MULTIPLE TRAUMA: KNOWLEDGE OF NURSING STUDENTS ABOUT ASSISTENTIAL PRACTICES

ABSTRACT

Objective: evaluating the knowledge of nursing students about the care practices turned to polytrauma patients. Method: a descriptive, exploratory study, with a quantitative approach, conducted with 70 students of a private institution in Paraíba. Data were collected from a questionnaire, processed in Software Excel 2010 and analyzed by simple descriptive statistics. The research project was approved by the Research Ethics Committee, Protocol 524.638. Results: 65.8% have knowledge about the immediate ventilatory support; 60% and 90%, respectively, reported that obtaining adequate airway as respiratory and circulatory support is the primary procedure to the multiple trauma patient; 97.2% showed aware about the hypovolemia frame; 72.80% have knowledge about the parameters evaluated by the Glasgow Coma Scale. Conclusion: the students obtained the necessary knowledge to step into the job market and providing a safe, quick and effective assistance. Descritores: Nursing Students; Multiple Trauma; Nursing Care.

RESUMEN

Objetivo: evaluar el conocimiento de los estudiantes de enfermería acerca de las prácticas asistenciales voltadas al paciente politraumatizado. Método: estudio descriptivo, exploratorio, con abordagem quantitativa, realizado con 70 estudiantes de una institución privada de la Paraíba. Los datos fueron coletados a partir de un questionario, processados no Software Excel 2010 e analisados pela estatística descritiva simples. O projeto de pesquisa foi aprovado pelo Comitê de Ética em Pesquisa, Protocolo 524.638. Resultados: 65.8% tienen conocimiento acerca del suporte ventilatorio inmediato; 60% y 90%, respectivamente, relataron que a obtención de la vía aérea adecuada como soporte respiratorio y circulatorio es el procedimiento primario al politraumatizado; 97.2% mostraron que tem conocimiento a cerca do quadro de hipovolemia; 72,80% poseem conhecimento acerca dos parâmetros avaliados pela Escala de Coma de Glasgow. Conclusión: los estudiantes conseguiram obter conhecimento necessário para adentrarem no mercado de trabalho e prestarem uma assistência segura, ágil e eficaz. Descritores: Estudiantes de Enfermería; Traumatismo Múltiple; Cuidados de Enfermagem.
INTRODUCTION

The accident is characterized by a transfer of energy from one or more objects to the victim, in order to cause damage to him, being able to cause health problems, and responsible for injuries from different severities. Among its causalities stand out the various traumas, falls and traffic accidents, the latter being of great concern target in Brazil and worldwide, the high number of young victims that reach and the social, economic and personal impacts that cause. In Brazil, external causes are the third cause of death, and in the last two decades, traffic accidents were the main reason of death, only surpassed by homicides.1,2

Nurses throughout history had a remarkable participation in providing relief in the initial care and rescue of sick and war-wounded. In modern society, another undeclared war, the violent causes, cardiovascular, respiratory and metabolic diseases, is the leading cause of death due to urgency/emergency situations.1 At present, this action is glimpsed on the issue of initial treatment of multiple trauma in traffic accidents in urgent/emergency, making it essential for the development of future procedures so that the patient does not have a future aggravation and with less possible sequel.4

It is clear that traffic accidents are responsible for a large number of deaths; however, when the victim does not fail to death, he begins to show multiple traumas, which are considered multiple injuries of various kinds, which are determined by mechanical agents, compromising many organs and systems resulting from concomitant injuries, intentionally or accidentally, with the need for hospitalization for the restoration of the patient’s functions through various interventions.5 The state of the victim of trauma may deteriorate quickly due to the involvement of various parts of the body, and the victim can be considered partially serious, because of the risk of life.

The care for the polytrauma patient has as main objective the reduction and, if possible, the abolition of trauma sequelae, where assisting staff is responsible for the initial evaluation, which is performed on an emergency basis, to establishing the physiological balance of the victim through the identification and treatment of injuries. This assessment is called primary survey, which will precede the identification of other injuries in the secondary examination and guidelines for definitive care.6

The knowledge about multiple trauma enables nursing professionals to target situations representing imminent risk of life of the victim as well, making the necessary interventions and having an understanding of the whole complexity involving multiple trauma care. The information in health is one of the main features that the professional needs to have for the exercise of his profession, ensuring the efficient and effective care. In addition, whether or not access to information, may lead to the positive result to the patient care.4

Thus, we see the need for theoretical and practical knowledge of nursing students on the proper patient care who suffered several injuries, so to enter the labor market, have the same preparation necessary to provide safe nursing care and effective, which refers to the importance of conducting this research, as well as other empirical observations about this problem, also serving as a stimulus for the development of other studies on this topic.

During the course of Urgency and Emergency given in the 7th semester of the nursing program, as well as in first aid classes, there were exposed to theoretical/practice way, interventions necessary to the patient victim of multiple traumas. Time the researcher turned his academic vision for the main difficulties faced in training field, in which appeared the following question: What is the level of knowledge of nursing students about the care practices to multiple trauma patient?

The vehemence in developing this study emerged from the researcher’s identification with this line of research, since it actively participated in the discipline in the nursing program. The theme contextualized has important social and academic implications, since it is through perception that academics have towards the issue, which realizes the necessity thereof, in having theoretical and practical knowledge to develop practical assistance in a safe, effective and able to customers victims of multiple injuries when academics are inserted in urgent and emergency units.

These powers may encourage future professional nurses to act and engage in action planning and preventive measures that seek to prioritize the promotion of the health of users, in order to reduce the possible complications of a non-effective and safe operation in case of urgent and emergency care.

Taking into account the above statements, this research aims to:
Evaluating the knowledge of nursing students about the care practices aimed at polytrauma patient.

**METHOD**

This is a descriptive, exploratory research with a quantitative approach, conducted at the College Santa Maria (FSM), a private institution, located in Cajazeiras, county in the State of Paraiba. It is noteworthy that it was installed in that city in 2002, pioneering the training of health professionals in the high backlands of Paraiba region and today it stands as a trainer center through excellence in teaching back to society and the challenge of maintaining it suitable to the rapidly changing corporative world, which requires a workforce increasingly prepared to continuous innovation and adaptation to new environments and situations.

Currently it is considered as a center of higher education, stating the presence of 11 degree courses in health and humanities: nursing, physiotherapy, pharmacy, biomedicine, psychology, medicine, nutrition, social work, administration, civil engineering and architecture. It is the bachelor's program in nursing chosen for the research.

The population consisted of students from the eighth, ninth and tenth semester of the course bachelor's degree in nursing from the FSM, and the type of sampling characterized as unintended probabilistic sample being composed of 70 students who matched the inclusion criteria that were: take part in the research, academics who have completed the subjects of Attention to Nursing in emergency care and first aid.

The study was accomplished by applying a semi-structured questionnaire, which was formulated by the researcher, containing objective questions that aimed responsiveness of the proposed objectives, performed after reading and signing the Instrument of Consent (IC).

Contact with co-participant institution was carried out by issuing and signing the Statement of Consent, which allows the study. The research was submitted to the Zip Code of the College Santa Maria, through the Platform Brazil, approved with opinion number 524.638. After its approval, began the data collection, which was conducted during the months of March and April 2014.

The data were categorized and processed electronically through the software Excel 2010, analyzed by simple descriptive statistics, in absolute numbers and percentages, and the results presented in figures and tables and then confronted the light of the relevant literature.

The research followed the ethical observances of Resolution 466/12 of the National Health Council, which deals with research involving human beings, especially in the line of IC, which deals with data confidentiality, anonymity, and spontaneous participation, withdrawal at any stage of the research and authorization for publication of the research.

Following the above requirements, it was guaranteed to the subjects the freedom to participate or not in the study, where those who have provided signed the Informed Consent. This instrument was the information related to the research and settings of their participation, the following ethical principles of human research were also assured: confidentiality and respect of the information collected; knowledge of results and the possibility to abandon the search at any time without damage to entrant.

**RESULTS**

For a better understanding, the results will be presented and described through the formulation of Tables and Figures, and analyzed in the light of the relevant literature. Thus, we begin with the results on the data to characterize the scholars of the sample.
According to Table 1, participated in this study 70 graduate students of the nursing course, which amounted to a sample of 100%, where 52 (74.2%) were female and 18 (25.8%) male. Regarding the work during the graduation period, 41 (58.6%) do not have job, and 29 (41.4%) work concurrently with the study. On the issue of children who do not have prevailed, totaling 51 people in the sample (72.9%), followed by 19 (27.1%) who hold. With regard to the semester in which they are highlighted those who attended the 10th semester, 34 participants (48.6%), followed by the equivalence between the 8th and 9th semester, both with 18 students, totaling 25.7% equivalent.

Women in the choice for the labor market began to seek careers they approached with female characteristics. Thus, they began to leave home in search for jobs, appearing to care functions and teaching focused on the familiar universe. As is evident, the feminization has become a strong feature in the work currently representing over 70% of all the number of workers actually. In some professions, this process exceeds 90%, such as nursing which is formed almost entirely of women.7-9

Nursing is a profession still dominated by females due to have as essence, care, evidenced by Florence Nightingale, name highlighted this as a woman who devoted her life to the attention and care of the health of the other, and the professionalization of nursing, being represented as the lamp lady, the tireless missionary.7-8

Most students of private schools do not perform paid work. This result may be related to the class schedules that coincide with the working day for those of daytime. Regarding children, most of the research has not young children, correlating this with the marital status of young people and with the prioritization of vocational training and integration into the labor market, where the difficulty of reconciling the academic activities is notorious with social life.10

The predominance of academics of the 10th semester, it is evidenced by identification with the subject of the study, which at that stage of completion of the course, most shoots by engaging in various extracurricular activities, and taking into account also the participation in vast majority of these students as a form of support and assistance to those listed study data.

♦ Study-specific data

Regarding the guiding questions of the study, the questionnaire consisted of 10 questions that encompassed many issues facing healthcare practices to the polytrauma patient, where the graduates had 90,90% correct and only 9,10% error in the instrument’s liability collection, which shows that the vast majority hit 09 issues a questionnaire composed of 10 objective questions, since this proven in Figure 01.
The competence of the nursing professional is found tied to his ability in many situations where his knowledge is necessary for the resourcefulness of his acts with quality. The National Council by Resolution nº 3 of 07th November, 2001, Education determines the Curriculum Guidelines for Graduate Nursing Course, indicating the formation of the generalist nurse, capable of integrating theoretical knowledge to practical where based on his criticism and action reflective and acting in the social reality that surrounds him, can generate the health and welfare of the population.\textsuperscript{11}

The knowledge obtained by nursing professional in his undergraduate and in their day-to-day is the fundamental building block for the fulfillment of their duties and responsibilities with competence, safety and quality. Nursing degree provides academic content aimed at multiple trauma of care that are seen during nursing care disciplines in emergency care and first aid, which address the issue of assistance to victims not only of multiple trauma, but in any situation is potentially hazardous, thus offering theoretical and practical knowledge to undergraduates in acting in various emergency situations.\textsuperscript{1-4}

Nowadays the constant scientific and technological developments has led every day, several ways of knowledge, while in the labor market determines that increasingly, its workers have a professional training that enables the development of their critical and reflective potential in theoretical and practical field of their profession.\textsuperscript{4}

From this premise, the responses obtained through the multiple choice questionnaire were grouped into figures where in each, similar questions or related to the same subject were inserted categorizing them. Figures follow the order with errors and successes percentages on each question.

Figure 2 shows that 65.8% of the students have knowledge about the immediate ventilatory support, where they said they tracheal intubation should be performed in emergency level for victims of multiple trauma. The intubation is considered as a key measure to keep the airway. There are several ways to prevent airway obstruction and keep them patent through manual operation, as lifting the chin and jaw thrust, and mechanical operations such as oropharyngeal airway and endotracheal intubation, the latter

**Figure 1.** Academic distribution according to knowledge index hit relief practices to a polytraumatized. Cajazeiras, PB, Brazil, 2014. Source: Data collection, 2014.

**Figure 2.** Level of knowledge about the initial approach to the polytraumatized patient. Cajazeiras, PB, Brazil, 2014. Source: Data collection, 2014.
being the most points for polytrauma patients due the need for greater and faster support oxygen.

The tracheal intubation is an indication to maintain adequate air where there is no possibility to ensure via patent or even to keep safe an airway in cases of multiple trauma, trauma brain injury (TBI), stroke (CVA). It is also performed in cases with respiratory failure that can quickly lead to hypoxia. It advocated early on at the accident scene because such conduct is associated with higher survival and better results in many cases of trauma. Intubation, when it is performed with neuromuscular blockade and alignment of the cervical spine, remains the safest and most effective method of airway control of very serious patients.12

When questioning on primary care and procedures that are performed on a priority basis to multiple traumas, 60% and 90% respectively answered the questions, making sure to obtain the proper air as respiratory and circulatory support, it is a type of initial care should be held for these patients.

The patient’s initial evaluation follows the standard mnemonic ABCDE, which offer a call according to priority, which immediately is due to perform the opening of the airways and offer oxygen, and then immediately perform the bleeding control and replacement volume. Care of the airway and breathing are the mechanisms that are evaluated mainly due to the individual ensure adequate supply of oxygen. Victims of multiple trauma should be quickly considered as to their breathing pattern, given that hypoxia can occur if there is no adequate ventilation.13

On immediate assistance to victims of multiple trauma, in order to prevent death, 78,5% answered in order of priority measures to be adopted: clearing the priority order of the airways, preventing hypovolemic shock and identification visceral lesions.14

In relation to breath/oxygenation again it stresses the importance of patency of airways, which must quickly be observed to ensure that they are pervious and there is no possibility of clogging. For the permeability of waterways, they can be performed manually operated to its opening, as the jaw thrust of Council elevation or by mechanical means: the use of oropharyngeal cannula, or double-lumen endotracheal intubation.13

Thus, concomitantly, it highlights the importance of control of bleeding to prevent shock. Hemorrhage is a major cause of post-trauma deaths, which is usually triggered by polytraumatic shock individuals. The control of external bleeding is a priority order, where to use direct compression or cautious use of tourniquets. In cases of suspected internal bleeding, the patient’s abdomen should be exposed to be inspected and palpated.14

The service related to circulatory priority is accomplished by bleeding containment and peripheral puncture caliber for volume replacement, which will be administered heated to 39°C solutions. They are also encouraged other procedures which together ensure a desired circulatory pattern. It is noteworthy that the shock trauma victim when it is not treated properly, can result in death of the patient, considering the bleeding as the cause, until proven otherwise.12-14

When asked about the hypovolemic shock, 97,2% showed having knowledge about the hypovolemia frame, correlating it with the loss of blood volume. When asked about the initial treatment to the patient in shock, 92,9% of respondents indicated as initial academic provides the puncture of peripheral veins and replacement immediately volume, as shown in Figure 3.

**Figure 3.** Recognition of signs of hypovolemic shock. Cajazeiras, PB, Brazil, 2014. Source: Data collection, 2014.

Hemorrhage present in multiple trauma is regarded as the main trigger of shock frames, and requires the rescuer to act immediately in control and treatment of this bleeding. It is important that the nursing staff always keep in mind that the patient victim of multiple...
trauma, any bleeding should be investigated and treated in order to maintain saturation of oxygen (O2) above 90%. The hypovolemic shock may be caused by bleeding and skin loss and is considered as the most common type in trauma patients. It is necessary that the paramedic staff to perform the hemostatic resuscitation to a victim that early administration of blood products in order to restore both the infusion as clot while minimizing the use of large amounts of crystalloids and its diluting effect on coagulation.\(^\text{15}\)

The shock on nursing care requires a systematic and continued assessment to the patient. The necessary interventions during patient care in shock require a close collaboration of all members of the health team, requiring the nurse skill of an expert on the shock of care assessment and the significance of the changes that may occur. The nurse is responsible for the implementation of the requirements of the prescribed treatment, patient monitoring, prevention of complications, patient protection against accidents and comfort offer.\(^\text{12-11}\)

The ECG is a scale used in assessing the awareness of trauma victims. Its application is quick, easy to understand, and allows the correlation between the grading. Thus, it has often been used to assess the neurological status of the victims, especially in acute cases and traumas. The indicators used in this scale are: eye opening, best verbal response, and best motor response, to differentiate between items: Standard flexor withdrawal and nonspecific stimuli located.\(^\text{17}\)

In relation to knowledge about the parameters assessed by ECG, 72,80% responded that the scale evaluates the best verbal response, best motor response and eye opening. If this notes so that most know carry out the evaluation by the scale, diverging only to score the sum acquired in each parameter.

In patients with TBI, the clinical indicator most used to quantify its severity is the ECG as it offers a guide to estimate prognosis, which makes the evaluation of the patient's level of consciousness is the most practical way to assess objectivity, showing the prognosis regarding her brain injury.\(^\text{16-17}\) In everyday nursing staff their use is necessary, it allows to standardize the language and writings of this information as well, it is extremely important to establish a solid system that is able to monitor the evolution of the level of awareness of patient.\(^\text{18}\)

**FINAL REMARKS**

The polytrauma patient was seen as an individual who is at imminent risk of death, thus requiring fast and effective care. The initial attendance to this victim, when held in

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**Figure 4.** Proper use of the Glasgow Coma Scale (ECG-in Portuguese). Cajazeiras, PB, Brazil, 2014. **Source:** Data collection, 2014.
quick time and in the right way, significantly increases over the life of this patient. It is necessary that the rescuer has sufficient knowledge about the priority in patient care with multiple trauma, using the pre-hospital care the mnemonic ABCDE method and giving continuity of care with secondary evaluation of this victim.

The main difficulty observed in the study was related to the ECG score sum, where most graduate nursing students showed difficulty in solving the proposed calculations in the questionnaire. When it refers to calculations, students did not know how to perform the correct score of the scale, but when asked about the use of the scale to assess the neurological status of the patient, most students demonstrated knowledge about.

The study found that nursing students were able to obtain knowledge to step into the job market and provide a safe, fast and effective nursing care to those victims who come to suffer more from trauma; however, it is still necessary to encourage them to reviewing issues calculations, as graduate disciplines make use of them for assistance in case of disciplines that address drug administration, where it performs calculations for doses and dilutions.

This study proved extremely relevant and pertinent, since there is the need to evaluate the knowledge of students who are leaving graduation and in the future will enter the labor market, evaluating how will the assistance provided by these future professionals to multiple trauma patients, as well as provide support for teachers in primary care disciplines and emergency, observe the main difficulties of the students during the transition of the mentioned disciplines and can always correlate theory with practice.

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