

## Acute pain from the perspective of minor trauma patients treated at the emergency unit

*A dor aguda na perspectiva de pacientes vítimas de trauma leve atendidos em unidade emergencial*

*Dolor agudo en la perspectiva de pacientes víctimas de trauma leve tratados en unidad de urgencia*



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### ABSTRACT

**Objective:** To study the factors that influence the perception of acute pain and the consequences of this experience in patients suffering from mild trauma.

**Method:** Descriptive qualitative study conducted in an emergency service in southern Brazil. Data was collected in October 2013, through semi-structured interviews with 29 individuals who reported pain after physical trauma, regardless of the triggering factor. To process the data, we used a Content Analysis technique, subject modality.

**Results:** Two categories emerged: Factors that influence the perception of pain resulting from trauma and, Consequences of acute pain due to trauma. The acute pain sensation was influenced by biological, emotional, spiritual and socio-cultural factors and induced biological and emotional consequences for individuals.

**Conclusion:** The health professionals need to consider the factors that influence soreness and its consequences for the proper assessment and management of pain resulting from trauma.

**Keywords:** Acute pain. Pain perception. Wounds and injuries. Emergency medical service. Nursing care.

### RESUMO

**Objetivo:** conhecer os fatores que influenciam a percepção da dor aguda e as consequências dessa experiência em pacientes vítimas de trauma leve.

**Método:** Estudo descritivo de abordagem qualitativa realizado em um serviço de pronto atendimento no Sul do Brasil. Os dados foram coletados em outubro de 2013, por meio de entrevistas semiestruturadas, com 29 indivíduos que relataram dor após trauma físico, independentemente do fator desencadeador. Para o tratamento dos dados, utilizou-se a técnica de Análise de Conteúdo, modalidade temática.

**Resultados:** Emergiram duas categorias: fatores que influenciam a percepção da dor decorrente de trauma e consequências da dor aguda decorrente de trauma. A sensação dolorosa aguda foi influenciada por fatores biológicos, emocionais, espirituais e socioculturais e acarretou consequências biológicas e emocionais nos indivíduos.

**Conclusão:** Os profissionais de saúde precisam considerar os fatores interferentes na sensação dolorosa e suas consequências para a adequada avaliação e manejo da dor decorrente do trauma.

**Palavras-chave:** Dor aguda. Percepção da dor. Ferimentos e lesões. Serviços médicos de emergência. Cuidados de enfermagem.

### RESUMEN

**Objetivo:** Conocer los factores que influyen la percepción del dolor agudo y las consecuencias de esta experiencia en pacientes que sufren trauma leve.

**Método:** Estudio cualitativo descriptivo realizado en un servicio de urgencia en el sur de Brasil. Los datos fueron recolectados en octubre de 2013, a través de entrevistas semiestructuradas con 29 individuos que informaron dolor después de un traumatismo físico. Para el tratamiento de los datos se utilizó la técnica de análisis de contenido, temática.

**Resultados:** Emergieron dos categorías: factores que influyen en la percepción del dolor resultante de trauma y consecuencias de dolor agudo debido a traumatismo. La sensación dolorosa aguda fue influenciada por factores biológicos, emocionales, espirituales y socio-culturales e inducidos consecuencias biológicas y emocionales en los individuos.

**Conclusión:** Los profesionales de salud deben conocer los factores que influyen el dolor y sus consecuencias para la evaluación y manejo del dolor resultante de trauma adecuado.

**Palabras clave:** Dolor agudo. Percepción del dolor. Heridas y traumatismos. Servicios médicos de urgencia. Atención de enfermería.

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## ■ INTRODUCTION

Trauma, resulting from external causes, has been increasing the morbidity and mortality rate indices in various parts of the world<sup>(1-2)</sup>, including in Brazil<sup>(3)</sup>. The deaths and hospitalizations due to external causes represent, currently, an important problem in public, economic and social health. Approximately 60 million people a year, worldwide, suffer from some type of trauma, and the most serious lead to one in six people being hospitalized<sup>(4)</sup>.

Among the consequences from trauma, organic and psychological alterations stand out, directly influenced by the presence and worsening of acute pain. Pain is an unpleasant sensory, as well as emotional, experience, causing significant difficulty for the patient<sup>(5-6)</sup>. Among the types of acute pain, the most evaluated in healthcare services and scientific-academic studies are post-operative and those triggered by inflammatory and infectious processes<sup>(7)</sup>. Truly, trauma pain does not have the same emphasis, despite that fact that, currently, the number of victims of external causes has been increasing<sup>(1-3)</sup>.

Studies that seek to understand the diverse interfering and conditional factors of painful sensation are fundamental, since, according to the concept of pain employed by the scientific community lately, there is not always a direct relationship between tissue damage and pain<sup>(5-6)</sup> and, as far as we know, knowledge of this area is still new. The few studies conducted so far seem to converge so that, during the patient assessment, while trying to more broadly understand the sensation that the person experiencing the pain from the trauma is feeling, their biopsychocultural range is considered<sup>(4,6-8)</sup>.

Pain – when not adequately evaluated and treated in traumatized patients – may trigger, in addition to becoming chronic, various organic and immediate emotional types of distress: hyperventilation, increased cardiac workload, decreased peripheral perfusion, tachycardia and anxiety<sup>(9)</sup>. This distress alone, justifies the importance of the healthcare professionals, in addition to handling the physiopathological changes that occur due to trauma, they adequately assess the presence and intensity of pain, the subjective aspects involved in the experience of the of the individual trauma victims, and implement appropriate treatment in a timely manner.

From this perspective, and considering that, in clinical practice and in the literature, we have observed that acute pain, although a common experience and clinically relevant in the context of emergency units, has not been adequately valued, evaluated and treated<sup>(10)</sup> and, furthermore, the fact that there is no robust body of knowledge

that shows the way that individuals experience acute pain resulting from trauma, even as a consequence of those classified as the most minor, is what this study has proposed. We believe that its results may be able to support healthcare professionals in planning actions and programs that prioritize the evaluation and control of trauma victims' pain, in the emergency units.

Given the aforementioned, the objective of this study was defined as: understand the factors that influence the perception of acute pain and the consequences of this experience in minor trauma victims.

## ■ METHOD

A descriptive, qualitative study, conducted at a public emergency unit in the South of Brazil. The subjects were 29 trauma patients that showed up at the unit, during the data collection period, and met the following criteria: 18 years old or older and reported acute pain after physical trauma, regardless of the triggering factor. Intubated patients, sedated patients and patients who were unable to answer questions as a result of trauma (eight cases), or those who refused to participate in the study (two cases) were excluded.

The data was collected from Monday to Friday, from 8 am to 5 pm, in the month of October, 2013, through semi-structured, audio recorded interviews. They were conducted in a private location, at the emergency unit itself, soon after the initial medical care and the implementation of care, which included the administration of medication, by the nursing team. The interviews were based on the following question: *How was it for you to experience acute pain resulting from trauma? Tell me about it.* The search for information occurred up until the moment that the data started to become repetitive<sup>(11)</sup> and the objective of the research was met.

For the analysis, the interviews were fully transcribed and later submitted to the Content Analysis, subject modality, respecting the pre-analysis steps; exploitation of the material, processing and inference of the data<sup>(12)</sup>.

During the pre-analysis, an initial reading was done of each interview with subsequent exploitation of the material, which consisted of the thorough and exhaustive reading of all the content, highlighting and grouping, through the use of colors, the main emerging points. Next, codification of the messages was carried out, with which we learned about the sensory centers, which were grouped, generating the thematic categories. After the categorizing was finished, we made an inference from the data obtained. In this phase, we analyzed not only the context of the language,

but also the condition of the person issuing the statement and the meanings<sup>(12)</sup>.

Thus, from an analysis of the qualitative data, the following thematic categories emerged: a) Factors that influence the perception of pain resulting from trauma; and b) Consequences of acute pain resulting from trauma.

The study respected the ethical principles contained in Resolution 466/12 from the National Health Council, and was approved by the Permanent Ethics Committee for Research Involving Human Beings of the signatory Institution (CAAE: 20517513.3.0000.0104). The participants were identified with the letter "E" for interviewed, followed by two Arabic numbers, one referring to the order in which the interview was performed and the other to the participant's age Ex: (E01, 46 years old).

## ■ RESULTS AND DISCUSSION

### Characterization of the subjects

29 individuals between the ages of 18 and 71 (average age of 44.5 years old) participated. The majority was made up of females (16); black or mixed race (20); and those who had not completed high school (19). In the majority of cases, the trauma was caused by domestic accidents and could be classified as minor or moderate, since all the people interviewed were discharged after initial treatment and the administration of the prescribed medication.

### Factors that influenced the perception of pain resulting from trauma

According to the analysis of the data, we observed that acute pain caused by trauma may be influenced by factors from various orders – biological, emotional, spiritual and sociocultural.

With regard to the biological factors, the most important were the location and seriousness of the injury, which, due to the anatomical location affected and/or greater depth and size of the wounds, may increase the perception of acute pain.

*I think it hurts because it was very serious [...] (E 11, 39 years old).*

*I think this strong pain is because the cut was large and deep, it is serious, so there is no way it wouldn't hurt (E 14, 42 years old).*

*[...] the wound hurt my mouth, it bled and hurt a lot. The mouth is a very painful place to hurt (E 02, 30 years old).*

The intensity of the pain is directly related to the location and seriousness of the trauma, and the other four interviewees also made this relation. In fact, less exposed body parts and those with a higher number of sensitive neurons, when traumatized, triggered the most intense the painful experiences<sup>(4)</sup>. And the larger and deeper the injured area, the greater the amount of released chemical substances responsible for triggering the nerve impulse transmission of the pain<sup>(4,13)</sup>. Accordingly, the adequate evaluation of acute pain must emphasize aspects related to conditions of the trauma, size and location of the injury<sup>(7)</sup>, which offers support for the professional to assist the patient in the most individualized, human and resolute manner possible.

Another factor that was related to the perception of pain in the interviewees was the presence of blood, which interferes in the emotional state and, subsequently, in the experience of the acute painful sensation. Six interviewees revealed the existence of a relationship between seeing the blood and the perceived increase of pain.

*I didn't feel a lot of pain at the time, but when I saw the blood I got goose bumps, and due to the psychological effect, I believe that it started to hurt [...] (E12, 18 years old).*

*[...] I got very nervous when I saw the blood, and then it hurt a lot (E 19, 19 years old).*

*I was fine, not in much pain, but I got scared when I saw the amount of blood, and then I got really scared and it became painful [...] (E 13, 28 years old).*

From the accounts, we can infer that, for the people interviewed, the painful process was directly influenced by the presence of blood in the area injured due to trauma. This corresponds to emotional aspects, since the participants suggested that, biologically, the pain was of low intensity, but was enhanced by a triggering factor, in these cases, fear and apprehension.

Some cognitive, affective and emotional factors have been reported as possible influences on the perception, maintenance and exacerbation of pain, which interfere with the inability to respond to treatment<sup>(13)</sup>. Recent advances in the research, related to the correlation between anxiety and pain, indicate the need for professionals to consider comprehensive models, with interrelated aspects, during the assessment and the treatment of acute pain. Stress, anxiety and apprehension, including fear from the presence of blood, as corroborated by this study, have been correlated with a negative pain sensation experience<sup>(13)</sup>.

Among the factors interfering in the experience with pain, spiritual aspects were also present, having noticed that the belief in a Higher Being positively influenced this process by representing support and consolation. This aspect can be seen in the statements made by thirteen of the people interviewed, since they demonstrated an association made between the trauma and the possibility of being closer to God, emphasizing that it eased their acute pain.

*These moments, of accidents, injuries, pain and affliction, serve to make us closer to God, and He has the power to help us (E 11, 39 years old).*

*[...] I was in a lot of pain, but the entire time I spoke with God and He decreased my pain (E09, 39 years old).*

Having faith in a Higher Being is something valued in Brazilian culture and society and has as much importance as any other coping alternative<sup>(14)</sup>. Therefore, as we noticed in previous statements, experiencing pain is more than a biological mechanism; it also represents a spiritual moment of communication with and approximate to God, which may directly influence the painful sensation.

It should be considered that religion/spirituality has shown to have a significant impact on physical health, being considered a possible factor in preventing the development of pain, illnesses and even death<sup>(15)</sup>. Thus, healthcare professionals have valued coping and the search for a biological-psychological-social-spiritual balance, since the evidence of physiological changes related to religion/spirituality are very strong<sup>(14)</sup>.

Therefore, the professional team must try to keep a receptive attitude, without judging the patient's spiritual aspects, putting the professionals in a position to treat the patient not just as a body that is suffering. This will be reflected in the consideration for the religious aspirations of the individual and his or her family, which will contribute to solidifying a new, significant space in the relationship between the patient and the healthcare professional<sup>(15)</sup>.

Lastly, sociocultural factors emerged as factors that interfere with the perception of trauma and, consequently, pain. We observed, from three older interviewees, that trauma and acute pain were encompassed by meanings associated with the condition of old age.

*[...] the problem isn't so much the pain, but I feel so bad because I know this has to do with old age (E05, 58 years old).*

*[...] the pain isn't even bothering me much, but I know my children are going to be angry with me because they al-*

*ways tell me I can't do household chores, after all, look at how old I am! (E29, 62 years old).*

We have learned that pain resulting from trauma, for the elderly, seems to have less importance than the stigma of "being old." Therefore, the pain is lessened, relegated to the background, since what actually matters at this moment is what other people will think about the elderly, thus covering the trauma and acute pain with a social-cultural context.

The feelings and expressions associated with pain and the aging experience, are ruled by cultural codes, made up by the collective society, and determine the manners in which the feelings are manifested. In our society, pain is considered an unpleasant experience, wrapped in suffering, anguish and inabilities, which, associated with aging, increases the sphere of detrimental feelings<sup>(16)</sup>.

In a study focused on understanding the feelings experienced by elderly people hospitalized after a fall, the authors showed that many were afraid of the stigma of old age and having to conform to dependence due to fragility from aging<sup>(17)</sup>. Therefore, we learned that trauma and acute pain make elderly people more vulnerable both physically and emotionally.

### Consequences of acute pain resulting from trauma

In this category, the consequences reported by the interviewees when they experienced acute pain as a result of trauma were shown and presented in different ways for the individuals. We observed results anywhere from biological changes, such as tachycardia and dyspnea (12 cases), to emotional changes, such as nervousness, confusion, fear and a sense of helplessness (20 cases).

According to the phrases below, we can see an account, from the interviewees, of tachycardia and dyspnea as a consequence of experiencing pain.

*[...] it seems like when we are in pain our hearts start beating faster [...] (E 25, 18 years old).*

*I lost my breath. I had trouble breathing because of my heart rate {automobile accident} and because of the pain here {pointed to the epigastric region} (E 18, 29 years old).*

*When I arrived, in addition to being in a lot of pain, my heart was beating fast and I had trouble breathing (E 14, 42 years old).*

The association between acute pain and changes in the vitality parameters was shown in a study that looked at the patient records from 40 people who used an emergency service in the Southeast region of Brazil. The authors stated that, among those classified as a level I priority, according to the Manchester protocol, the most frequent nursing diagnoses were: acute pain (65.0%), ineffective breathing pattern (45.0%) and impaired exchange of gases (40.0%)<sup>(18)</sup>, which could be seen in the patients, among other signs and symptoms, by the tachycardia and dyspnea.

A study of the literature review also revealed the unanimity in the scientific community regarding the primary repercussions of acute pain without immediate relief: neurodegenerative changes, such as tachycardia, arrhythmias and decreased oxygen saturation and decreased oxygen supply to tissues<sup>(7)</sup>. Therefore, among other signs and symptoms, the tachycardia and dyspnea need to be assessed in trauma victims, since they are indicative of the presence of pain. The identification of these findings ratifies the preeminence of control of acute pain in trauma patients, because, besides the pain becoming chronic, there may be immediate changes that converge to worsen the individual's health status<sup>(4)</sup>.

Not only were biological changes described in this study, as consequences of pain, but also, and more relevantly, emotional changes, which included feelings of helplessness and confusion, due to the fact that the individual does not know or is unable to deal with the sensation of pain, which was reported by seven subjects interviewed.

*It was horrible and it is an unbearable pain. Because of the pain I was sort of confused, I didn't know where to go, I was disoriented, aimless [...] (E 24, 20 years old).*

In consonance with this research, a study conducted in São Paulo showed that, from the perception of professionals working at an Intensive Care Unit, for trauma, acute pain is always present in traumatized patients. And, furthermore, mental confusion and disorientation are often observed and almost always related to changes and/or consequences caused by acute pain, identified through the patients' facial and verbal expressions<sup>(9)</sup>.

Desperation, as one of the consequences of pain, was reported by eight interviewees, as exemplified in the following statements:

*It was so bad, living through this accident; with the pain, I became desperate, I was scared and couldn't handle the situation [...] (E 22, 28 years old).*

*[...] when I got hurt I was at home, alone, the pain came on so quickly and there was no one there to help me, it was horrible and terrifying. You need help and you don't know who to call, you don't know how to fix it, the pain doesn't allow you to think, and that is what put me into a state of desperation [...] (E 17, 63 years old).*

Acute pain, by itself, is not a source of fear and anxiety, and when it is associated with a traumatic event, it seems to trigger more intense feelings of desperation in the victim, and the fact of being alone at the time of the accident also contributes to the sensation of helplessness and abandonment, as seen in the account by E17.

The traumatic process, because it is an extraordinary and abrupt experience, compromises, in addition to the physical aspect related to the injury, the patient's emotional aspect, increasing the pain itself<sup>(8)</sup>. The other six people interviewed reported the fact that nervousness, as a result of the pain, influences the painful experience.

*The pain made me very nervous and the more nervous I got, the more it hurt, so I became very stressed, because everything was piling up, the blow, the pain, the nervousness. I think that I ended up being rude to the nurse, but it was because I was so nervous [...] (E 27, 29 years old).*

The literature review study that brought together the impacts of the acute pain experience reiterated that, in assessing the pain related to trauma, the factors related to the emotional and behavioral conditions, such as anxiety, psychomotor agitation, anger, hostility, and others, which commonly arise in individuals that experience trauma, must be emphasized, as well as the physiopathological aspects involved with the injury<sup>(7)</sup>.

Thus, assisting a person in pain involves considering and respecting the cultural, affective, emotional, educational, psychological, religious and cognitive aspects. The professional position based on respecting these factors favors the emergence of a satisfactory therapeutic relationship between the patient and the healthcare professional, culminating with the provision of Resolutive and quality care<sup>(19)</sup>.

Therefore, given the fact that the nursing team is closer with the patient, it may be the target of hostility; however, it must try and build a therapeutic relationship with the subject. When caring for a patient in pain, the better the relationship between the nurse and the patient is, through appropriate dialogue, the greater the possibility is for suitable adhesion and response to pain management<sup>(8)</sup>.

In synthesis, in this category, we can see the main implications that follow the experience of the acute pain process resulting from trauma are: tachycardia and dyspnea, nervousness, confusion, desperation and a feeling of helplessness, and they demonstrate the importance of health-care professionals, especially nurses, being aware during the assessment, not only of the injury and the pain, but also the implications, which may be biological or emotional.

From this perspective, given the various perceptions and consequences of acute pain for the trauma patient, it is crucial to train the nursing team to provide quality care, since knowledge is reflected in this aspect. A lack of adequate knowledge of the subjectivity of a painful experience, not prioritizing assessment of the pain and its consequences in the emergency units and the desperation of the multidisciplinary team regarding the subject, represents obstacles that hinder pain management in patients<sup>(20)</sup>.

## ■ FINAL CONSIDERATIONS

The findings from this study allow us to see that, in accordance with the experience of the subjects interviewed, the acute pain sensation resulting from minor trauma was influenced by factors from various orders: biological (location and seriousness of the injury), emotional (presence of blood), spiritual (faith in God) and sociocultural (stigma of age). We therefore emphasize that these factors are amenable with simple interventions: such as, reassuring the patient, respecting his or her religion and age, minimizing exposure to blood, among other methods of care that, notably, decrease the harm and acute pain experience.

Healthcare professionals, especially nurses, because they are generally closest with the patient, must consider the different aspects involved in experiencing pain when assessing its presence and intensity in trauma victims, because, for example, when caring for an elderly trauma victim, the emergency service nurse must consider aspects related to age, emotional frailty and the cultural identity of this subject, since pain may be present, however masked by the fear of the social judgment of their condition as elderly.

The results also indicate that experiencing pain brings on biological (tachycardia and dyspnea) and emotional (nervousness, desperation, confusion and a feeling of helplessness) consequences. Ultimately, when providing care to trauma victims, it is necessary to consider, as information relevant to the assessment of pain resulting from trauma and its management, both the factors that influenced the sensation of pain, and the resulting consequences of this experience.

Thus, having this private information for each patient, allows the professionals to have help in developing intervention strategies that allow for detrimental emotional effects that contributed to an increase in pain to be contained, preventing potential immediate and chronic implications.

As a limitation of the study, the fact that the data collection took place Monday through Friday, and during the daytime, made it so that we could not include the perception of acute pain in patients involved in more intense and violent traumas, which occur more often during weekends, at nighttime and are associated with alcohol abuse and the use of other drugs. Therefore, opportunities have opened up for future research to be conducted, which seeks to include the perception of acute pain in these types of subjects.

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