

## Multidimensional aspects of pain in Nursing teaching in pre-hospital care of trauma victims\*

*A multidimensionalidade da dor no ensino de Enfermagem em atendimento pré-hospitalar, às vítimas de trauma*

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### SUMMARY

**BACKGROUND AND OBJECTIVES:** This study was a contribution to the teaching of pain in pre-hospital care (PHC). The objective was to understand the vision of professors and graduating nurses about pain teaching for nursing PHC to trauma victims.

**METHOD:** This was a descriptive, exploratory and qualitative research with 6 professors of the Nursing Graduation Course who teach disciplines on acute pain of trauma victims. Data were collected by an interview oriented by the question: "Which is your vision about teaching pain in nursing pre-hospital care to trauma victims?" The analysis was intermediated by the assumptions of the Pedagogic Module for pain teaching of the International Association for the Study of Pain (IASP), looking for the meaning of the phenomenon in the hermeneutic view.

**RESULTS:** Among professors, five were females aged between 31 and 40 years. Five were graduated in Nursing for more than 10 years and 5 were professors for 10 to 15 years. The following categories have emerged from the interviews: "pain teaching in the PHC physical dimension" and "pain

teaching in the PHC emotional dimension".

**CONCLUSION:** It is necessary to develop teaching proposals to teach pain in its multidimensional aspects, as recommended by the IASP.

**Keywords:** Nursing, Pain, Teaching, Traumatology.

### RESUMO

**JUSTIFICATIVA E OBJETIVOS:** Realizou-se esta pesquisa como contribuição ao ensino da dor no atendimento pré-hospitalar (APH). O objetivo foi compreender a visão dos docentes, enfermeiros da graduação em enfermagem, sobre o ensino da dor na assistência de enfermagem em APH às vítimas de trauma.

**MÉTODO:** Pesquisa descritiva, exploratória com abordagem qualitativa, com 6 docentes de Curso de Graduação em Enfermagem que lecionaram disciplinas sobre dor aguda em vítimas de trauma. Para a coleta dos dados utilizou-se a entrevista, norteadas pela questão: "Qual é a sua visão sobre o ensino da dor na assistência de Enfermagem no atendimento pré-hospitalar às vítimas de trauma?". A análise foi intermediada pelos pressupostos do Módulo Pedagógico para ensino da dor da *International Association for Study of Pain (IASP)* buscando-se o significado do fenômeno na visão hermenêutica.

**RESULTADOS:** Entre os docentes, 5 eram mulheres com idades entre 31 e 40 anos, 5 eram graduadas em Enfermagem há mais de 10 anos e 5 atuavam como docentes no período entre 10 e 15 anos. Das entrevistas emergiram as categorias: "o ensino da dor na dimensão física no APH" e "o ensino da dor na dimensão emocional no APH".

**CONCLUSÃO:** É necessária a elaboração de propostas de ensino para atenção à dor em sua multi-

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dimensionalidade, conforme preconiza para o ensino da dor a IASP.

**Descritores:** Dor, Enfermagem, Ensino, Traumatologia.

## INTRODUCTION

Pain is a sensation with physiological, emotional and behavioral body manifestation to neurological and tissue stimulations, inexorable consequence of polytrauma caused by accidents, especially traffic accidents, due to real or potential tissue injury, being trauma one of the major causes of death and disability especially affecting the young population<sup>1</sup>.

Trauma pain associates physical injury, fear and anxiety permeating the trauma process and the treatment for its management. The pre-hospital trauma life support protocol (PHTLS) with regard to analgesic therapy of patients in this condition recommends that the emergency team should evaluate and reflect about the relationship established between the risk of secondary depression caused by drugs and their advantages at the moment.

Due to this, pain control during pre-hospital care (PHC) with analgesics is questionable and controversial, with the exception of individuals with trauma in the extremities and of those without cardiac and ventilatory impairment subject to long distance trips to the emergency service<sup>2</sup>.

In addition, these same patients, when admitted to emergency services, wait for a considerable time until their pain is managed. In a study with more than 1000 users of the emergency unit of a large US teaching hospital, authors have reported that it takes approximately 55 minutes to establish pain diagnosis. In addition, it takes almost 60 minutes to prescribe and administer the analgesic. This shows the need for prompt actions to solve the problem of the long time elapsed before pain is controlled<sup>3</sup>.

Among professionals assisting trauma patients in PHC, the nurse is responsible for managing vital signs, where pain is inserted, and for controlling side-effects caused by drug analgesic therapy. As from this statement, a question arises: "How are future nurses being prepared to cope with the multidimensional aspects of pain when assisting trauma victims during pre-hospital care?"

This research is justified by the need to improve future nurses' qualification to manage the fifth vital sign during PHC, considering current problems

of assisting trauma patients with pain.

The aim was to know the vision of professors of a nursing graduation course, about pain teaching in nursing PHC assistance to trauma victims.

## METHOD

This was a descriptive and exploratory research with thematic content analysis qualitative approach. The study was carried out in a nursing graduation course of a university located in the city of Mogi das Cruzes. Inclusion criteria were all professor nurses teaching during 2011 disciplines addressing acute pain-related aspects of trauma victims, and who accepted to participate by signing the Free and Informed Consent Term.

To characterize participants' data such as gender, age, graduation time and nursing teaching time were collected. Then, a semi-structured interview recorded in audio was carried out as from the major question: "What is your vision about teaching pain in pre-hospital nursing care to trauma victims?"

Recorded interviews were transcribed and after thorough and judicious reading, answers were classified in charts being established Register Units from which stood out Understanding Cores based on the Pedagogic Module of the Brazilian Society for the Study of Pain. This material was regrouped and reclassified to generate categories. Reflexive and relational content analysis was based on the theoretical referential, looking to understand the meaning of the phenomenon about nursing graduation professors awareness, in the hermeneutic perspective<sup>4</sup>.

This study was approved by the Research Ethics Committee (Process CEP UMC 137/2010, CAAR 0131.0.237.237-2010).

## RESULTS

Participated in this study 6 professors who met the inclusion criteria. Five were females aged between 31 and 40 years. Five were graduated in nursing for more than 10 years and 5 were professors for 10 to 15 years.

Chart 1 shows selected speeches, register unit, understanding core and categories in which they were classified. The following categories have emerged from the analysis process: "pain teaching in the PHC physical dimension" and "pain teaching in the PHC emotional dimension".

Chart 1 – Analysis and categorization process.

Speeches	Register Unit	Understanding Core	Category
“... I teach that when the patient is conscious, pain should be measured using the Numerical or the Faces scale”. McGill Questionnaire should be used to qualify pain”	Evaluation of physical conditions by scales and questionnaires		
“When the patient is unconscious, I teach the use adequate scales, such as SAS (Riker’s Sedation-Agitation Scale) and RASS (Richmond’s Agitation-Sedation Scale), in addition to controlling asynchrony with mechanical ventilator”.	Physical movement care	Focus on physical dimension of care	Pain teaching in the PHC physical dimension
“encourage mobility”	Non-pharmacological interventions		
“... care with non-pharmacological interventions, such as touch and communication”.	Care with the support system	Considerations about emotional	Pain teaching in the PHC emotional dimension.
“The family has to be oriented once pain is diagnosed; we teach the non-pharmacological intervention, leaving the biomedical model and valuing nursing actions, but never forget that there will be times when drugs will be needed”.	Communication		
“... these are details our profession is looking for, talking to the patient ... it is a non-pharmacological, therapeutic and behavioral technique for pain relief”.	Strategies to minimize trauma pain		
“...I try to teach this to students ... that we cannot eradicate pain, but we can minimize it”.			

PHC = pre-hospital care.

## DISCUSSION

With regard to the category “pain teaching in the PHC physical dimension”, professors focused on the use of available measurement methods and tools to evaluate conscious and unconscious patients: “... I teach that when the patient is conscious, pain should be measured using the Numerical or the Faces scale”. McGill Questionnaire should be used to qualify pain” (Professor 1).

For conscious patients on PHC the use of evaluation scales is the most reliable resource for accurate measurement<sup>4,5</sup>.

As to severely traumatized patients with “preserved orientation level”, pain should be evaluated by recognized measurement scales, either unidimensional or multidimensional, being advisable the use of tested and reliable tools to evaluate and

measure patients pain in different situations where it may occur, including PHC.

This evaluation as the first pain management stage, according to professors’ understanding, is extended to patients with impaired orientation level, secondary to trauma and sometimes also to pain:

“When the patient is unconscious, I teach the use of adequate scales, such as SAS (Riker’s Sedation-Agitation Scale) and RASS (Richmond’s Agitation-Sedation Scale), in addition to controlling asynchrony with mechanical ventilator” (Professor 2).

Patients with communication deficits for different reasons are a population needing specific attention as to pain management. For them, non-verbal communication skills should be used.

The major challenge for nurses and professors is related to how to evaluate pain of sedated patients

and the effectiveness of administered analgesia since conditions such as delirium, hallucination, psychomotor agitation and even asynchrony with mechanical ventilator may be associated to cause pain<sup>6,7</sup>.

The change in patients' "orientation status" may pose major difficulties for the teaching of pain evaluation of patients in this situation during PHC, which requires reflection about feasible strategies for nursing care.

For sedated or intubated patients, there is the need to establish the therapeutic relationship by nursing professionals to be able to identify assistance needs interfering with pain onset and intensity<sup>4,5</sup>.

Unresponsive trauma patients' pain evaluation and management are based on physiological and behavioral changes such as psychomotor agitation, sweating, marked paleness, dyspnea and tachycardia. The use of technology to evaluate brain function seems to give reliable indications of the presence of pain in unconscious patients<sup>6</sup>.

A prospective observational study with 138 patients admitted to an adult intensive care unit, which aimed at delimiting parameters to be evaluated to measure pain of patients under mechanical or spontaneous ventilation, has shown that for sedated and/or intubated patients it is necessary to establish the therapeutic relationship by the nursing team to identify factors related to assistance needs which interfere with pain onset and intensity<sup>8</sup>.

Physical aspects of trauma patients are the elements to be primarily taught in the pain management process:

"... encourage mobility" (Professor 3).

Change of position in bed, transfer between hard board or stretcher to bed and even encouragement to move, when applicable, are nursing strategies to be prescribed by nurses for acute pain patients<sup>9</sup>. The physical dimension of care of patients with acute trauma-related pain in the pre-hospital environment is one of the themes addressed by professors with regard to nursing graduate students teaching.

In the category "Pain teaching in the PHC emotional dimension", once the need for nursing assistance to painful patients is diagnosed, it is clear the concern with attention by means of non-pharmacological interventions, considering that the trauma situation has as potential consequence anxiety, in addition to pain. Added to this, there is the possibility of drug interaction, with potential risk of

organic systems depression, as described below:

"... care with non-pharmacological interventions, such as touch and communication" (Professor 3). Pain management based on the association of pharmacological and non-pharmacological techniques decreases costs, in addition to minimizing the presence of side-effects related to drug use and invasive interventions. It is clear the importance of nurses' qualification and competence during decision-making processes to manage the fifth vital sign, even in the pre-hospital environment<sup>1</sup>.

Nurses should use, in addition to pharmacological measures, complementary measures such as physical and emotional comfort, therapeutic listening and humanized care, with empathy to treat painful patients<sup>4,9</sup>.

The qualification of nurses to manage painful patients care in the hospital environment is permeated by perceptions, valuable elements for the planning of assistance strategies. The professional should reflect about the question "what the human being whom we are assisting expects from the professionals?"

It is important to give nursing graduation students tools to identify special care needs of every painful individual, based on the recommendations of the North American Nursing Diagnosis Association (NANDA). Human response patterns are the primary drivers of care, such as: knowing patient's data, the baseline disease, pain and previous information, communicating pain and pain-related discomfort, valuing spiritual needs, relating people who are part of the family support cycle, allow the possibility of feeling pain by the patient in his injuries; perceiving the self-concept of the patient about himself, discovering the movement when experiencing pain and physiological responses during pain crises. These aspects should be addressed and worked upon to direct critical and reflective reasoning of nurses, given the proposals of their actions<sup>10</sup>.

It is expected that nursing students acquire knowledge about existing non-pharmacological measures to control pain, in addition to measures advocated by the World Health Organization<sup>11,12</sup>.

The teaching of pain as the fifth vital sign to nursing graduating students should be permeated by specific considerations about the extra-hospital trauma, which may occur in different populations such as children. Strategies to control pain and anxiety should involve the available support system: "The family has to be oriented once pain is diag-

nosed; we teach the non-pharmacological intervention, leaving the biomedical model and valuing nursing actions, but never forget that there will be times when drugs will be needed” (Professor 4).

Even in severe situations such as trauma, conventional drug treatments to handle pain in pediatrics have been effectively associated to complementary techniques. The stimulation of the imagination of pediatric patients is the primary element of non-pharmacological assistance in these cases<sup>13</sup>.

One should stress the relevance of the proposal of managing pain as the fifth vital sign in the PHC of trauma children, encompassing the consideration of biological, emotional and social needs of patients and of their support system.

Professors’ vision about teaching pain as the fifth vital sign during PHC was deeply related to the communication process which has to be established between professionals and trauma victims:

“... these are details our profession is looking for, talking to the patient ... it is a non-pharmacological, therapeutic and behavioral technique for pain relief” (Professor 5).

In assisting trauma patients assisted by a team in pre-hospital situation, the acquisition of skills to communicate with painful patients is expected<sup>1</sup>.

Non-verbal communication is relevant to implement health care when it is permeated by pain, deserving nurses’ reflection as one care basis<sup>14</sup>.

So, professors see PHC nursing care based on the holistic assistance:

“... I try to teach this to students ... that we cannot eradicate pain, but we can minimize it”. (Professor 6). It is possible to infer that speeches were related to the specificity that pain experience represents to trauma victims assisted in the pre-hospital environment, according to their specificities, be it by age group or by presented health or disease condition. The context of the PHC situation greatly influences how professors address the pain issue in disciplines related to the teaching of nursing care for trauma patients, showing compliance, although partially, with the premises of the Pedagogic Module for pain teaching, published by the International Society for the Study of Pain (IASP)<sup>15</sup>.

The evaluation of physical and emotional dimensions, to which certainly others are associated, should be discussed and taught due to its importance, without forgetting to put into practice the fifth vital sign.

This study has shown the importance of consid-

ring the multidimensional aspects of pain when teaching nursing PHC assistance to trauma victims. The vision of professors goes beyond the scope of this process with regard to giving priority to physical and emotional care in pre-established therapies, associated to remaining needs, such as social, ethical-cultural and spiritual, stressing care preceded by evaluation with the use of available technologies.

It is clear the need for nursing assistance teaching proposals focusing on the association of evaluation and treatment strategies taking into account the multidimensional aspects of pain.

## CONCLUSION

There is the need for proposals to teach pain attention in its multidimensional aspects, as advocated by IASP for pain teaching.

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