



## MEASUREMENT OF PAIN IN CLINICAL NURSING PRACTICE: INTEGRATIVE REVIEW

### MEDIÇÃO DA DOR NA PRÁTICA CLÍNICA DE ENFERMAGEM: REVISÃO INTEGRATIVA MEDICIÓN DEL DOLOR EN LA PRÁCTICA CLÍNICA DE ENFERMERÍA: REVISIÓN INTEGRADORA

Roberta Meneses Oliveira<sup>1</sup>, Lucilane Maria Sales da Silva<sup>2</sup>, Consuelo Helena Aires de Freitas<sup>3</sup>, Shérída Karanini Paz de Oliveira<sup>4</sup>, Mariana Monteiro Pereira<sup>5</sup>, Ilse Maria Tigre de Arruda Leitão<sup>6</sup>

#### ABSTRACT

**Objective:** to analyze nursing publications on pain measurement. **Method:** integrative review, guided by the research question “how is pain measurement performed in clinical nursing practice and which instruments have been used/validated for this purpose?”. Searches were conducted in the Database of Nursing (BDEnf), delimiting the time frame from 2005 to 2011. Out of 74 articles, 18 were analyzed into 2 thematic categories: *Measuring pain under specific conditions* and *Validation of pain assessment instruments*. **Results:** it is usual to measure pain in burn, cancer, pregnant, children, multiple trauma, and postoperative patients, as well as to validate instruments to assess pain, and the Survey of Pain Attitudes and the Multidimensional Pain Assessment Scale stand out. **Conclusion:** pain measurement in clinical nursing practice has become increasingly frequent, with the use of uni- and multidimensional instruments, something which provides effective analgesic interventions and patient satisfaction. **Descriptors:** Nursing; Pain; Pain Measurement; Pain Management.

#### RESUMO

**Objetivo:** analisar publicações de enfermagem sobre medição da dor. **Método:** revisão integrativa, norteadas pela questão de pesquisa “como é realizada a medição da dor na prática clínica de enfermagem e quais instrumentos têm sido utilizados/validados para esse fim?”. Realizou-se busca na Base de Dados em Enfermagem (BDEnf), delimitando-se o recorte temporal de 2005 a 2011. De 74 artigos, 18 foram analisados, em 2 categorias temáticas: *Medição da dor em condições específicas* e *Validação de instrumentos para avaliação da dor*. **Resultados:** é comum a medição da dor em pacientes queimados, oncológicos, parturientes, crianças, politraumatizados e no pós-operatório, assim como a validação de instrumentos de avaliação da dor, com destaque para o Inventário de Atitudes Frente à Dor e a Escala Multidimensional de Avaliação de Dor. **Conclusão:** a medição da dor na prática clínica de enfermagem é cada vez mais frequente, com a utilização de instrumentos uni e multidimensionais, o que proporciona intervenções analgésicas eficazes e satisfação do paciente. **Descritores:** Enfermagem; Dor; Medição da Dor; Manejo da Dor.

#### RESUMEN

**Objetivo:** analizar publicaciones de enfermería acerca de medición del dolor. **Método:** revisión integradora, orientada por la pregunta de investigación “¿cómo se lleva a cabo la medición del dolor en la práctica clínica de enfermería y qué instrumentos se han utilizado/validado para este fin?”. Las búsquedas se realizaron en la Base de Datos de Enfermería (BDEnf), con delimitación del marco de tiempo de 2005 a 2011. De 74 artículos, 18 fueron analizados en 2 categorías temáticas: *Medición del dolor en condiciones específicas* y *Validación de instrumentos para evaluación del dolor*. **Resultados:** es habitual la medición del dolor en pacientes con quemaduras, cáncer, embarazo, niños, politraumatismos y aquellos en postoperatorio, así como para la validación de instrumentos de evaluación del dolor, con destaque para la Encuesta de Actitudes del Dolor y la Escala Multidimensional de Evaluación del Dolor. **Conclusión:** la medición del dolor en la práctica clínica de enfermería se está convirtiendo cada vez más común, con el uso de instrumentos uni y multidimensionales, lo que proporciona intervenciones analgésicas eficaces y satisfacción del paciente. **Descriptores:** Enfermería; Dolor; Medición del Dolor; Manejo del Dolor.

<sup>1</sup>Nurse. MS in Clinical Health Care. PhD student at the Graduate Program Clinical Nursing and Health Care of the State University of Ceará (PPCCLIS/UECE). Fortaleza (CE), Brazil. Email: [menesesroberta@yahoo.com.br](mailto:menesesroberta@yahoo.com.br); <sup>2</sup>Nurse. Post-PhD in Nursing. Professor at the Department of Nursing of UECE. Coordinator of PPCCLIS/UECE. Fortaleza (CE), Brazil. Email: [lucilanemaria@yahoo.com.br](mailto:lucilanemaria@yahoo.com.br); <sup>3</sup>Nurse. PhD in Nursing. Professor at the Department of Nursing of UECE and at PPCCLIS/UECE. Fortaleza (CE), Brazil. Email: [consueloaires@yahoo.com.br](mailto:consueloaires@yahoo.com.br); <sup>4</sup>Nurse. MS in Nursing. PhD student at the Graduate Nursing Program of the Federal University of Ceará (PPGenf/UFC). Fortaleza (CE), Brazil. Email: [karanini@yahoo.com.br](mailto:karanini@yahoo.com.br); <sup>5</sup>Undergraduate Nursing student at UECE. Scholarship holder from the Volunteer Program of Scientific Initiation (PROVIC). Fortaleza (CE), Brazil. Email: [marimonteiro15@hotmail.com](mailto:marimonteiro15@hotmail.com); <sup>6</sup>Nurse. MS in Public Health. Professor at the Department of Nursing of UECE. Fortaleza (CE), Brazil. Email: [ilsetigre@hotmail.com](mailto:ilsetigre@hotmail.com).

## INTRODUCTION

Pain measurement, assessment, and control in health services are growing concerns in recent years, as well as the scientific literature on this theme. Registered in the descriptors in health sciences (DeCS), the term *pain measurement* is considered the most appropriate, in scientific language, to address scales, questionnaires, tests, and other methods used to assess the severity and duration of pain in patients or experimental animals, aiming to help in the diagnosis, therapy, and physiological studies. At the same time, it is considered synonymous with pain assessment.

In clinical practice, for suitable pain measurement, some approach is needed, some guidance to drive the professional regarding her/his diagnosis and decisions about therapy. Something that clarify its origin, when possible, or at least its outlines.<sup>1</sup> To do this, there are instruments available to measure the sensation of pain, but failures in health professionals training in relation to analgesia and neglect of pain are some causes restricting the use of these instruments and making the approach to pain insufficient in various health care scenarios. On the other hand, a proper and effective management of pain must include, in addition to measurement, a correct approach by professionals of an interdisciplinary team, so that the therapy applied provides satisfactory relief.<sup>2</sup>

Nursing stands out as a pioneering professional field concerning the studies on pain measurement and management, considering its closer contact to patients, providing them with better care and greater comfort.<sup>3</sup> It is believed that investigating what has been studied and developed about pain measurement in nursing care practice can contribute to the dissemination of knowledge in this area and in Health Sciences as a whole, raising interventions that prove effective in clinical care to the patient dealing with pain. Thus, this study aims to analyze nursing publications on pain measurement.

## METHOD

This is an integrative literature review, which aims to combine data from theoretical and empirical literature, besides incorporating a wide range of purposes, such as definition of concepts, review of theories and evidence, among others.<sup>4</sup>

This type of study has the potential to construct nursing knowledge, because it produces reasoned and uniform information

for a good clinical practice and reduces barriers to the use of scientific knowledge, making information more accessible, since, in a single paper, there is a combination of many researches, allowing quick dissemination of knowledge.<sup>5</sup> Moreover, the impact of using integrative review derives not only from the increased number of policies, protocols, and procedures, but also from the critical thinking that daily practice requires.

In this case, the 6 phases of the preparation process were carefully observed:

### 1<sup>st</sup> Phase: Preparation of the guiding question

We prepared a clear and specific guiding question, related to the theoretical reasoning already apprehended by the researchers: *"How has pain been measured in clinical nursing practice and which instruments have been used/validated for this purpose?"*.

### 2<sup>nd</sup> Phase: Search or sampling in the literature

A search for articles was conducted in the Database of Nursing (BDEnf), by accessing the Virtual Health Library (VHL), specifically, in order to ensure sample representativeness, constituting significant indicators of the reliability and trustworthiness of results. This is a thematic database included in the Latin American and Caribbean Literature on Health Sciences Information (LILACS). Coordinated by the Brazilian Sub-Network of Nursing Information (SUREnf), BDe nf was created in 1986, aiming to collect and compute the national literature in nursing and put into effect the bibliographic control of the national scientific literature in the area. Moreover, it also aims to cooperate with the database LILACS.

The inclusion criteria set were: original articles, published in nursing journals, within the time frame from 2005 to 2011, written in Portuguese, written by Brazilian nurses, and full texts available. We excluded studies whose methodology consisted of an integrative review, since it would be redundant to analyze them here; and those that, despite addressing pain measurement, did not correspond to the guiding question.

### 3<sup>rd</sup> Phase: Definition of information extracted from selected studies

This phase requires an organized approach to examine the accuracy and the characteristics of each study.<sup>4</sup> Thus, to apprehend data from selected articles, we used an instrument previously prepared by the researchers, ensuring that all relevant data were extracted, minimizing the risk of transcription errors, ensuring accuracy to

check information, and providing register.<sup>5</sup> This instrument consisted of the following data: type of study and methodology, subjects analyzed, journal, and pain assessment method adopted.

The search in BDEnf was conducted in August 2012, using this descriptor alone: *pain measurement*. By crossing the descriptors “nursing” and “pain measurement”, we found articles outside the proposed time frame and, also, articles that had already been selected in the search with the descriptor “pain measurement” alone.

4<sup>th</sup> Phase: Evaluation of included studies

This step is equivalent to data analysis in a field survey, in which there is the use of appropriate instruments. It is an important phase, because the conclusion may lead to changes in recommendations for practice.<sup>5</sup> To ensure the achievement of objectives, the included studies were analyzed in detail, in a critical and systematic way, seeking to evaluate the studies impartially, in order to find explanations to the results found by means of an instrument previously developed by the researchers.

5<sup>th</sup> Phase: Discussion of results

This step corresponds to the phase of discussing key results in the conventional survey. The reviewer, based on the findings of critical evaluation of included studies, makes a comparison with the theoretical knowledge and identifies resulting conclusions and implications of the integrative review.<sup>5</sup> At this

phase, the results found were debated and discussed considering the literature on pain and its measurement.

6<sup>th</sup> Phase: Presentation of the integrative review

In a clear and complete way, it allows the reader to assess the results critically. It contains, hence, relevant and detailed information. Data, therefore, followed this order of analysis: reduction, exposition, and comparison, facilitating the completion and verification of data.<sup>4</sup>

RESULTS

We found 74 articles. Then, the abstracts were read in order to organize the material and gather only those that corresponded to the guiding question and met the inclusion criteria proposed, considering the pain measurement methods studied by Brazilian nurses. This preliminary analysis has led to the following exclusions: 24 articles that were outside the proposed time frame; 14 articles that were not available in full text; 5 articles that were repeated in the database; 2 articles that did not correspond to the research question; 4 articles in English; 1 editorial; 1 thesis; and 5 review articles.

In the end, we included in the study 18 articles, which were fully analyzed through countless readings, with the key point of providing a response to the study objective. Figure 1 presents a synthesis of included publications.

Thematic category	Author(s), year of publication	Type of study	Journal	Pain assessment method used
1. MEASURING PAIN UNDER SPECIFIC CONDITIONS	Silva, Silva, Martinez, Gradim, 2011.	Exploratory-descriptive	Rev Enferm UERJ	McGill Questionnaire (MGQ)
	Waterkemper, Reibnitz, 2010.	Experience report	Rev Bras Enferm	-
	Hortense, Souza, 2009.	Experimental	Rev Latino-Am Enferm	Magnitude and category estimation method
	Freitas, Barbosa, Alves, Marziale Robazzi, 2009.	Exploratory-descriptive	Rev Enferm UERJ	Multidimensional questionnaire
	Mamede, Almeida Souza, Mamede, 2007.	Analytical - quasi-experimental	Rev Latino-Am Enferm	Verbal numeric scale (VNS)
	Bueno, Kimura, Pimenta, 2007.	Cross-sectional retrospective	Acta Paul Enferm	Neonatal Infant Pain Scale (NIPS)
	Damasceno, Almeida, Barroso, 2007.	Descriptive epidemiologica l	Online Braz J Nurs	Visual analogue scale (VAS)
	Pereira, Sousa, 2007.	Experimental	Rev Latino-Am Enferm	Category estimation method/pain descriptors
	Xavier, Torres, Rocha, 2006.	Case study	Rev Latino-Am Enferm	VNS and MGQ
	Rossato, Magaldi, 2006.	Exploratory-		Pain quality cards

2. VALIDATION OF PAIN ASSESSMENT INSTRUMENTS	Calil, Pimenta, 2005.	descriptive	Rev Latino-Am Enferm	VNS
	Hortense, Evangelista, Sousa, 2005.	Prospective and descriptive	Rev Esc Enferm USP	VNS
	Peón, Diccini, 2005.	Experimental	Rev Latino-Am Enferm	Category estimation method/pain descriptors
	Calil, Pimenta, 2005.	Prospective and descriptive	Rev Latino-Am Enferm	VNS and MGQ
		Exploratory-descriptive	Rev Latino-Am Enferm	
	Souza, Pereira, Cardoso, Hortense, 2010	Experimental - translation and validation	Rev Latino-Am Enferm	
	Hortense, Zambrano, Souza, 2008	Experimental - validation	Rev Latino-Am Enferm	Magnitude and category estimation method and intermodal matching
	Pimenta, Cruz, 2006	Experimental - validation		Magnitude estimation method and intermodal matching
	Echevarría-Guanilo, Rossi, Dantas, Santos, 2006	Experimental - translation and adaptation	Rev Esc Enferm USP	Survey of Pain Attitudes (SOPA)
			Rev Latino-Am Enferm	VAS; Burns Specific Pain Anxiety Scale (BSPAS)

Figure 1. Synthesis of publications included in the integrative review.

Through the thematic categories, it was possible to identify subcategories by detailing

the themes studied on measuring pain under specific conditions, as shown by Figure 2.

Categories and subcategories	Description of selected contents	Number of articles
1. Measuring pain under specific conditions 1.1. Measuring postoperative pain 1.2. Measuring pain in burned patients 1.3. Measuring pain in pediatrics and neonatology 1.4. Measuring pain in trauma 1.5. Measuring occupational musculoskeletal pain 1.6. Measuring pain in cancer 1.7. Measuring pain in childbirth	Gathers studies on pain measurement under various conditions of care.	14
2. Validation of pain assessment instruments	Gathers studies on tests, validations, or translations of instruments for measuring/assessing pain.	4

Figure 2. Distribution of articles on pain measurement in clinical nursing practice.

DISCUSSION

Figure 1 illustrates the publication of articles in nursing journals indexed in international databases. This indicates the relevance of the thematic field related to *pain* and the search for increasing knowledge on it in nursing care.<sup>2</sup>

Regarding study type and design, there was a wide distribution among the existing methods, and prospective descriptive and experimental studies stand out. Moreover, all of them adopted a quantitative approach.

Exploratory researches developed on pain measurement are relevant, as they seek clarifying a theme, i.e. these surveys situate

researchers in time and space inherent to innovative experiences. Descriptive studies aim to determine the distribution of diseases or health-related conditions and provide responses to questions concerning *when*, *where* and *who*.<sup>6</sup> Accordingly, they are important to determine the characteristics and modes for measuring pain used in practice.

In addition to studies that seek to describe how pain is measured, there was a greater push by researchers to develop experimental studies, considering that, by means of them, we may prove the efficacy of measurements of this parameter. It is worth highlighting that, since the deployment of systematic and



validated conducts to provide care for the patient dealing with pain, the actions can be better driven and, thus, enable a more comprehensive management of this symptom.<sup>7</sup>

By analyzing pain measurement methods addressed in the studies, we observed a preponderant use of unidimensional instruments, which assess only one dimension of the painful experience (intensity). Examples include the verbal numeric scale (VNS) and the visual analogue scale (VAS), modalities most frequently used and recognized by nurses in practice, due to ease of application by professionals and understanding by patients.<sup>2</sup>

Other 4 articles highlighted the psychophysical method for category estimation, seeking to characterize pain with the use of descriptors<sup>8-11</sup>; and other 2 used the currently most recognized multidimensional instrument for pain: the McGill Questionnaire.<sup>12,13</sup>

Below, the 18 articles are discussed into thematic categories and subcategories, as shown in Figure 2.

### Category 1. Measuring pain under specific conditions

Pain must be assessed by considering variables and specifics of each individual or group of patients showing the same clinical conditions. Moreover, the clinical condition and the cause of pain, such as trauma and burns, require careful evaluation to ensure that the interventions needed for each case are properly deployed.

The specific conditions of care are detailed in the subcategories below.

#### 1.1 Measuring postoperative pain

Studies on pain assessment in the postoperative period have stood out among the other conditions of care mentioned in the articles.<sup>9,10,13,14</sup>

As the postoperative constitutes a critical period when assessing vital signs must be systematically and accurately performed and registered, pain, regarded as the 5<sup>th</sup> vital sign, must also be included in patient evaluation, and it is by means of behavioral and physiological assessment, as well as the use of measuring instruments, that this can take place. Thus, nurses are sensitized to better observe the painful states of patients under their care, something which includes recording non-verbal expressions (postural and facial changes, limb movements, autonomic activities) and vocal expressions (crying, moaning, screaming, sighing, calling, exclamations, etc.).<sup>14</sup>

Publications have focused on verbal description of pain and the description of its qualities, something which means considering this experience within its multidimensionality. To do this, researches seeking to characterize postoperative pain are improved, to identify a language that drives the professional to understand what is being communicated and control the pain reported by the patient her/himself.

Such pain control is extremely important in the postoperative period, because unfavorable physical and psychological assessments have already been observed and reported, including changes in blood pressure - high blood pressure, heart rate - tachycardia, sweating, hyperglycaemia, anxiety, depression, apathy, among others. These signs, when not recognized by professionals, make them to name this patient as multi-complainant, when, in fact, these changes are intrinsically related to an acute painful experience, reflecting physiologically and psychologically on the recovery of these individuals.<sup>13</sup>

The psychophysical method has been the method of choice to determine pain descriptors by category estimation. A study showed that, in nursing, this method has been used for the purpose of determining an index of responses or subjective concepts among nurses and patients, whether hospitalized or not. Along with the method, uni- and multidimensional pain scales are used, such as VNS and MGQ.<sup>14</sup>

By applying the psychophysical method in patients undergoing posterolateral thoracotomy, some authors obtained a qualitative description of pain using the descriptors: throbbing, stabbing, shocking, thin, pulling, tiring, sickening, punishing, miserable, and boring. These descriptors were found in other studies with patients who have suffered orthopedic and surgical lesions. Those who suffer major injuries, such as fractures and cuts, among others, cited more frequently pain descriptors related to the sensory aspect affected, including: throbbing, sharp, pulsating, stabbing, punching, burning-like pain, warming, stinging, among others.<sup>13</sup>

In the studies analyzed, it was found that the descriptors mentioned belong, predominantly, to the sensory component, which is related to systems for rapid conduction of pain that characterize the acute type of pain, often observed in the postoperative period.

Researches show that the verbal description of pain related to intensity has been a parameter to check the effectiveness of analgesic agents applied within the

postoperative period. This is the justification to increasingly search for promoting pain control as a must to patient recovery within this period.<sup>13</sup>

### 1.2 Measuring pain in burned patients

Burn lesions are regarded as one of the most painful types of trauma, and they constitute the theme addressed by 2 studies. Both of them claim that pain caused by burn is so intense because of the magnitude of thermal injury, as well as throbbing and itching, along with the various procedures that also cause pain, including bathing, wound dressing, probes, debridement, reconstructive surgeries, and physical therapy.<sup>15,16</sup>

In addition to physical pain, psychological pain undermines the emotional sphere of burn victims, something which often leads to depressive conditions, making treatment more difficult. In this context, there is a need for care provided by professionals working at the burn sectors to validate and deploy specific instruments for providing these patients with clinical pain care, looking for a language to deal with the painful condition and the analgesia of a burned patient.

The Burns Specific Pain Anxiety Scale (BSPAS) is a unidimensional scale that meets this need, because, when applied to the patient, it describes feelings related to the healing of burns, fear of losing control during change of wound dressings and anticipatory anxiety about pain, during and after the provision of care. A study conducted a cross-cultural adaptation of BSPAS to Portuguese, obtaining equivalence criteria, semantic, cultural, and conceptual, which prove reliable for application to Brazilian burned patients.<sup>15</sup>

### 1.3 Measuring pain in pediatrics and neonatology

A recent study conducted in a burn treatment center in Ceará, Brazil, identified the epidemiological profile and assessed pain among children victimized by burns, concluding that hospitalized children generally have their pain underestimated by health professionals, although this phenomenon can only be understood by those who feel it.<sup>16</sup>

The use of instruments to assess pain among children allows ensuring that what the child is experiencing is evaluated, instead of what the professional thinks she/he is feeling. An option is using the instrument "pain quality cards", which proved to be feasible and able to assess, discriminate, and measure the various dimensions of the painful experience in children and adolescents, and its use must be encouraged among health

professionals, aiming to achieve a better quality of care for children and adolescents dealing with pain. The authors added that, in order to ensure that this takes place, there is a need that the theme *pain* is included in the curricula of schools of medicine, nursing, and paramedical fields.<sup>17</sup>

Regarding nursing approach to the child, we observe that she/he may deny pain for fear of undergoing nursing procedures, because, culturally, mothers frighten their children with sentences related to injections, leading dread to be worse than the pain they feel. Therefore, nurses must prepare children to accept procedures not as something that will constitute a punishment or a painful experience, but as something that will bring a benefit for their health.<sup>16</sup>

In neonatology, although the various approaches and parameters for detecting and assessing pain are known, today it is very difficult to determine the nature and extent of painful experiences in newborn infants. This is due to the barriers involved in the evaluation of subjective experiences among newborn infants with motor, cognitive, and developmental immaturity, besides the impossibility of expression through speech. A study conducted at a referral institution in neonatal heart surgery sought to identify the method used to assess postoperative pain, frequency of assessment, and prevalence of pain within this period. It was observed that the evaluation method most frequently used was the Neonatal Infant Pain Scale (NIPS), which consists of 6 pain indicators, including facial expression, movement of arms and legs, crying, breathing pattern, and sleep/alertness state.<sup>18</sup>

In the nursing assessment of a newborn infant dealing with pain, there has been a prominent attention to behavioral manifestations of agitation and crying, which are more frequently registered in the medical records. Scholars from the field found, in their research, that 50% of female nurses who work at neonatal sectors identify pain among newborn infants by means of behavioral and physiological changes. However, it is noteworthy that these manifestations must not, by themselves, serve as pain assessment indicators among newborn infants.<sup>18</sup>

The use of a reliable, validated, and multidimensional instrument is more accurate than the isolated use of physiological and behavioral measures. It is emphasized that scientific knowledge on pain assessment in neonates and children in the postoperative period is a theme that demands improvement, especially concerning the

clinical applicability of the already existing scales and the interventions arising from their application to provide care within the postoperative period, taking into account the complexity of these patients.<sup>18</sup>

#### 1.4 Measuring pain in trauma

Pain is one of the main consequences of trauma, and its effects are potentially harmful to the body. Although frequent, little attention is given to pain control among traumatized patients and there is a lack of knowledge concerning this theme.<sup>19</sup>

In an emergency, a complex pain treatment becomes clear, something which is due to the subjectivity of the phenomenon, the differences related to gender and race, location, type and severity of injury, intensity and site of pain, among other factors. However, this should not be a cause for negligent actions.

A pioneering study conducted an assessment of pain intensity and adequacy of analgesia in the emergency sector, with a sample of 100 victims of traffic accidents assisted in a referral hospital for trauma. The researchers found sharp pain as a common phenomenon at the emergency sector among victims of traffic accidents in 90.0% of cases; 56.0% had severe pain and 29.0% had moderate pain in the first evaluation and, after the observation period proposed, 38.0% of patients still had moderate pain and 26.0% had severe pain. The findings reaffirmed the need for greater attention to victims of trauma as for pain assessment. Regarding the use of analgesia, it was found that the vast majority of patients remained without analgesia for at least 3 hours and that the use of opioids is still restricted in our context, even in the presence of moderate and severe pain.<sup>20</sup>

Studies on pain in the emergency sector also pointed out the absence of a protocol for assessing acute pain, something which constitutes a problem for the estimation of analgesic efficacy and divergence among professionals. It is worth highlighting that proper evaluation, control, and relief of pain, in addition to the humanitarian aspect, must be a key part of the immediate assistance to the victims of an accident, aiming to contribute to the maintenance of basic physiological functions and avoid the harmful side effects arising from the persistence of pain, such as hypoventilation, increased cardiac work, decreased peripheral blood perfusion, and reflex muscle contraction.<sup>19,20</sup>

#### 1.5 Measuring occupational musculoskeletal pain

Only one study addressed pain as resulting from occupational activities. The research highlighted the incidence of pain and musculoskeletal discomfort among industrial workers from the sewing industry, warning that the activities related to industrial sewing pose risks for the emergence of musculoskeletal injuries, especially in the lower limb.<sup>21</sup>

There was a predominance (40%) of complaints related to the lower limbs (LL), followed by the upper limbs (UL) and the spine. As for the symptomatic description of pain and musculoskeletal discomfort, the vast majority (94%) was symptomatic and, among these individuals, the majority (38%) reported seeking help from some health professional.

Besides the high incidence of symptoms, the intensity of pain complaints ( $6 \pm 2.3$ ) was high, and this value may be interpreted as a moderate painful incidence. Over the years, postures and movements repeatedly adopted by sewing professionals can affect the musculoskeletal system, particularly the spine and limbs, resulting in pain that may extend beyond the working hours.

The results of the study represent a warning, because only symptomatic workers at the workplace, with continued exposure to the same factors, have a strong tendency to deal with increasingly severe painful and pathological conditions, bringing negative results for them and for the company.

It is noteworthy that nurses, as professionals involved in occupational health services in various settings and work environments, should promote ergonomic interventions and occupational health promotion programs in these environments, in order to minimize the progression of painful conditions already identified and prevent new cases.

#### 1.6 Measuring pain in cancer

In the treatment of patients dealing with pain in cancer, it is a must to evaluate factors that influence on the painful process. The aim of providing care for this need is overall rehabilitation of the individual. Thus, pain assessment by a nurse, who is the main professional from the health team to fulfill this task, is the key point for planning care.<sup>22</sup>

A research involving the universe of pain of nociceptive and neuropathic origin revealed pain in cancer as one of the most intense for human beings. Three samples (outpatient clients, whether having chronic pain or not, nurses, and physicians) were analyzed, and pain in cancer was regarded as the most severe in the group of patients and nurses and

as the second most severe pain according to the opinion of physicians. Two psychophysical methods were used: magnitude estimation and category estimation.<sup>9</sup>

In another research, MGQ was applied to 159 oncologic patients, containing data on identification, intensity, and description of pain according to the sensitive, evaluative, and emotional categories. It was found out that the discovery of cancer was related to pain in 55 clients (34.6%) and 105 respondents (66%) reported it at some time of pathology. In the sensitive quality, the following descriptors stood out: throbbing, griping, and stinging. In the evaluative, these terms prevailed: burning, searing, and warming. In the qualitative category, the emotional one prevailed as an uncomfortable, tiresome, and exhausting pain.<sup>12</sup>

There were no studies assessing pain in cancer by means of unidimensional instruments, such as VNS and VAS. This was regarded as a positive point in this review, because it is through multidimensional instruments that we can measure pain in cancer with greater precision and accuracy, and the psychological dimension is considerably affected among oncologic cancer. Thus, it is worth emphasizing that measurement among these patients should be judicious, systematic, multidimensional, and seen as a mandatory care action for nurses.

### 1.7 Measuring pain in childbirth

Childbirth pain, although preventable, is still very frequently experienced by women worldwide. A study has scaled the various types of pain by means of different psychophysical methods (magnitude estimation method and category estimation) and it found childbirth pain occupying the top positions according to the opinion of physicians and nurses (3<sup>rd</sup> and 5<sup>th</sup>, respectively); in turn, in the group of outpatient clients, it occupies the 8<sup>th</sup> position.<sup>9</sup>

In a study on the correlation between the distance walked and pain levels during the active phase of labor, it was found that the score (using a numerical scale) increased as cervical dilatation progressed. It was also found that pain scores increased as the parturients walked longer distances.<sup>23</sup>

The figures are alarming and they suggest that analgesic measures, whether pharmacological or not, need to be deployed in obstetric services, during childbirth, so that pain does not bring more serious consequences nor leads to physical or psycho-emotional harms to mother and, hence, to the newborn infant.

## Category 2. Validation of pain assessment instruments

In pain management, nurse's work must take place in an independent and collaborative way, including identification of pain complaints and selection of strategies to control pain. Therefore, this category comprises instruments that allow objectively documenting pain and designing assessment protocols, as elucidated by the researches included in this review.

The most frequently used scales, due to their usefulness, are the numerical, verbal, and visual scales. It is observed, in this research, that such instruments have been widely used by most studies, due to their applicability.

Scales and inventories were produced in Europe and North America in order to measure pain, and there is a wide variety of these instruments, both unidimensional and multidimensional. However, before they may be used in our context, there is a need to submit them to previous cross-cultural adaptation, considering the particularities of population (culture, education level, and physical limitations), what is intended to be measured (presence, intensity, or characteristics), and the characteristics that turn the instrument chosen into the most appropriate for the study purpose.<sup>13</sup>

As for the validation and translation of instruments conducted by nurses, in the database analyzed, 4 studies stood out.<sup>11,15,24,25</sup> The first deals with the preparation of the Multidimensional Pain Assessment Scale (EMADOR) in Portuguese and its validation; the second deals with the translation and adaptation of BSPAS and the Impact of Event Scale (IES) into Portuguese; the third addresses the validation of the derived ratio scale for the non-metric intensity continuum of the various types of pain, by means of the intermodal matching method; and the last highlighted the validation of the Survey of Pain Attitudes, version translated into Portuguese.

Researches focusing on the preparation and validation of instruments at the measurement level have become relevant to scientific progress, since accurate measurement of clinical pain is of paramount importance to proper assessment, thus avoiding underprescription and underadministration of drugs, resulting from underestimation of pain felt by the patient.

The magnitude estimation method is defined as the process of assigning numbers proportional to clinical or social stimuli that reflect the intensity of subjective response.



This method has important features as measuring strategy for subjective concepts such as pain.<sup>25</sup> In turn, in the category estimation method, the subject under investigation arbitrarily chooses the scope of categories. Thus, the task of subjects is assigning a score, ranging from 1 to 7, for each different type of pain according to the intensity of perceived pain, and the various types of pain shown in a random order for each subject.<sup>9</sup>

Therefore, there is a need for establishing a broad and comprehensive understanding of the painful perception, as we address other aspects than just pain intensity, but also affective, motivational, and evaluative aspects of this phenomenon.<sup>24</sup> Nurses must prioritize pain measurement, treatment, and relief, regardless of patient's age and the type of procedure being performed.

## CONCLUSION

By analyzing scientific literature in nursing about pain measurement, we find out that nurses' work leads them to seek strategies to assess pain among those patients under specific clinical conditions, in search of an instrument that is more applicable to each case. It is worth noticing the studies on pain measurement in the postoperative period, among burned patients, in pediatrics, in cancer, in childbirth, and among multi-trauma patients.

We also observe that the use of unidimensional scales is increasingly reported for pain measurement, among them VNS and VAS, demonstrating the ease of use by professionals and the applicability to patients.

We conclude that there is an increasing need to design assessment protocols, including scales and inventories, seeking to better understand the qualities of pain and, then, schedule effective analgesic interventions, aimed at patient satisfaction.

In this context, it is important that nurses are trained and prepared to assess the actual clinical situation of a patient, appropriately choosing the method and the nature of information to be obtained, besides exercising their cognitive and perceptual skills, in order to ensure the quality of care provided for the patient dealing with pain.

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#### **Corresponding Address**

Roberta Meneses Oliveira  
Rua Lídia Brigido, 837  
Bairro Cidade dos Funcionários  
CEP 60821-800 – Fortaleza (CE), Brazil

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English/Portuguese

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