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Nursing diagnoses and interventions aimed at the family of individuals who are victims of traumatic brain injury

Diagnósticos e intervenciones de enfermería dirigidas a la familia de personas víctimas de traumatismo craneoencefálico

Diagnósticos e intervenções de enfermagem direcionados à família de indivíduos vítimas de trauma cranioencefálico

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Abstract

The nursing process is a methodological instrument that organizes nursing care. In this perspective, Cranioencephalic Trauma (TBI) has serious social and economic impacts in the family context, constituting a challenge for the performance of health professionals. Thus, the aim of this research was to correlate and validate nursing diagnoses and interventions (DE / IE) aimed at the family of patients suffering from TBI in outpatient care. This is a cross-sectional study with a descriptive and analytical approach, conducted with family caregivers of victims of severe and moderate TBI, in which data collection was carried out by telephone contact. Thus, based on Roy's theoretical model, it was possible to identify that most family caregivers had difficulties in the adaptation process to the changes promoted by the trauma, highlighting the ND Impaired social condition (100%) and Impaired family process (86.7 %), revealing the importance of care with a holistic and integral look. Thus, the validation of DE / IE with a focus on the family is an important tool in nursing care.

Descriptors: Craniocerebral Trauma; Nursing Diagnosis; Nursing Care.

Resumén

El proceso de enfermería es un instrumento metodológico que organiza los cuidados de enfermería. En esta perspectiva, el Trauma Craneoencefálico (TCE) tiene graves impactos sociales y económicos en el contexto familiar, constituyendo un desafío para el desempeño de los profesionales de la salud. Así, el objetivo de esta investigación fue correlacionar y validar los diagnósticos e intervenciones de enfermería (DE / IE) dirigidos a la familia de pacientes que padecen TCE en atención ambulatoria. Se trata de un estudio transversal con abordaje descriptivo y analítico, realizado con cuidadores familiares de víctimas de TCE grave y moderado, en el que la recogida de datos se realizó mediante contacto telefónico. Así, a partir del modelo teórico de Roy, se pudo identificar que la mayoría de los cuidadores familiares tuvieron dificultades en el proceso de adaptación a los cambios propiciados por el trauma, destacando el DE Condición social deteriorada (100%) y Proceso familiar deteriorado (86,7%), revelando la importancia del cuidado con una mirada holística e integral. Así, la validación de DE / IE con enfoque familiar es una herramienta importante en el cuidado de enfermería.

Descriptores: Traumatismo Craneoencefálico; Diagnóstico de Enfermería; Cuidado de Enfermería.

Resumo

O processo de enfermagem é um instrumento metodológico que organiza o cuidado de enfermagem. Nessa perspectiva, o Traumatismo Cranioenfálico (TCE) acarreta graves impactos sociais e econômicos no contexto familiar, constituindo um desafio para atuação dos profissionais de saúde. Assim, o objetivo dessa pesquisa foi correlacionar e validar diagnósticos e intervenções de enfermagem (DE/IE) direcionados à família de pacientes vítimas de TCE em cuidado ambulatorial. Trata-se de um estudo transversal com abordagem descritiva e analítica, realizado com cuidadores familiares das vítimas de TCE grave e moderado, no qual foi feita a coleta de dados por meio de contato telefônico. Dessa forma, partindo do modelo teórico de Roy foi possível identificar que a maioria dos cuidadores familiares apresentavam dificuldades no processo de adaptação as mudanças promovidas pelo trauma, destacando-se os DE Condição social prejudicada (100%) e Processo familiar prejudicao (86,7%), revelando a importância de um cuidado com olhar holístico e integral. Dessa forma, a validaçao de DE/IE com foco na família constitui uma importante ferramenta na assistência de enfermagem.

Descritores: Traumatismos Craniocerebrais; Diagnóstico de Enfermagem; Cuidados de Enfermagem.

Introduction

Events related to external causes are a strong and emerging concern in the health area. Among these, trauma stands out, understood as an acute health condition capable of causing long-term sequelae and which can progress to chronic conditions, generating some type of disability that will require permanent care[1].

Among the external causes due to its magnitude and severity, Cranio-encephalic Trauma (TBI) stands out, considered a serious public health problem, due to the high impact on the population's morbidity and mortality, causing serious social and economic problems today[2].

Thus, the care and rehabilitation process after TBI is usually complex and is characterized in three phases: acute rehabilitation, which takes place in the hospital with the purpose of guaranteeing the patient's survival; subacute rehabilitation, still during hospitalization, which aims to reduce the damage caused by the trauma and increase physical and cognitive independence; and outpatient rehabilitation that takes place outside the hospital environment, aiming to reintegrate the individual into the community and promote quality of life[3].

In the outpatient setting, some basic assumptions are fundamental to direct the care and rehabilitation program for the person who had a TBI, such as the biopsychosocial and spiritual approach, interdisciplinarity and family participation, the latter being an important resource during the restoration victim family health[3,4].

However, traumatic situations imply significant changes in family dynamics. Thus, depending on the degree of impairment of the brain injury and the level of dependence of the loved one, the family needs to adopt new lifestyles[3]. It is in this scenario that the figure of the informal caregiver appears, usually a family member who is part of the patient's daily routine[5].

In this perspective, acting in the family context constitutes a challenge for the professionals of the multiprofessional teams, especially for the nurse, whose premise is to maintain the bond and co-responsibility for integral care in the territory assigned to their health unit. Thus, to standardize the performance of this professional in all care spaces, the Federal Nursing Council (COFEN) published resolution 358, which provides for the Systematization of Nursing Care and the Implementation of the Nursing Process in public or private environments. This resolution establishes the structuring of the Nursing Process in five interrelated phases which are: Data collection, Nursing Diagnosis, Nursing Planning, Implementation and Evaluation[6].

In this context, to support systematized nursing care, it is important to use a theoretical model and a classification system for professional practice that direct and substantiate the nurses' conduct during the provision of care. Therefore, this study uses Callista Roy's Theory of Adaptation as a theoretical framework, which presupposes the patient's recognition as an adaptive and holistic system, in which stimuli are recognized as inputs, while outputs are represented by responses, in cycle feedback, whose control processes are considered coping mechanisms[7-8].

According to Roy, the individual's adaptive responses can be efficient or inefficient, distributed in four ways: physiological-physical, self-concept, role performance and interdependence [7].

Within this context of care, the pre-coordinated concepts of Nursing Diagnoses / Results and Interventions (DE / RE and IE), of the International Classification for Nursing Practice - CIPE®, provide the execution of specific and systematic actions aimed at positive, negative or improvement patient responses[9].

Thus, the International Classification for Nursing Practice – CIPE®, as a unifying and sensitive terminology to understand the different cultures and scenarios of practice, searches in the terminological subsets to cover the grouping of diagnoses and actions directed to specific areas of care[9].

In view of the relevance of the theme for public health, as we consider the complexity of the sequelae resulting from TBI as capable of causing a strong economic, social, and family impact, the interest of this research in minimizing the damage resulting from trauma, justified, is justified that provided assistance based on scientific evidence capable of directing and systematizing the practice of caring for such people or collectivity. Furthermore, there was an absence of similar studies in progress for family members of these patients.

Therefore, the study aims to correlate and validate nursing diagnoses and interventions aimed at the family of patients with TBI in outpatient care.

Methodology

It is a descriptive and analytical research, cross-sectional and quantitative approach for validation of Nursing Diagnoses and Interventions (DE / RE) aimed at the family of individuals suffering from moderate or severe TBI.

Thirty family members who live or care for individuals due to TBI participated in the research. The eligibility criteria adopted were providing care to individuals with TBI, living in the same household and signing the Informed Consent Form (ICF), as recommended by CNS Resolution No. 466/2012, authorizing the research. The family members were captured in the stage developed in the Scientific Initiation project in 2018 when the clinical validation of DE and IE to the patients was carried out during direct in-hospital care at the Sergipe Emergency Hospital (HUSE). Exclusion criteria included family members who did not accept to participate in the study.

Data collection took place between October 2019 and February 2020, with family members of individuals suffering from TBI in home care. It was carried out by telephone contact, with the TCLE sent via electronic mail and returned via WhatsApp. The purpose of the data collection instrument was to measure the need for nursing diagnoses and interventions aimed at family support, for this purpose a five-point Likert scale was used, with the following response options: 1- Nothing relevant, 2- Truly little pertinent, 3- Somehow pertinent, 4- Very pertinent and 5- Extremely pertinent.

The data were tabulated in Microsoft Office Excel (2010). Subsequently, they were exported and submitted to

statistical analysis using the R Core Team 2020 software. The categorical variables were described by means of absolute frequency and relative percentage. The agreement between diagnoses and interventions was assessed by the Content Validity Index (CVI). The binomial test was applied to validate the CVI. In this test, we used as a null hypothesis that CVI> = 0.7, thus, rejecting the null hypothesis ($p < 0.05$) indicates that we did not obtain agreement between diagnosis and intervention. The level of significance adopted was 5%.

The research was approved by the ethics committee of the University Hospital of the Federal University of Sergipe under Opinion No. 3,550,349. Furthermore, based on the principle of beneficence (minimum risk), during the development of the study, there was no manipulation of patients or procedures, considering that the risk of this research was the breach of information confidentiality. As for the benefits: the research generated scientific evidence for the quality of nursing care provided to families, as well as the identification of the real needs of this public, allowing nurses to develop more complete care plans and with a standardized language, thus resulting in greater resolution in the care provided.

Results and Discussion

The sample consisted of 30 family members, of whom 28 (93.3%) were female and 2 (6.7%) were male. It was found that 12 (40%) belonged to the age group between 40 and 49 years old, followed by caregivers over 50 years old 7 (23.3%), 6 (20%) under 26 years old and 5 (16,7%) between 25 and 39 years old. As for the education of the participants, more than half (53.3%) had between 10 and 20 years of study and 20% with less than 5 years.

The present investigation reveals the prevalence of female family caregivers, corroborating with studies found in the literature[5-10,11]. This data is relevant when considering that female caregivers experience greater burden when compared to male caregivers, according to evidence from a study [12].

Thus, it highlights the importance of proposing DE / IE based on the needs of individuals, highlighting the scientific evidence produced in this research. Thus, NDs are understood as representations to the responses of the person, family, or human community to the health-disease process, constituting the basis for the design of intervention[6].

In this study, the psychosocial aspects stood out, 100% of the respondents agreed with the pertinence of the nursing diagnoses "Impaired social condition" and "Risk of impaired psychosocial condition" (Table 1). TBI is considered an injury that affects mainly the male audience in the age group between 18 and 30 years and studies have shown the socioeconomic impacts in the family context[13-15]. In this way, abrupt changes cause an inversion of roles, generating several developments in family relationships[3].

Thus, based on the assumption that the human being is a holistic adaptive set, sensitive to the circumstances and influences imposed by the environment, and when considering the psychosocial losses represented by the NDs mentioned above, the importance of working with nursing actions is emphasized. caregiver support[8]. In this perspective, the relevance of the IE presented in Table 2 is observed, in which the following stand out: “Providing emotional support”, “Guiding family”, “Guiding caregiver” and “Supporting caregiver”.

The diagnosis “Risk of being a victim of negligence” for which the interventions were proposed: “Maintaining dignity and privacy” and “Obtaining data on risk of violence” were considered not relevant by almost all respondents and, therefore, were not validated. Such findings can be explained by the fact that caregivers feel some fear in answering this type of questioning and are misinterpreted, since many of them have weaknesses (social, emotional support) that imply in situations that generate stress.

Table 1. Evaluation of family members regarding the representativeness of ND for the care of individuals with TBI. São Cristovão, SE, Brazil, 2020

Nursing diagnoses	N	%
Non-adherence to the therapeutic regimen		
Nothing relevant	12	40,0
Extremely pertinent	18	60,0
Impaired social condition		
Nothing relevant	0	0,0
Extremely pertinent	30	100,0
Impaired paper performance		
Nothing relevant	4	13,3
Extremely pertinent	26	86,7
Impaired family process		
Nothing relevant	4	13,3
Extremely pertinent	26	86,7
Risk of impaired psychosocial condition		
Nothing relevant	0	0,0
Extremely pertinent	30	100,0
Social isolation		
Nothing relevant	4	13,3
Extremely pertinent	26	86,7

	n	%
Risk of being the victim of negligence		
Nothing relevant	30	100,0
Extremely pertinent	0	0,0
Risk of loneliness		
Nothing relevant	3	10,0
Extremely pertinent	27	90,0

Note: n - absolute frequency. % - percentage relative frequency.

Table 2. Evaluation of family members regarding the representativeness of the IE for the care of the individual with TBI. São Cristovão, SE, Brazil, 2020

Nursing interventions	**n**	**%**
Support caregiver		
Nothing relevant	4	13,3
Very pertinent	3	10,0
Extremely pertinent	23	76,7
Support family		
Nothing relevant	10	33,3
Very pertinent	1	3,3
Extremely pertinent	19	63,3
Guide caregiver		
Nothing relevant	5	16,7
Very pertinent	1	3,3
Extremely pertinent	24	80,0
Guiding family		
Nothing relevant	5	16,7
Extremely pertinent	25	83,3
Assess adherence to the therapeutic regimen		
Nothing relevant	13	43,3
Very little pertinent	4	13,3
Somehow pertinent	1	3,3
Very pertinent	1	3,3
Extremely pertinent	11	36,7
Evaluate therapeutic regimen		
Nothing relevant	5	16,7
Very pertinent	3	10,0
Extremely pertinent	22	73,3
Assess response to treatment		
Nothing relevant	8	26,7
Extremely pertinent	22	73,3
Provide emotional support		
Nothing relevant	3	10,0
Very pertinent	1	3,3
Extremely pertinent	26	86,7
Maintain dignity and privacy		
Nothing relevant	27	90,0
Extremely pertinent	3	10,0
Obtain data on risk of violence		
Nothing relevant	30	100,0

Note: n - absolute frequency. % - percentage relative frequency.

When using Roy's Theory of Adaptation, he observed that the DE and IE chosen and validated, fit into two of its theoretical dimensions, namely: the role performance mode and the interdependence mode. The role-playing mode determines the person's social interaction patterns, in relation to others, according to the roles he assumes in society: primary, secondary or tertiary[16]. The mode of interdependence involves interaction with other people, with a focus on intimate relationships that are involved in roles or position in society[8].

In this perspective, the set of DE and IE validated in this study, were classified and categorized in Roy's adaptive modes as follows: role performance (62.5%) and interdependence mode (37.5%). As for the ten submitted IE, 70% were classified in the role performance mode and 30% in the interdependence mode.

Thus, for the adaptive role-playing mode, significant relevance was found in the following correlations between DE / IE: “Impaired social condition” associated with “Supporting the caregiver”; “Impaired role performance” correlated with the “Support caregiver”, “Orient caregiver” and “Orient family” interventions; "Impaired family process" associated with "Support caregiver" and "Support family"; "Non-adherence to the therapeutic regimen" associated with the intervention "Assess adherence to the therapeutic regimen"; and the diagnosis "Risk of impaired psychosocial condition" correlated with "Supporting caregivers" and "Guiding family". Regarding the adaptive interdependence mode, the "Social isolation" and "Risk of loneliness"

correlated with the "Promote emotional support" intervention.

The family dimension, as a structuring phenomenon for the recovery of individuals victims of TBI, is represented from the nursing diagnosis “Impaired family process”, since, after hospital discharge, they return to the family and can promote an inversion in social roles of members of that institution[17].

Thus, with the return to the family, the TBI victim starts to require specific care and needs to collaborate for the continuity of their treatment. In this perspective, the nursing interventions "Assess response to treatment" and "Assess therapeutic regimen" for monitoring the care of this individual were validated.

The impact on the family is described from the behavior shown by the TBI victim. A study reports that the victims may show an increase in aggressiveness, anxiety, dependence, depressed mood, irritability, forgetfulness, more explosive temperament, associated with self-centered, impulsive attitudes, inadequate to social standards. All these manifestations negatively affect family caregivers, predisposing them to illness and emotional stress[18]. Thus, within this perspective, the interventions “Orienting family about illness” and “Orienting caregiver” were validated to minimize negative effects caused by the new scenario.

The results relevant to the DE and IE validation process are described below in Tables 3 and 4.

Table 3. Correlation between DE and IE of CIPE ® validated for role performance mode. São Cristovão, SE, Brazil, 2020

Diagnosis	Intervention	IVC	p-value
Impaired social condition	Support caregiver	0,867	(0,963)
Impaired paper performance	Support caregiver	0,867	(0,963)
	Guide caregiver	0,833	(0,918)
	Guiding family	0,833	(0,918)
Impaired family process	Support caregiver	0,867	(0,963)
	Support family	0,733	(0,579)
Non-adherence to the therapeutic regimen	Assess adherence to the therapeutic regimen	0,833	(0,918)
Risk of impaired psychosocial condition	Support caregiver	0,867	(0,963)
	Guiding family	0,833	(0,918)

Note: IVC – Content Validity Index. IVC >0,7. Binomial Test.

Regarding the correlations between DE and IE (Tables 3 and 4), it can be inferred that these individuals manifested an ineffective adaptive response, data evidenced by the changes in Roy's adaptive modes highlighted in this study (role performance and interdependence). For Diaz and Cruz[8], through these modifications it is possible to categorize the level of adaptation of the caregiver. Thus, it is believed that the ineffective coping process increases the tension of the caregiver role and decreases their positive perception of quality of life.

In this sense, the changes that occurred during the TBI rehabilitation process affect adjustments in the performance of roles, the return home, and the way to deal with the conditions imposed by the trauma can generate positive or negative feelings[8]. In this process, coping mechanisms are classified into two major subsystems, the regulator that relates to coping with physiological aspects and the cognator subsystem corresponding to perceptions, feelings, judgment, and information processing[7].

Such evidence found in the literature praises the diagnoses "Impaired family process", "Impaired role performance", "Impaired social condition" and "Social isolation" validated in this study, as well as authenticates the interventions related to them.

Santos[17], when addressing the perception of family members of victims with TBI about hospitalization and returning home, he observed that the role of caregiver had important consequences such as fear, insecurity, stress and reduced social relationships in the family context. The author points out that, during the outpatient rehabilitation process, the family perceives the complexity of care and, consequently, exposes the reality of its limitations. This action generates emotional conflicts in the family life cycle, which implies physical and emotional stress for the caregiver.

For Off and collaborators[19], it is from these physical, emotional, and social impacts that the caregiver undergoes significant changes in well-being and quality of life. The results of the study are in line with the evidence identified in the present study, emphasizing the importance of a theoretical and terminological model that underlies nursing care. Still, the need to recognize the human being as an adaptive system is intensified, for which actions are needed to face the changes occurred in their social environment.

In this coping process, the correlation of NDs “Social isolation” and “Risk of loneliness” with the intervention “Providing emotional support” (Table 4) proved to be relevant, corroborating the findings of the study that highlighted the psychological suffering in family caregivers of

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patients with neuropsychological disorders, in which anxiety rates (55.6%), depression (20.4%) and hopelessness (31.5%)[20].

Table 4. Correlation between DE and IE of CIPE ® validated for adaptive interdependence. São Cristovão, SE, Brazil, 2020

Diagnosis	Intervention	IVC	p-value
Social isolation	Provide emotional support	0,967	(0,999)
Risk of loneliness	Provide emotional support	1,0	(1,000)

Note: IVC – Content Validity Index. IVC >0,7. Binomial Test.

In addition to this perspective, it is necessary to understand that the adaptation process is complex and encompasses several factors directly or indirectly correlated, in which the family is the basis of human formation. In this sense, the importance of social support was evidenced in a study, in which it was observed that high degrees of social integration and social support impact less burden on adult caregivers[21].

Still, a recently published study sought to understand the factor structure of the Health-Related Quality of Life (HRQoL) specific for caregivers of people living with traumatic brain injury, revealing that social participation can contribute to positive and negative results for caregivers[22].

These results demonstrate the importance of the problem addressed, since in most studies found in the literature, care is focused on the victim, while the family is touched within this process regarding their needs. It is in this context that the importance of the Systematization of Nursing Care (SAE) in family care is emphasized through the implementation of the nursing process during the nursing consultation.

In this perspective, a Brazilian study revealed that the most frequent needs assessed as “important and very important” by family members were having the questions answered honestly (99.2%) and having complete information about the patient's physical problems (98.5%). As for the main needs assessed as “not met”, the following stand out: having sufficient resources for themselves or family (93.2%), having complete information about the problems related to the patient's thinking (87.1%) and discussing feelings about the patient with someone who had the same experience (82.6%)[23]. Another survey also showed a similar result regarding the way information is worked with the family[24].

In the international scenario, a systematic review study addressed the interventions described in the literature to support caregivers of trauma patients. Studies focused on caregivers shared common principles, such as education, training, guidance, peer support and an outpatient social assistance program[25]. Another author acknowledges the increased attention to the needs of caregivers of veterans with TBI and other disabilities[26].

Thus, the present research, in line with the findings of the literature, demonstrates the importance of using clear information on the part of health professionals, corroborating with the nursing interventions to guide the caregiver, guide the family and support family proposed and validated in this investigation.

Furthermore, fully assisting the TBI victim and his family is a challenge for Nursing, especially during the recovery process, in which the family needs to adapt to the new roles that each person will play in this stage, which, depending on the severity and sequelae produced by the trauma, the process can go through life[3].

Thus, for the operationalization of the outpatient rehabilitation process, it is important to highlight the role of Primary Care (AB), which has, among its main professional attributions, the responsibility for monitoring the registered population, referring to the multiple situations of diseases and injuries, such as also practice individual, family care and directed to people, families and social groups[27].

In this sense, the singularity of care in Home Care (HC) is emphasized, focused on the comprehensive view of users and caregivers. In this way, the understanding of the determining factors and health conditions collaborates positively in the assistance of the health team. Therefore, it is emphasized that, due to the high demand found in the services, health professionals face several challenges to offer holistic care, which implies in the quality of care[28].

It is in this perspective that Nursing starts to work the family as a tool that provides and receives care, driving the development of a standardized care line and based on scientific evidence that aggregates decision making.

Final Considerations

As already mentioned in this investigation, the TBI is configured as a serious public health problem, causing several changes in the family dynamics, mainly in the figure of the family caregiver. Thus, having the family as an integral part of the care for the person with TBI, there is a need to develop systematic actions in the context of the family.

Furthermore, at the end of this study, it was possible to validate the ND: “Impaired social condition”, “Impaired role performance”, “Impaired family process”, “Impaired psychosocial condition risk”, “Non-adherence to the therapeutic regime”, “Social isolation ”And“ Risk of loneliness ”correlated respectively; in addition to the IE: "Support Caregiver", "Guide family", "Guide caregiver", "Support family", "Assess adherence to the therapeutic regime" and "Provide emotional support". Such results corroborate the relevance of the Nursing Process as a tool to direct nurses' conduct in family-oriented care and, thus,

contribute to the well-being and quality of life of those who suffer the trauma sequelae.

Finally, it is emphasized the need to develop new studies addressing the theme to raise new scientific evidence that collaborates in improving the assistance to individuals involved in the process of caring for the TCE, given its wide complexity, social and economic impacts.

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