### INDEPENDÊNCIA FUNCIONAL DA PESSOA COM LESÃO MEDULAR: DO TRAUMA À PRIMEIRA INTERNAÇÃO

INDEPENDENCIA FUNCIONAL DE LA PERSONA CON LESIÓN ESPINAL: TRAUMA E PRIMERA HOSPITALIZACIÓN

#### FUNCTIONAL INDEPENDENCE OF THE PERSON WITH SPINAL INJURY: INJURY AT THE FIRST HOSPITALIZATION

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#### RESUMO

**Objetivo:** Identificar a perceção da pessoa com lesão medular a partir do acidente acerca do trauma, do resgate e do atendimento de urgência e emergência.

**Métodos:** estudo exploratório, com abordagem qualitativa realizada com dez pessoas com lesão medular traumática entre Setembro e Novembro de 2014, residentes em Chapecó-SC. Para a coleta de dados utilizou-se entrevista semi estruturada, sendo os dados submetidos à Análise de Conteúdo Temática.

**Resultados:** Foram entrevistados oito homens e duas mulheres com idades entre 18 e 35 anos. Entre as categorias empíricas que surgiram do processo de apreensão dos dados estão: o início da incapacidade funcional: o trauma; e o resgate e atendimento de urgência e emergência (Pronto Socorro e Unidade de Terapia Intensiva).

**Conclusão:** O processo de reabilitação da pessoa com lesão medular deve ser iniciado o mais precocemente possível, onde destaca-se a importância dos cuidados pré-hospitalares. Cabe à equipe de atendimento pré-hospitalar, intensificar esses cuidados com o objetivo de auxiliar na condução da independência funcional.

Descritores: Traumatismos da medula espinal; Medida de independência funcional; Enfermagem

#### RESUMEN

**Objetivo:** Identificar la percepción de la persona con lesión medular por accidente sobre traumatismo, rescate y atención urgente y de emergencia.

**Métodos:** estudio exploratorio, con abordaje cualitativo realizado con diez personas con lesión medular traumática entre septiembre y noviembre de 2014, residentes en Chapecó-SC. Para la recolección de datos, se utilizaron entrevistas semiestructuradas y los datos se enviaron a Análisis de contenido temático.

**Resultados:** Se entrevistaron ocho hombres y dos mujeres de entre 18 y 35 años. Entre las categorías empíricas que surgieron del proceso de captura de datos están: el inicio de la discapacidad funcional: trauma; y el rescate y atención de urgencia y emergencia (Urgencias y Unidad de Cuidados Intensivos).

**Conclusión:** El proceso de rehabilitación de la persona con lesión medular debe iniciarse lo antes posible, lo que resalta la importancia de la atención prehospitalaria. Corresponde al equipo de atención prehospitalaria intensificar esta atención para ayudar a llevar a cabo la independencia funcional.

Palabras clave: Lesiones de la médula espinal; Medida de independencia funcional; Enfermería

#### ABSTRACT

**Objective:** To identify the perception of the person with spinal cord injury from the accident on trauma, rescue and urgent and emergency care.

**Methods:** it is an exploratory study, with a qualitative approach carried out with ten people with traumatic spinal cord injury between September and November 2014, residing in Chapecó-SC. For data collection, semi-structured interviews were used, and the data were submitted to Thematic Content Analysis.

**Results:** Eight men and two women aged between 18 and 35 years-old were interviewed. Among the empirical categories that emerged from the process of apprehending the data are: the beginning of functional disability: trauma; and the rescue and urgent care (Emergency Room and Intensive Care Unit).

**Conclusion:** The rehabilitation process of the person with spinal cord injury should be started as early as possible, which highlights the importance of pre-hospital care. It is up to the pre-hospital care team to intensify this care to assist in the conduct of functional independence.

Descriptors: Spinal cord injuries; Functional independence measure; Nursing.

#### INTRODUCTION

Spinal Cord Injury (SCI) is considered one of the most serious and devastating disabling events that can affect a person, with severe motor, urinary, intestinal, sexual disorders, among others, changing autonomy, quality of life, satisfaction and lifestyle life, in addition to participation in society<sup>(1)</sup>.

Acquired physical disability, arising from SCI, causes transformations not only of the physical order, but also emotional, especially due to the dependence on others, which places the individual in a complex universe of changes and alterations. Several issues permeate the moment, such as the systematic search for a cure and how to deal with the incapacity from the moment immediately after the trauma<sup>(2)</sup>.

The first care provided to people with SCI takes place in urgent and emergency care units, aimed at life support. In a second moment, care aim to measure the severity of the injury. The first care after spinal cord trauma is essential to assist in the process of complications<sup>(2)</sup>. After preventing SCI it is recommended that patients are referred to rehabilitation centers in order to enhance their autonomy and to maximize participation in society, return to working life and, consequently, improving their quality of  $life^{(3)}$ .

To ensure the efficiency of this process, the guidelines provided in hospital institutions need to be passed and worked on in a multiprofessional way, with home monitoring. After the trauma, the individual will seek ways to adapt and make use of the knowledge and guidance received, since simple activities such as walking, bathing, eating and daily elimination will have significant changes.

However, despite the importance of the first appointments after the trauma, there are few studies that report the initial impact on the perspective of the person who suffered spinal cord trauma. In this context, the aim of this study is to identify the perception of the person with SCI from the accident.

#### **METHODS**

This is an exploratory, descriptive research with a qualitative approach, extracted from the thesis entitled: Functional independence of the person with spinal cord injury: from trauma to the first hospitalization.

Ten people with traumatic spinal cord injury, living in the city of Chapecó, in the state of Santa Catarina -Brazil, participated in the study. Participants were selected through the technique known as snowball sampling (snowball). This method is a non-probabilistic sampling used in social surveys where the initial participants of a study indicate new participants who, in turn, indicate others, and so on, until the proposed objective or "saturation point" is reached. The purpose is reached when new interviewees start to repeat the content already obtained in previous interviews, without adding new relevant information to the research<sup>(4)</sup>. To participate in the study, adults with traumatic spinal cord injury with (01) one or up to (03) three years of injury were selected. People who had associated brain damage were excluded.

Data collection took place between September and November 2014, and the method used was the semistructured interview, validated with a pilot test to assess the proposed content of the interview, no need for changes was identified. The instrument used for the interview contained two parts: one with the characterization of the research participants and a second based on the concepts used by the Functional Independence Measure (FIM) scale. This instrument aims to quantify the degree of demand for care reauired while performing dailv tasks. The classification of an activity in terms of dependence or independence is based on the need to be assisted or not by another person, and whether help is needed and in what proportion<sup>(5)</sup>.

The interviews were recorded and carried out at the participants' homes and lasted an average of 90 minutes. During the home visit, the research objectives were explained and the participants signed an informed consent form to participate in the investigation. aspects Ethical were respected according to resolution 466/2012 of the National Health Council and received approval from the Ethics and Research with Human Beings Committee of the Federal University of Santa Catarina under number 768,807 of August 25, 2014. The interviews ended by applying the criteria theoretical saturation, which occurred when the data were repeated without adding new information to the studied topic.

The material, which was obtained through the interviews and observations recorded, was explored using the thematic content analysis technique proposed by Bardin. To maintain the anonymity of the participants, the interviews were coded with alphanumeric elements, being coded from P1 to P10. Content analysis respected the three phases of the organization process: pre-analysis, phase and systematization of ideas. Thus, there was a floating reading of the material, data apprehension and organization into categories with grouping of concepts, in the third phase after the interpretation of the results (categories and subcategories), obtained from the speeches of the participants with spinal cord injury, generating the impressions of the researcher, that is, data analysis by the same<sup>(6)</sup>. The date of collection (2014) was due to the article being part of the thesis presented to the Federal University of Florianópolis (UFSC) in July 2015.

#### **RESULTS AND DISCUSSION**

Eight men and two women aged between 18 and 35 years-old were interviewed. As for marital status: 5 were single, 2 married, 2 divorced and 1 with a stable union. About schooling: 3 had a college degree, 3 were high school students and 4 were workers with high school education. The etiologies of spinal cord trauma were: three car accidents, three gunshot wounds and two falls from a height. Regarding the classification of

the injury, six participants had complete spinal cord injury, classified by the ASIA (American Spinal Injury Association) as "A", one with "B" and three were unable to inform. Regarding the lesion level, three were classified as quadriplegic and seven as paraplegic.

Among the empirical categories that emerged from the data collection process and that will be discussed in this article were: the beginning of functional disability: trauma; and rescue and urgent and emergency care (Emergency Room and Intensive Care Unit).

# CATEGORY 1 - The onset of functional disability: trauma

For the interviewees, the impact of SCI occurs with the perception of inability to move, followed by impressions about the first appointments and information about future actions to avoid secondary sequelae. In this category 1, aspects of care behaviors were highlighted, and it is possible to observe the participants' concern with the first care received. The category reflects the perception of functional incapacity, as something remarkable in the spinal cord injury process.

The reports (P4 and P8) also include the lack of preparation in the initial care provided by lay people until the arrival of rescuers and reflect the reality experienced by these people in the accident and in the immediate care. "I woke up, I believe a few minutes after the fall, but I no longer felt anything in my legs and a very strong pain in my spine." (P4).

They tried to get me out of the car, and then the rescue came, the SAMU, but at first they tried to get me out, that's what I think hurt me the most, like the injury, because of that, the rescue. When the injuries were serious, they went to these hospitals, then I went there, I fainted, and woke up, I was there in the hospital. (P8).

If SAMU hadn't assisted me quickly, I don't know what would have happened... that's what helped me... otherwise it would have been much worse. When I saw them, I no longer felt parts of my body (P2)

Most respondents (eight participants) acquired Spinal Cord Injury as a result of car and firearm accidents, as observed from the reports:

It happened in 2011, it was stopped at a bus stop, and as soon as I arrived, the strong car was parked, and then there was a robbery in that strong car, a shooting started, then I took a stray bullet from the shooting. Then I was shot in the back at the time, I already fell and I no longer felt my legs. (P6).

The shot was in the workplace where I worked as a gas station attendant, around midnight, there was a situation where there was a fight, from some individuals on the other side of the street, and it ended up that one of the shots hit me in the right arm and entered the body and caught in the marrow. (P9).

I went to take off, and in the middle of that situation I fell in a way that was on my back next to a lake, so that and even more of the equipment I had, which had the air bag, and there were a lot of situations that still favored me, so I wouldn't die right away. (P1).

The SCI etiology data found in this study corroborate previous research, where approximately 80% of SCI are of traumatic origin, resulting mainly from traffic accidents, falls, assaults by firearms and sports practices<sup>(7)</sup>. They are usually caused by flexion, compression, hyperextension of the neck, flexion-rotation mechanisms of the vertebral body or penetrating injuries<sup>(8)</sup>.

The care provided to the person with SCI at the time of the accident can prevent the second damage, or the completeness of the SCI. In Brazil, this initial care is almost always provided by the Emergency Medical Service - SAMU or the Fire Department and later by the multidisciplinary team of the health institution where the cases are referred. The following reports denote this:

So I had all the preparation, by the time I fell, the staff already had the stretcher, ambulance, vest, everything was fine, so they did the entire procedure correctly, and immediately took me to the hospital. In this hospital in the interior, all kinds of tests were done, everything else to see how I was doing. (P1).

Thank God I have nothing to complain about, both in the private hospital, I was very well attended, and in the public hospital, they treated me very well, I have nothing to complain about... so, the orientation, care for a maximum of two hours, change of position and see the pressure. (P3).

The care of individuals with SCI is a challenge for health professionals, and they, in turn, must involve the family and the social support network in the care so that the person's quality of life is restored as soon as possible, extending your life expectancy<sup>(9)</sup>.

The person with SCI starts to live with the disability generated suddenly, due to the nature of the etiological event. The subjects are not always aware of the injury at the time of the accident, as observed in the interviewees' reports.

The loss of useful capacity is marked by functional changes, whether physical, psychological or sensory. Disability, whether momentary or permanent, may be influenced by the care received during the service. The initial treatment received after SCI is crucial for the treatment sequence and the independence process at home. Although at first what is sought is the maintenance of life, this service can directly interfere with the acquisition of functional independence.

In the first moment after the spinal cord trauma, the person allocates this time to self-knowledge and learns the basics of care to develop the activities that they used to perform<sup>(10)</sup>.

The care received during the hospitalization period shows the multidisciplinary work and the initial difficulties that the patient with SCI faces, whether in vesico-intestinal issues, or in skin lesions, as illustrated below:

Little by little, the nursing team, the doctor and the physiotherapist who accompanied me guided me about what had happened to me and how I could take care of my bladder and bowel...what I could eat to help my bowel function...at that moment I didn't know how important it was to learn that. (P4).

I had a lot of difficulty with bathing, because I had no balance, they put me in a plastic beach chair there, I had a lot of difficulty in the hospital, so much so that I tried my best to avoid taking a bath because it was, in addition to being painful, it was very uncomfortable, very uncomfortable (P3).

The greatest difficulties encountered by people with SCI are due to adaptation problems. Considering that basic self-care takes on a much greater dimension in their daily lives. This denotes the need for major adjustments and a dependent relationship with family members and caregivers, as shown below:

Before, I did everything myself, showered, fed, dressed, in short, I was independent. Today I can't do almost anything anymore, I depend on someone to help me even with basic tasks, but I have nothing to complain about, as my daughter and family help me a lot. (P10).

Little by little I learned to do what they taught about bowel, bladder and changes in position, it was all different, you can't even imagine how it would be, when I couldn't do it, my mother or another family member helped me, it's complicated to depend on others. (P7).

It should be noted that this new reality requires considerable restructuring in the family of the SCI patient, since much of the care, now necessary, requires the learning and commitment of everyone, both the person with SCI and those who will take care of and monitor the process of rehabilitation.

The guidelines I received at the hospital helped me a lot when I returned home, but my mother had to stay with me. Now she lives here in my house, although my sisters and brother-in-law always help me with the chores. (P5)

I received guidance about catheterization, when I left there it was again well, as I can say, well worked; it was well explained by the nurse. That I should have the catheterization done to avoid infections or giving kidney or bladder problems later. (P4).

The statements above reflect the relevance of the early start of rehabilitation after trauma, including guidelines and initial follow-up to adapt to daily activities and self-care with the training of individuals with SCI and also of family members and caregivers.

# CATEGORY 2 - Rescue and urgent and emergency care (Emergency Room and Intensive Care Unit)

The care in the urgency and emergency units and the conduct performed at the time of the SCI were described in detail by the participants, as they are part of the landmark of SCI. This moment points to the

importance of professional help, because after the rescuers are attended to, it is in hospital units that health care is continued and can directly influence the progress of treatment and prevention of the most common sequelae in this type of injury.

There at the hospital, in the emergency room where my care really started, I did several tests, had spinal fixation surgery. The length of stay helped me a lot, as I learned important things for my daily life. (P9).

During the time I was there at the hospital, everything was new, from the bath to the catheterization itself, and the catheterization was the first thing the staff gave me there, which needed to be done and would help my bladder. (P4).

I was rescued by the firefighters and went to the hospital, there the help was very calm, I was admitted to the hospital, in the emergency, I was not moved, I was not given any medication before I underwent an X-ray, but anyway, they performed the entire procedure with very careful. The specialist doctor arrived very quickly and after seeing me I was medicated. I found it positive (P8).

In a second moment, after the person becomes aware of their health status and has the perception of the SCI, it is necessary that health care is taught and guided daily, allowing the learning of all activities necessary for the acquisition of functional independence, respecting the limitations imposed by the injury.

According to the interviewees, all stated in general that they were cared for in a thoughtful and quick manner during the spinal cord trauma event.

Health practices by the various existing programs in primary care need to ensure the protection of SCI patients, with solidary and welcoming health practices, which enable the effectiveness and resolution of cases<sup>(11)</sup>.

The unexpected character of the lesion is markedly present. The awareness of the seriousness of the injury, which is now present, marks the drastic break between the life before the trauma and the one that presents itself and crystallizes in an effective and significant way. From that moment on, he will have to look for mechanisms to readapt himself to this new situation. In this study, we found the agreement of the people interviewed, especially with regard to trauma and the changes perceived from that moment on.

The person is faced with a completely unknown, serious and disabling condition for a long period of time, or for the rest of their life, which implies selfimage, recognition of the new physical condition, relationship with the world and with the people who surround her, in a varied relationship of meanings and feelings in facing the new life.

From the trauma, the person may present an amalgamation of feelings such as "aggression, insecurity, anxiety, social isolation, despair, inferiority feeling, anger and fear". Although these feelings may be present at the onset of the injury, we found in this study, mainly the feelings related to the

anxiety of the new and the unknown, the despair of how life will take its course from the injury and the negative feeling arising from the SCI.

In spinal cord trauma, there is a consensus in the literature that the process of rehabilitation and acquisition of functional independence begins at the time of the accident, as it requires learning by that person and their family in a completely different life. From that point onwards, the biggest challenge is the prevention of complications or secondary disabilities, in particular the preservation of the integrity of the skin<sup>(12)</sup>.

The first care is essential to guarantee a less traumatic recovery with significant quality. Health care encompasses all the care provided by the interdisciplinary health team to the person with spinal cord injury under their care<sup>(13)</sup>. SCI patients are at risk of developing complications that range from the initial period of trauma and may extend throughout life. These main complications can be neurogenic bladder and bowel, autonomic dysreflexia, heterotopic ossification, erectile dysfunction, among others and are related to the higher mortality rate among the population, in addition to increasing the probability of hospital readmission and the need for health care<sup>(14)</sup>.

The combination of several therapeutic strategies can be used with the aim of allowing and minor complications and offering well-being to the injured person. The patient with traumatic SCI has a compromised quality of life, in all its domains, especially considering social aspects, considering that for the most part, individuals themselves from society, leaving aside their social and labor activities<sup>(15)</sup>.

The literature corroborates the findings found in the study, especially in relation to unpreparedness in driving after the accident, which may bring difficulties in the rehabilitation process, until the person manages to acquire their functional independence and bring new possibilities in their life, faced with individuals who experience this sudden change in their life, guidance and follow-up after the accident should take place from the early post-trauma stage<sup>(16)</sup>.

According to the severity of the injury, each person will have a potential for rehabilitation, professionals must provide ways to make them as possible for activities of daily living, improving their quality of life and social participation. Patients with traumatic SCI have compromised their well-being in several aspects, such as physical and emotional and especially in social insertion, as these subjects are prone to isolation from friends, the work group, social, religious and participation in the community, due to physical limitations<sup>(15)</sup>. However, this study did not report, in the first moment after the SCI, the person's distancing from their family cycle and close friends. However, it is expected that this due to the situation of leaving due to the pathology and its long period of recovery and uncertainty occurs, however, in a second moment, the search for social integration is present.

Each person has a life story with its own characteristics that can determine how the recovery process will go. Thus, the rehabilitation program must

be specific for each patient, taking into account not only the level of the injury, but also their needs and concerns<sup>(16)</sup>.

In this sense of leading to life full of changes after SCI, it was observed that the biopsychosocial adaptation after SCI is a challenge with many faces, not only for the individual, but also for their family and health professionals, and to deal with adequate for this condition provides an improvement in the quality of life and minor complications resulting from trauma<sup>(18)</sup>. After a SCI, although the person has the challenge of rebuilding emotionally, as trauma is a traumatic and unexpected experience; it does not always give a bad meaning to the person's life<sup>(19)</sup>.

The family plays a fundamental role in the rehabilitation of patients with SCI. This requires the support of the nursing staff, which must have extensive knowledge to assist in the process of social reintegration, as well as know the local reality, facilitating and informing about access to health services<sup>(19).</sup> As mentioned by the authors, this study found that the family is essential in daily support and especially in helping to readaptation to the social context. The study pointed out the need for the educational aspect of recovery; in addition, the health team must inform and refer the patient to specialized services that enable functional rehabilitation<sup>(20)</sup>.

When health care decisions are based on nursing theories, they contribute to care practice<sup>(21)</sup>. These theories based on care, both for the subject and for the family or caregivers, endow the subjects with the ability to resume their personal projects. Communication within the care process, whether with the family, subject and support network, plays an important role in helping to conduct the rehabilitation program, which must be individualized<sup>(22)</sup>.

This study suggests that the hospital care offered to people with SCI can be improved if the actions taken when faced with spinal cord trauma follow international protocols, with specialized and standardized care. It is worth noting that this quality care must occur from the moment of trauma to hospital discharge, including the early rehabilitation process.

### CONCLUSION

The rehabilitation process for functional independence of patients with SCI should be started as early as possible. This study highlighted the importance of care at the time of first aid, usually provided by the Fire Department or by the SAMU, until being taken to a general hospital. It is up to the health team to intensify these cares and guidelines in order to assist in the conduct of functional independence after hospital discharge.

Research that understand the process of functional independence of SCI patients from the accident and the first care provided in the hospital environment are necessary, since the process of rehabilitation of people with injuries is complex and requires the involvement of family members, caregivers and professionals, especially rehabilitation nurses.

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