Multidimensional instruments validated in Brazil for pain evaluation in the elderly: narrative review

Instrumentos multidimensionais validados no Brasil para avaliação da dor na pessoa idosa: revisão narrativa

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ABSTRACT

BACKGROUND AND OBJECTIVES: Multidimensional instruments for the evaluation of pain in the elderly allows to identify the conditions that involves pain considering the emotional, physical, psychological, social, and economic aspects. They are ancillary tools in the prognosis of diseases, in addition to allowing a better approach to pain considering their assessed dimensions. The objective of this study was to review the literature on multidimensional instruments validated in Brazil for the evaluation of pain in the elderly, identifying instruments aimed at elderly people with neurocognitive disorders.

CONTENTS: This was a narrative review of the literature with scientific articles searched in the electronic databases Pubmed, LILACS, and Scielo. The following keywords of the Portuguese language defined by the DeCS were used: pain, pain threshold, pain measurement, aging, and the elderly. Scientific articles on instruments validated in Brazil and published in the period from 2000 to 2018 were included. There were 38 articles, of which 33 were excluded, and only 5 articles were included. The validated instruments found for pain assessment in the elderly in Brazil were the McGill Pain Questionnaire, Geriatric Pain Measure, Pain Assessment Checklist for Seniors with Pain Assessment Checklist for Seniors with Limited Ability to Communicate, Non-Communicative Patient´s Pain Assessment Instrument, Pain Assessment in Advanced Dementia.

CONCLUSION: The five instruments found offer the health professional a range of tools to understand pain better. Of these, three instruments allow the assessment of pain in the elderly with neurocognitive disorders.

Keywords: Dementia, Elderly, Pain evaluation.

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RESUMO

JUSTIFICATIVA E OBJETIVOS: Os instrumentos multidimensionais para avaliação da dor em idosos permitem identificar as condições que envolvem a dor considerando os aspectos emocionais, físicos, psicológicos, sociais e econômicos. Trata-se de ferramentas auxiliares no prognóstico de doenças, que permitem melhor abordagem da dor considerando suas dimensões avaliadas. O objetivo deste estudo foi revisar a literatura sobre os instrumentos multidimensionais validados no Brasil para a avaliação da dor na pessoa idosa, identificando os instrumentos direcionados para idosos com transtornos neurocognitivos.

CONTEÚDO: Trata-se de uma revisão narrativa da literatura realizada com artigos científicos pesquisados nas bases de dados eletrônicas Pubmed, LILACS e Scielo. Utilizou-se o cruzamento das seguintes palavras-chave da língua portuguesa definidas pelo DeCS: dor, limiar de dor, mensuração da dor, envelhecimento e idoso. Foram incluídos artigos científicos de instrumentos validados no Brasil e que foram publicados no período de 2000 a 2018. Foram encontrados 38 artigos, destes, 33 foram excluídos, sendo incluso apenas 5 artigos. Os instrumentos validados encontrados para a avaliação da dor em idosos no Brasil foram o *Brazilian Portuguese McGill Pain Questionnaire*, *Geriatric Pain Measure*, *Assessment Checklist for Seniors with Limited Ability to Communicate*, *Non-Communicative Patient's Pain Assessment Instrument*, *Pain Assessment in Advanced Dementia*.

CONCLUSÃO: Os cinco instrumentos encontrados oferecem para o profissional de saúde uma gama de ferramentas para melhor compreensão da dor. Destes, três instrumentos permitem avaliar a dor em idosos com transtornos neurocognitivos.

Descritores: Avaliação da dor, Demência, Idoso.

INTRODUCTION

Aging promotes adaptations in the organic systems and may be associated with chronic degenerative conditions that impact the biopsychosocial components of the elderly's life[1,2]. Under these conditions, the elderly may be in a favorable state for the occurrence of pain and functional limitations to perform their daily activities[1,3]. Socioeconomic conditions, previous diseases, psycho-affective relationships, and cognition are some factors that influence the presence of pain in the elderly[1]. Chronic pain (CP) is highly prevalent in the elderly (48 to 55%), with higher intensity in individuals with neurocognitive disorders[2,4,5].

Pain is an intrinsic and self-reported sensation[6-8], with abstract signs, which requires validated and adequate assessment instruments to understand better its unidimensional or multidimensional conditions[9]. Unidimensional scales only pre-establish data related to pain intensity, while multidimensional instruments address not only the physical aspects but also seek to interpret and understand the painful phenomenon[10,11].

Multidimensional pain assessment instruments in the elderly allow us to identify the conditions that involve pain from the emotional, physical, psychological, social, and economic aspects. They refer to tools that help in establishing the prognosis of diseases, besides allowing a better treatment of pain, considering their assessed dimensions[12]. Understanding the dimensions of pain, especially CP, through multidimensional assessment allows a detailed description of the sensory and affective qualities of the painful phenomenon[13,14].

This study aimed to review the literature on multidimensional instruments validated in Brazil for pain assessment in the elderly, identifying the instruments aimed at the elderly with preserved cognition and those with neurocognitive disorders.

CONTENTS

This study refers to a narrative literature review performed with scientific articles searched in the electronic databases Pubmed, LILACS, and Scielo. The crossing of the following keywords of the Portuguese language defined by DeCS (Health Sciences Descriptors) was used: pain, pain threshold, pain measurement, aging, and elderly.

Articles that assessed pain in older people (≥60 years old) using instruments validated in Brazil and published from 2000 to 2018 were included. Articles that assessed trauma pain, that were in duplicate in the databases or that used unidimensional pain assessment instruments were excluded. By selecting the articles, it was possible to identify the instruments validated in Brazil and the pain assessment tools in the elderly with neurocognitive disorders.

A total of 38 articles were found, 33 of which were excluded: 5 were duplicates, 12 used unidimensional instruments, 15 did not meet the criteria for pain management, and one for making an association between instruments. Table 1 shows the five articles of this review.

Table 1. Multidimensional instruments validated in Brazil for pain assessment in the elderly

Authors	Objectives	Multidimensional pain assessment instrument	Domains	Results
Thé et al.[15]	To validate the PACSLAC in Portuguese in demented elderly and to analyze the properties of their measurements.	PACSLAC	Facial expressions, Body movements/activities sociability/personality/mood. Others.	PACSLAC-P mean score was 3.20±0.62, and the mean application time was 5 to 7min. Internal consistency, according to Cronbach's alpha coefficient, showed values of 0.646 for facial expressions, 0.619 for body movements/activities, 0.618 for sociability/personality/mood, and 0.247 for the subscale named others, with a total scale score of 0.827. Reproducibility was 85.2%.
Pinto et al.[16]	To perform semantic and cultural adaptation to Brazilian Portuguese of the PAINAD scale, and to assess its psychometric properties (validity, feasibility, inter-rater agreement, and clinical utility).	PAINAD	Breathing independent of vocalization. Negative vocalization. Facial expression. Body language. Comforting.	The items with the highest signs of pain were facial expression (18.2%), breathing independent of vocalization (15.2%) and body language (16.7%). The negative vocalization indicator was the one that best correlated with the total scale (0.524), and the 95% confidence interval (95%CI) from 0.679 to 0.862.
Araujo and Pereira[17]	To describe the results of conceptual, item, and semantic equivalence between the original NOPPAIN in English and the Brazilian Portuguese version for pain assessment in non-communicative patients.	NOPPAIN	Behaviors of pain, intensity.	The NOPPAIN-Br of the 64 elements, 56.3% achieved an average of 10, equivalent to the "very good" agreement and 43.7%, an average between 7.0 and 9.9 - "good" agreement.
Motta, Gambaro and Santos[18]	To study their GMP psychometric properties to see if they are appropriate.	GPM	Intensity, disengagement, walking pain, pain in vigorous activities, pain in other activities.	Internal consistency was adequate, reproducibility satisfactory (low variability and no statistically significant differences). GPM-P "Adjusted Total Score" showed low correlation, but it was regular for Q19 and Q20.
Santos et al.[19]	To verify the intra and inter-examiner reliability of the application of Br-MPQ in elderly with chronic pain due to orthopedic and neurological diseases.	Br-MPQ	Sensory, affective, temporal, miscellaneous, spatial distribution, intensity.	Overall intra- and inter-examiner reliability in the elderly with orthopedic diseases were 0.86 and 0.89, respectively, and for the elderly with neurological diseases of 0.71 and 0.68, respectively. The results showed that Br-MPQ was easy to apply.

PAINAD = Pain Assessment in Advanced Dementia; PACSLAC = Assessment Checklist for Seniors with Limited Ability to Communicate; GPM = Geriatric Pain Measure; NOPPAIN = Non-Communicative Patient's Pain Assessment Instrument; Br-MPQ = Brazilian Portuguese McGill Pain Questionnaire.

DISCUSSION

In this literature review, the following multidimensional pain assessment instruments for elderly people validated in Brazil were found: Assessment Checklist for Seniors with Limited Ability to Communicate (PACSLAC), Pain Assessment in Advanced Dementia (PAINAD), Non-Communicative Patient's Pain Assessment Instrument (NOPPAIN), Geriatric Pain Measure (GPM), Brazilian McGill Pain Questionnaire (Br-MPQ). Of these, the first three instruments are indicated for application in the elderly with neurocognitive disorders.

The pain in the elderly must be viewed in several aspects, beyond the physical domain. The emotional and psychosocial conditions that surround the elderly should also be investigated during pain assessment. Pain assessed and inadequately addressed can have negative consequences on the emotional component, body functions, and social aspects[20,21].

Pain has specific conditions in each individual because it is self-reported, subjective, and abstract[22-24]. Multidimensional instruments portray these conditions by assessing the various dimensions involved in the life of the elderly, differing from each other according to the approach method. There are common domains among the instruments such as pain intensity, location, and duration, but there are specific domains in some scales such as mood assessment, pain during activities, and social aspects.

Pain intensity is a measure of assessment widely used in unidimensional instruments, being also components of multidimensional tools. The McGill pain questionnaire, developed by Melzack in 1975[22], aimed to assess the qualitative dimensions of pain such as sensory, affective, temporal regarding duration, spatial distribution, and pain intensity[18,25,26]. The domains of this instrument are divided into 20 subgroups of words, from 1 to 10, referring to the sensitive questions, 11 to 15 affective questions, 16 general experiences of the individual, and 17 to 20 miscellaneous[21,27]. The evaluative measures adopted in this instrument are related to the experience of the elderly facing the painful condition, in addition to the neurophysiological aspects involved in pain perception[18,21,25].

Corroborating the Br-MPQ, the GPM instrument consists in assessing intensity (five items), disengagement (five items), walking (two items), vigorous activities (two items), other activities (three items), and these items are distribute at random at the time of the assessment[24,28]. The GPM was designed to broaden and facilitate the assessment of pain in the elderly, but the elderly must have preserved cognition so the assessment will not present divergence of results[28].

The pain assessment in the elderly with a neurocognitive disorder is a challenge for health professionals because of the difficulty in applying the instruments that allow the understanding of the painful phenomenon in these patients[19,29]. Proper reporting of painful experience requires preservation of cognition. Given the symptom, a self-report is required for the analysis of the phenomenon, verbal expression or perception skills, and interaction may be compromised due to cognitive decline, but sensory perception may be maintained. However, pain duration, intensity, and location can only be identified through some assessment instrument[24]. Cole et al.[30] investigated the brain areas responsible for pain perception in dementia patients to identify activation zones through functional nuclear magnetic resonance, which resulted in significant data on pain perception and emotional reactions. Thus, it has been shown that there are brain activation and excitability regarding painful stimulation in the elderly with cognitive disorders.

Thé et al.[15] observed the need for an instrument to assess pain in older people with neurocognitive disorders and developed PACSLAC. It is an instrument composed of 60 observational items, separated by domains comprised of facial expressions, movement and body activities, sociability, personality/mood, and others[19,31-33]. PACSLAC has been validated for countries other than Brazil, but it still lacks studies that reaffirm its use in our population. The PACSLAC was elaborated through the need observed by the American Geriatrics Society (AGS) to assess the pain of patients with communication difficulties, integrating self-report, hierarchical measures and behavioral and mood changes during the assessments[31,33].

The PAINAD is a multidimensional instrument with similar applicability to PACSLAC. It is based on philosophical (abstract) assessment and behaviors of the painful condition, corresponding to the domains of breathing, negative vocalization, facial expression, body language, and comforting. PAINAD quantifies its domains with quantitative variation from zero to 10 points, based on pain patterns. Scores of 1 to 3 points are considered mild pain, 4 to 6 reflect moderate pain, and 7 to 10 points are considered severe pain conditions[15,34-36].

In the literature reviewed for this study, a simplified instrument, NOPPAIN[17] was found. This tool consists of four assessment sessions involving nine daily care pictures. Six refer to pain-related behaviors, and a unidimensional figure numbered from zero to 10 to assess pain intensity, another session related to activities with pain responses yes or no, observing if the professional performed the activity or if the patient performed alone, and a numerical scale to quantify the pain intensity. The fourth session consists of the sum of the previous sessions formalizing a total score of the instrument. The literature does not provide detailed descriptions of its use, nor does it report the psychometric measures of this instrument for the Brazilian population.

This study allowed us to know the multidimensional instruments validated in Brazil for multidimensional pain assessment in the elderly. The presented tools provide a range of instruments for the healthcare professional to be able to select the most appropriate one according to the profile of their patients. Cognitive condition is a determining factor for choosing the most appropriate instrument for each patient. Although it was not the object of study, in this review, no scientific studies were identified that used the instruments for pain assessment in the elderly, except for the GPM and the Br-MPQ.

CONCLUSION

The five multidimensional instruments validated in Brazil to assess pain in the elderly presented in this review offer health

professionals a range of tools for better understanding of pain. Of these, three instruments allow the assessment of pain in the elderly with neurocognitive disorders. It was observed that the variability of domains present in the instruments helps in the identification and assessment of the painful condition in the elderly with preserved cognition or neurocognitive disorders, regardless of the degree of impairment.

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