participate in programs graduate or scientific events outside of work hours.

As for nursing technicians, 16 (51.6%) of them were in hospital A, and 15 (48.4%) of hospital B, 24 (77.4%) were female, 28 (83, 9%) had up to 40 years of age and 18 (58.1%) had between one and five years in the ICU. The majority (22, or 71%) had not participated in any educational practice relevant to neurointensivism.

All nursing assistants who participated in the study were younger than 40 years old, no more than five years of experience working in ICU and in hospital B, 3 of them (75%) were women

and none of them participated in educational practice about neurointensivism.

Overall, the nurses were female (82.9%) and had up to 40 years old (89.3%), two features that correspond to the Brazilian reality as nurses working in ICUs^(16,17).

It is known that the youngest age group (40 years or younger) is generally preferred to work in ICUs, precisely because this sector favoring ample opportunity to gain experience⁽¹⁶⁾, because the environment requires good conditions to the achievement of physical nursing care to critically ill patients. In part, this explains why the majority (31 or 65.9%) had only five years in the ICU.

Study conducted at the University of Virginia in the United States, found most experience in the group of nurses, because they have greater ability in problem solving and toward the behaviors that those with less experience or recent graduates⁽³⁾, which is in the ICU becomes essential, given the severity and complexity of nursing care performed in this sector.

It is worth observing the greater participation of nurses and nursing educational activities on neurointensive assistance. Added to what, 15 (31.9%) nurses who participated in any educational practice, except 1 (6.7%) reported that the nurse was ministering to the ICU.

For their competence and their responsibilities in the organization's environment and staff and nursing care⁽⁵⁾, it is important that nurses engage in educational activities, both for purchase and for updating and dissemination of knowledge in order to contribute for the improvement of care quality.

Nevertheless, it should be remembered that all members of the nursing team must have intensified as teaching practice, continuous improvement on the technical and scientific knowledge, as stated in its Code of Ethics⁽¹⁸⁾, seeking to prevent damage and promote recovery the patient's health. For this, the nurse should add knowledge, logical reasoning and theoretical to perform their activities, but also your team should be able to ensure quality service to the patient neurocritical⁽¹⁹⁾.

Knowledge of nurses about neurointensivism

Knowledge of nursing professionals on neurointensivism should encompass: 1) normal

parameters PPC, MAP, CVP, SvjO₂, ECO₂ and PIC, 2) additional parameters that should be noted to contribute in the evaluation of the patient, 3) care nursing after handling the patient with PIC, 4) aspiration of the patient's endotracheal tube with PIC, 5) mathematical representation of parameters for calculation of the PPC, 6) factors and / or procedures that contribute to increase in ICP; 7) strategies to combat hyperthermia, and 8) criteria indicative of ABG-jugular bulb.

The average number of correct answers to questions concerning neurointensive assistance between the nursing staff was equal to three; among nurses was an average of six hits and among technicians and nursing assistants, three. In Table 1 are the frequencies and percentages of correct answers, according to the professional category.

As seen in Table 1, in all matters, a greater proportion of the nurses agreed that the technical and / or nursing assistants, which confirms that the difference between these categories is the theoretical background required for professional practice; on the other hand, the fact that no professional category, about any issue, having obtained 100% accuracy, would suggest the existence of gaps in knowledge about neurointensive assistance.

The questions most frequently hit in both categories were the number 6, 1, 5 and 4, by order of the number of hits. Question 6, which addresses factors that favor increased ICP, presented the most correct answers (78.7%, Table 1), which shows that the nursing staff active in ICUs may prevent ICH.

As an example of the foregoing statement, it has been the realization that the suction endotracheal tube is an important procedure for maintaining airway patency. An intratracheal aspiration with insufficient sedation can considerably improve the PIC, with impact on heart rate, blood pressure, cardiac output, oxygen consumption and carbon dioxide production⁽²⁰⁾.

On question 1, which covers the normal parameters of the PPC, PAM, PVC, SvjO₂, ECO₂ and PIC, we note that the majority of nurses (72.3%) have the knowledge base for the recognition of changes neurocritical patient (table 1), given that these parameters are related

to clinical deterioration, the elevation of the PIC and the possibility of early intervention to reduce brain injuries.

Table 1. Frequencies and percentages of correct responses on issues related to neurointensivism for nurses working in the ICU. Parana, 2008.

FOCUS ISSUE		Nurse (n=12)		Technical/Assistant (n=35)		Both categories (n=47)	
		N	%	N	%	N	%
1	Parameters of normality of PPC, PAM, PVC, SvjO ₂ , ECO ₂ and PIC	10	83,3	24	68,5	34	72,3
2	Additional parameters that should be noted for contributions to the evaluation of the patient	5	41,6	9	25,7	14	29,7
3	Nursing care to patient handling with PIC	8	66,6	12	34,2	20	42,5
4	Aspiration of the patient's endotracheal tube with PIC	9	75	18	51,4	27	57,4
5	Mathematical representation of parameters for calculation of the PPC	9	75	21	60	30	63,8
6	Factors and/or procedures that contribute to the elevation of the PIC	10	83,3	27	77,1	37	78,7
7	Strategies to combat hyperthermia	11	91,6	12	34,2	23	48,9
8	Oximetry/blood gas indicative criteria of jugular bulb	8	66,6	16	45,7	24	51,0

Besides knowing the normal values of PPS, as this is an estimated data, it is equally important to know how to get it (question 5, Table 1). In this regard, it follows that the majority of professional respondents (63.8%) recognized that the resulting PPS is the value of PAM subtracting the peak value⁽¹⁵⁾.

The patient with PIC requires specific care and continuous ICU and demands the full attention of the multidisciplinary team and minimal handling, with intent to avoid possible deleterious injury or aggravation of existing ones⁽¹⁹⁾. So, as of knowledge (57.4%) of respondents on question 4 (Table 1), tracheal suctioning should be strictly indicated, because the cough stimulation promotes increased intrathoracic pressure and decreased venous return and thus may increase dramatically the PIC⁽¹²⁾.

Issues with the lowest percentage of correct answers in both categories were the number 2, 3, 7 and 8. Question 2 Table 1 contemplated additional parameters to be noted for better neurological assessment and resuscitation and to maintain the patient's PPC, namely: ECG, diameter, pupillary symmetry and photoreaction;

urinary output and degree of sedation and analgesia; but got a few hits (29.7%).

It is noted that the ECG and pupil assessment tools are used in the neurological assessment that assist in quantifying and monitoring the degree of brain involvement and determining the patient's prognosis neurocritical⁽¹⁰⁾.

On urine output, it is recommended to note the reliability of this every two hours, because of states of oliguria / anuria relate to hypovolemia and polyuria indicate the first signs of irregular secretion of antidiuretic hormone^(10,14), two clinical conditions that can worsen the patient's prognosis neurocritical.

Regarding adequate sedation, it is known that decreases pain and agitation, reduces brain metabolism, decreases oxygen consumption, facilitates ventilation and allows the realization of nursing care^(10,13). It is recommended that sedation and analgesia continued, and if necessary, the administration of neuromuscular blockers^(12,13).

Regarding question 3, in which the nursing staff obtained 42.5% accuracy (Table 1), it is considered as primary nursing action to prevent HIC maintaining body alignment sternomental

and recumbency to 30° above the horizontal axis because it contributes to the maintenance of the PPC through the venous return^(12, 14).

Another nursing care refers to question 7, in which there were only 23 (48.9%) hits (Table 1). It is known that hyperthermia enhances brain metabolism, reduces blood perfusion, decreases the oxygenation and thus increases the peak⁽¹⁴⁾, so it must resort to physical measurements and to administer cooling to maintain the temperature antipyretic body (<37.5° C) and thus avoid possible secondary brain injury^(13, 15).

On the question 8, in which it asked about which indications for blood collection catheter-jugular bulb, just over half (51%) of respondents answered correctly (Table 1). This result demonstrates the lack of knowledge about neurointensivism by the nursing staff, especially nurses.

The SvjO₂ can assist in determining prognosis and the possibility of differentiating between ICH caused by cerebral hypoperfusion

secondary (SvjO₂<55%) and caused by cerebral edema (SvjO₂>75%)^(13,14). This makes it possible to evaluate the CBF and cerebral metabolism by signs of cerebral ischemia, control of ICP and adequacy of PPC⁽¹²⁾.

The results in Table 1, in general, indicate the need for greater knowledge to nursing care to the patient neurocritical even because only 15 (31.9%) respondents participated in educational practices on this subject.

Added to the previous statement, that some of the issues presented in table 1 refer to data that require the use of electronic equipment multiparameter monitoring, which are in constant innovation and, consequently, require updating or staff training, also noteworthy is the need to develop technical training programs for its operation, maintenance and repair⁽¹⁹⁾.

Table 2 below contains the association between the number of correct answers for each question and the educational practices on neurointensivism held by respondents.

Table 2. Frequency of correct and incorrect answers according to courses about PIC among nurses working in ICUs. Parana, 2008.

Issues	INCORRECT		CORRECT		STATISTICAL TREATMENT		
	N	%	N	%	OR	IC 95%	p-value
Question 1							
No course	9	28,1	23	71,9			
With course	4	26,7	11	73,3	1,08	0,23 – 5,33	1,0000
Question 2							
No course	22	68,8	10	31,2			
With course	11	73,3	4	26,7	0,80	0,16 – 3,74	1,0000
Question 3							
No course	22	68,8	10	31,2			
With course	5	33,3	10	66,7	4,40	1,01 – 20,28	0,0485*
Question 4							
No course	14	43,8	18	56,2			
With course	6	40,0	9	60,0	1,17	0,28 – 4,86	0,9410
Question 5							
No course	15	46,9	17	53,1			
With course	2	13,3	13	86,7	5,74	0,96 – 43,89	0,0568
Question 6							
No course	9	28,1	23	71,9			
With course	1	6,7	14	93,3	5,48	0,58 – 127,96	0,1353
Question 7							
No course	18	56,2	14	43,8			
With course	6	40	9	60	1,93	0,47 – 8,09	0,4679
Question 8							
No course	17	53,1	15	46,9			
With course	6	40,0	9	60,0	1,70	0,42 – 7,10	0,5988

* p-significant value ≤0,05

^a Fisher Exact Test

^b Test Yates Fixed

As can be seen in Table 2, only the question 3, which refers to nursing as manipulation of the patient with PIC, joined the realization of educational practices. In this sense, it is 4.40 times greater chance of error among those who did not participate in any educational activities, given that highlights the need for awareness and motivation of staff for continuing education⁽¹⁾.

Draws attention, in Table 2, the fact that the issues of number 7:08 having obtained a higher percentage of correct answers among those who participated in some kind of way, however, the result of question 7 mentions strategies to combat hyperthermia performed only by nurses, unlike the question 8, which refers to a specific activity in neurointensivism where blood collection catheter-jugular bulb can be performed by nurses, but examination of the blood collected should be evaluated by your doctor⁽¹⁾.

The data in Table 2 denote also the inconsistency of educational practices because, in general, there was no difference between right and wrong between those who did and those who did not do any courses, training and / or training aimed at neurointensivism.

Educational practices should include conducting initial training and training of newly hired, updating and improvement of professional practice, improving the quality of care, the identification of service needs and improve productivity⁽⁶⁾.

CONCLUSION

The nurses had, on average, twice as many correct answers (mean = 6 questions correct) in relation to other members of the nursing staff (mean = 3 questions correct) ICUs investigated,

yet it is emphasized that these professionals on any matter presented 100% correct.

The question most often with correct responses to both categories was that related to the factors and / or procedures that contribute to the increase in ICP (question 6 with 78.7% accuracy). Nevertheless, knowledge of additional parameters that should be noted for patient assessment (question 2, with 29.7% correct), nursing care in the handling of patients with PIC (question 3, with 42.5% accuracy), endotracheal tube suctioning of patients with PIC (question 4, with 57.4% accuracy) and strategies to combat hyperthermia (question 7, with 48.9% correct), which are specific nursing care for prevent the increase in ICP, are not yet sufficiently known by these professionals.

There is emphasis on the recognition of reference values of the parameters to be monitored in neurointensivism, given that these issues (1, 5:08) were more than 50% accuracy (72.3%, 63.8% and 51%, respectively).

It is essential that education about neurointensivism are promoted and encouraged by the institutions, by virtue of nursing care in the handling of patients with PIC associating these practices (p-value = 0.0485). In turn, the nursing team that acts in an ICU need to hone and articulate their technical and scientific assistance to provide better quality through continuous interpretation of the data provided by multiparametric equipment and safe conducts the management of the patient neurocritical. Implementation of these procedures will enable control and hemodynamic hemometabolic patient, ensuring best therapeutic choice for identification of possible development of secondary lesions.

CONHECIMENTO DA EQUIPE DE ENFERMAGEM SOBRE NEUROUTENSIVISMO E A INFLUÊNCIA DA EDUCAÇÃO CONTÍNUA

RESUMO

A prática de enfermagem em unidades de terapia intensiva demanda conhecimentos científicos atualizados sobre o neurointensivismo. Este estudo objetivou caracterizar o conhecimento da equipe de enfermagem sobre o neurointensivismo, bem como identificar se esse conhecimento se diferencia entre os profissionais que participam e os que não participam de atividades educativas pertinentes a esta temática. O estudo consiste de uma pesquisa quantitativa realizada em outubro de 2008, em duas unidades de terapia intensiva para adultos de hospitais paranaenses. Na pesquisa utilizou-se um instrumento com dados demográficos e profissionais dos entrevistados e oito questões pertinentes ao conhecimento acerca do neurointensivismo. Realizou-se análise estatística simples e inferencial (Teste Exato de Fisher ou Yates Corrigido) com o programa EpiInfo 3.5.2. Em sua maioria os participantes eram do sexo feminino (82,9%) e tinham idade de até 40 anos (89,3%). Os

enfermeiros apresentaram mais acertos (média=6) do que técnicos e/ou auxiliares de enfermagem (média=3). Apenas 15 (31,9%) profissionais participaram de atividades educativas sobre neurointensivismo, e somente os cuidados de enfermagem referentes à manipulação do paciente com monitoração de pressão intracraniana (Questão 3) se associaram à realização de práticas educativas ($p=0,0485$). Concluiu-se ser necessário aprimoramento técnico e científico da equipe de enfermagem, para interpretação dos parâmetros monitorados e adoção de condutas seguras no manejo do doente neurocrítico.

Palavras-chave: Unidades de Terapia Intensiva. Cuidados Intensivos. Cuidados de Enfermagem.

CONOCIMIENTO DEL EQUIPO DE ENFERMERÍA EN NEUROINTENSIVISMO Y LA INFLUENCIA DE LA EDUCACIÓN CONTINUA

RESUMEN

La práctica de enfermería en la Unidad de Terapia Intensiva demanda conocimientos científicos actualizados sobre el neurointensivismo. Este estudio caracteriza el conocimiento del equipo de enfermeros sobre el neurointensivismo, así como comparar si éste se diferencia en la medida en que los profesionales participan de actividades educativas pertinentes a esta temática. Se trata de una investigación cuantitativa, realizada en octubre de 2008, en dos Unidades de Terapia Intensiva para adultos de Hospitales Paranaenses, que se pautaó en un instrumento con datos demográficos y profesionales de los entrevistados y ocho preguntas pertinentes al conocimiento acerca del neurointensivismo. El análisis estadísticos de realizo simple e inferencial (teste Exacto de Fisher o Yates Corregido) con el programa EpiInfo 3.5.2. Predominó el sexo femenino (82,9%) y la edad menor de 40 años (89,3%). Los enfermeros tuvieron más éxitos (media=6) que los técnicos y/o auxiliares de enfermería (media=3); apenas 15 (31,9%) profesionales participaron de actividades educativas sobre neurointensivismo y solamente los cuidados de enfermería y la manipulación del paciente con monitoramiento de presión intracraniana (Pregunta 3) se unió a la realización de prácticas educativas ($p=0,0485$). Se concluye que es necesaria la preparación técnica y científica del equipo de enfermeros, para la interpretación de los parámetros monitoreados y la adopción de conductas seguras en el manejo del enfermo neurocrítico.

Palabras clave: Unidades de Terapia Intensiva. Cuidados Intensivos. Atención de Enfermería.

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