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THE INTERVENTION OF SPECIALIZED NURSING IN PAIN MANAGEMENT ON THE UNCONSCIOUS PERSON IN CRITICAL SITUATION: A SCOPING REVIEW

A INTERVENÇÃO DA ENFERMAGEM ESPECIALIZADA NA GESTÃO DA DOR DA PESSOA INCONSCIENTE EM SITUAÇÃO CRÍTICA: UMA SCOPING REVIEW

LA INTERVENCIÓN DE LA ENFERMARÍA ESPECIALIZADA EN LA GESTIÓN DEL DOLOR DEL PACIENTE INCONSCIENTE EN SITUACIÓN CRÍTICA: UNA SCOPING REVIEW

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Abstract

Background: Pain is recognized as the 5th vital sign since 2003 by the DGS (Directorate-General for Health), can be defined as an unpleasant sensory and emotional experience associated with, or similar to, actual or potential tissue damage (International Association for the Study of Pain, 2020). Pain control is an ethical duty of healthcare professionals, a right of people and an essential intervention to humanize healthcare. Assessing and recording pain intensity is considered good practice and should be carried out in all healthcare services. By recognizing pain, we make it visible, it cannot be ignored, and it requires the application of strategies to manage it. Pain is a complex and multifaceted experience and is one of the main reasons for seeking healthcare. It is often disabling and should therefore be approached in a holistic and comprehensive way. **Objectives:** To understand the role of the specialized nursing in pain management on the unconscious person in critical situation. **Methodology:** A scoping review was carried out, based on the Joanna Briggs Institute criteria, in order to answer the PCC question "What is the intervention of the Specialized Nursing (C) in the management of pain (C) in the unconscious person in a critical situation (P)?". The search was carried out in the CINHAL, Academic Search Complete and Medline databases via EBSCOhost, using the following descriptors and Boolean operators: pain management AND unconscious critical patient AND nursing care. NOT pediatrics NOT infant NOT children. We searched with a time window between 2020 and 2024, with full text available, peer-reviewed, in portuguese and english. From a total of 749 initial articles, after applying the inclusion criteria, a total of 737 articles were obtained. After reading their titles and/or abstracts yielded 10 for full reading, of which 9 remained for study. **Results:** Procedure-related pain is common in critically ill adults and preventive analgesia is advised. The BPS and CPOT are the most valid monitoring scales for use in unconscious critically ill patients whose motor functions are intact, and they are easy to use after a short training course. The studies demonstrate the importance of nurses in the early and appropriate assessment of pain in the unconscious person using new technologies and scales in order to reduce the occurrence of situations of deficit or excess sedation-analgesia. **Conclusion:** Pain management requires monitoring and assessment by professionals with specific knowledge in the area, with nurses playing a key role in this management. The evidence points to the need for more in-depth studies with larger populations on the effectiveness of nociception monitoring compared to standard monitoring, so that its systematic use can be sustained in clinical practice. The study allowed me to recognize and compare some of the scales used in pain assessment and their relevance for use depending on the clinical condition of the patients.

Keywords: Critical Care; Nursing Care; Nurse Specialists; Pain Management.

Resumo

Enquadramento: Desde 2003, a Direção-Geral da Saúde reconhece a dor como o quinto sinal vital. Esta é considerada uma experiência complexa e multifacetada, sendo um dos principais motivos da procura de cuidados de saúde, tornando-se muitas vezes incapacitante, devendo por isso ser abordada de forma holística e abrangente. O controlo da dor é um dever ético dos profissionais de saúde, um direito das pessoas e uma intervenção essencial para humanizar os cuidados de saúde. A avaliação e o registo da intensidade da dor são considerados uma boa prática e devem ser realizadas em todos os serviços prestadores de cuidados de saúde. Ao reconhecer a dor, tornamo-la visível, não podendo ser ignorada e exigindo a aplicação de estratégias para a sua gestão. **Objetivos:** Conhecer os instrumentos de avaliação na gestão da dor à pessoa inconsciente em situação crítica. **Metodologia:** Foi realizada uma scoping review, baseada nos critérios do Joanna Briggs Institute por forma a responder à pergunta PCC "Quais os principais instrumentos de avaliação (C) na gestão da dor (C) na pessoa inconsciente em situação crítica (P)?". A pesquisa foi realizada nas bases de dados CINHAL, Academic Search Complete, e Medline via EBSCOhost, com recurso aos seguintes descritores e operadores booleanos: pain management AND unconscious critical patient AND nursing care. NOT pediatrics NOT infant NOT children. Pesquisou-se com uma janela temporal entre 2020 e 2024, com texto integral disponível, revisto por pares, em português e inglês. De um total de 749 artigos iniciais, após aplicação dos critérios de inclusão obteve-se um total de 737 artigos. Após leitura dos títulos e/ou resumo dos mesmos resultaram 10 para leitura integral, dos quais restaram 9 para estudo. **Resultados:** A dor associada a procedimentos é comum em adultos em situação crítica e a analgesia preventiva é aconselhada. A BPS e CPOT são as escalas de monitorização mais válidas para aplicação em doentes críticos inconscientes e nos quais as funções motoras estão intactas, sendo a sua aplicação fácil após um curto treino. Os estudos demonstram a importância do enfermeiro na avaliação precoce e adequada da dor na pessoa inconsciente com recursos às novas tecnologias e escalas por forma a reduzir a ocorrência de situações de défice ou excesso de sedo-analgesia. **Conclusão:** A gestão da dor requer uma monitorização e avaliação da mesma, por profissionais com conhecimento específico na área, tendo o enfermeiro uma intervenção fulcral nessa gestão. A evidência aponta para a necessidade de desenvolvimento de estudos mais profundos e com população de maiores dimensões, sobre a eficácia da monitorização da nocicepção, em comparação com a monitorização-padrão, para que o seu uso sistemático seja sustentado na prática clínica. O estudo permitiu-me reconhecer e comparar algumas das escalas utilizadas na avaliação da dor e a sua pertinência de utilização consoante o estado clínico dos doentes.

Palavras-Chave: Cuidados Críticos; Cuidados de Enfermagem; Enfermeiros Especialistas; Manejo da Dor.

Resumen

Antecedentes: El dolor es reconocida como lo quinta señal vital desde 2003 por la DGS (Dirección General de la salud), puede ser definido como una experiencia sensorial emocional desagradable asociada, a daños reales, o potencial en los tejidos (International Association for the Study of Pain, 2020). El control del dolor es un deber ético de los profesionales de la salud, un derecho de las personas y una intervención esencial para humanizar los cuidados de salud. La evaluación y el registro de la intensidad del dolor son consideradas una buena práctica y deben ser realizadas en todos los servicios prestadores de cuidados de salud. Al reconocer el dolor, lo tornamos visible sin poder ser ignorado, y exigiendo la aplicación de estrategias para su mejor gestión. El dolor es una experiencia complexa y multifacética, siendo por eso necesario un abordaje más abrangente y holístico. **Objetivos:** Conocer el papel del enfermero especialista en la gestión del dolor en el paciente crítico e inconsciente. **Metodología:** Fue realizado un estudio tipo scooping review (revisión exploratoria), basado en los criterios de Joanna Briggs Institute, de manera a contestar a la pergunta PCC: "Cual es la intervención del enfermero especialista (C) en la gestión del dolor (C) en la persona inconsciente en situación crítica (P)? La búsqueda fue realizada en las bases de datos de CINHAL, Academic search complete, y Medline vía EBSCOhost, con recurso a los siguientes operadores booleanos: Pain management AND uncouscious critical patient AND nursing care. NOT Pediatrics NOT infant NOT children. Se buscó con una ventana temporal entre 2020 y 2024, con texto integral disponible, revisado por pares, en portugués y en inglés. De un total de 749 artículos iniciales, después de aplicar los criterios de inclusión, se han obtenido un total de 737 artículos. Después de la lectura de los títulos y/o resúmenes de los mismos, han resultado 10 para lectura integral, de los cuales restaron 9 para el estudio. **Resultados:** El dolor asociado a procedimientos es común en adultos en situación crítica y l'analgesia preventiva es aconsejada. La BPS y la CPOT son las escalas de monitorización más válidas para aplicación en enfermos críticos y inconscientes, en los cuales las funciones motoras están intactas, siendo así su aplicación más fácil después de un corto periodo de entrenamiento. Los estudios demostraron la importancia del enfermero en la evaluación precoz y adecuada del dolor en la persona inconsciente, con recurso a nuevas tecnologías y escalas, de manera a reducir la ocurrencia de situaciones donde puede haber déficit o exceso de sedo-analgesia. **Conclusión:** La gestión del dolor requiere su misma monitorización y evaluación, por profesionales con conocimiento específico en el área, teniendo así el enfermero una intervención clave en esa gestión. La evidencia apunta para la necesidad de desarrollo de estudios más profundos y con poblaciones más grandes, sobre la eficacia de la monitorización de la nocicepción, en comparación con la monitorización padrón, para que su utilización sistemática sea sostenible en la práctica clínica. El estudio me permitió reconocer y comparar algunas de las escalas más utilizadas en la evaluación del dolor y su pertinente utilización de acuerdo con el estado clínico de los pacientes.

Descriptores: Atención de Enfermería; Cuidados Críticos; Enfermeros Especialistas; Manejo del Dolor.

Introduction

Pain is characterized as a subjective, individual and complex symptom, described as an unpleasant sensory experience, related to multidimensional concepts and past painful experiences, influenced by social, cultural and emotional aspects[1]. The International Association for the Study of Pain, 2020, defined it as "an unpleasant sensory and emotional experience associated, or similar to that associated, with a real damage or potential of the tissue[2]. Therefore it is crucial to evaluate and control the pain properly, highlighting it as a symptom that, when persistent and of high intensity, may have a significant impact on the physical and mental health of individuals, which may cause complications of cardiovascular, gastrointestinal, muscle and psychological origin[3]. However, pain in the critical patient is not yet considered a priority compared to other vital signs[4].

The regulation of specific competencies of the specialist nurse considers "(...) the person in a critical situation whose life is threatened by bankruptcy or verification of bankruptcy of one or more vital functions and whose survival depends on advanced means of surveillance, monitoring and therapy."[5]. Pain is a symptom that causes a width of the general condition, increasing morbidity, greater prevalence of chronic pain and time of hospitalization and all that is associated with. It is thus paramount that a commitment of the teams, especially nursing, in the approach to pain, is essential to their assessment, diagnosis, prevention and treatment, and should include the participation of the person who feels pain and family as a partner of care[6].

For adequate pain management, it becomes pressing to make a correct assessment of it, so it is recommended to use self-assessment scales that allow the patient to classify the intensity of their pain, and should be used whenever the patient is conscious and can communicate, being considered as the Golden Standard, the self-relate. Among the self-assessment scales are the numerical scale (NS), the analog visual scale (AVS), the verbal descriptive scale (VDS) and the faces scale (FS).

There are also hetero-assessment scales that are used in patients who are unable to communicate, either by alteration of the state of consciousness or because they are under sedation, by changes in verbal communication or because they are subjected to invasive mechanical ventilation. These scales include physiological and behavioral indicators of pain, among which we highlight the Checklist of Nonverbal Pain Indicators (CPNI), Critical Care Pain Observation Tool (CPOT) and Behaviour Pain Scale (BPS)[6,7]; they are all tools and should be considered in pain assessment[8].

From the reality described came the need to identify the latest scientific evidence on pain assessment strategies used by multidisciplinary teams in treatment to the critical person, whereby the following question was defined: "What are the instruments of pain management to the unconscious person in critical situation?".

Data collection methodology

Scoping Review is a research method that allows us, "(...) synthesizing evidence of broad research questions in a systematic way, transparently and the reliability of their data, which enables the replication of the method by other authors in different scenarios."[9]. This scoping Review was designed in light of the Joanna Briggs Institute (JBI) recommendations[10], having as its starting point a question of investigation, which was structured using mnemonic PCC (population, concept, context), as can be seen in the following table (Table 1).

Table 1: Scheme of the preparation of the investigation question according to the Mnemonic PCC.

P	Population (participants/structures)	Evaluation instruments
C	Concept	Pain management
C	Context	Unconscious person in a critical situation

The general aim of this Scoping Review is:

- To know the pain assessment instruments, in pain management to the unconscious person in a critical situation.

The specific aims are as follows:

- To identify the evaluation instruments used by nurses in pain management;
- To identify conditioning factors of the best pain evaluation in the person in critical situation, in intensive care.

Formulated the question of research, a research on the theme on online scientific platforms was carried out in the first phase: EBSCoHost® and PubMed. At EBSCoHost®, the following databases were selected: CINAHL Complete, Medline Complete, Nursing & Allied Health Collection Compart, Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, Cochrane Methodology Register, Library, Information Science & Technology Abstracts, Mediclatin and Cochrane Clinical Answers.

The descriptors used to conduct research at EBSCoHost® and PubMed were properly validated in the descriptors in Health Sciences (DECs) and the Medical Subject Heading (Mesh). The applied boolean operators were and not, having been combined with the descriptors as follows: "Pain Management" and "Nurse Care" and "UnConscious Critical Patient" not pediatrics not Children not Children. The "pediatrics" and "Children" descriptors were excluded in order to restrict adult critics admitted to Intensive Care Unit (ICU).

Inclusion criteria were considered for all full text studies published between 2020 and the year 2024 (this temporal horizon is due to the need to ensure the latest scientific evidence), referring to adult patients (≥ 18 years old); developed in the context of intensive care units; In Portuguese and English languages.

As exclusion criteria were all studies whose results did not fit the issue and objectives, studies with patients with palliative needs or pediatric patients.

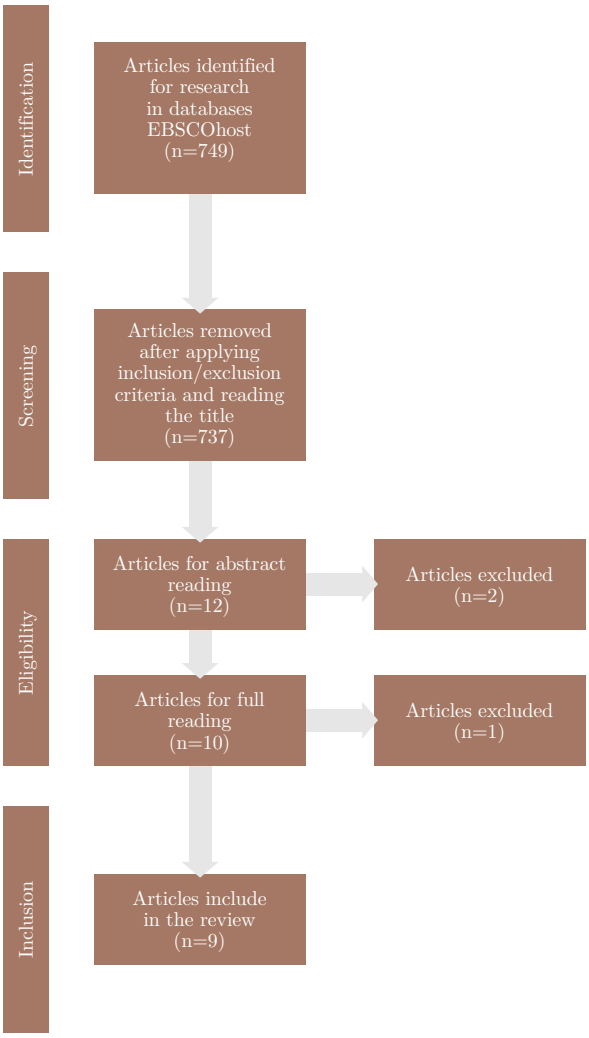

Figure 1: PRISMA 2020 flow diagram[13]. It was adapted from Page, *et al* (2020).

Results

In order to synthesize the information obtained in this research, a data extraction table was developed for each scientific article included in this review (Table 2), according to the JBI recommendation, which explains the title of the study, identification of the authors and year of the study, country of origin, objectives and main results.

Table 2: Results presentation.

Study	Title	Authors/(Year)/Country	Aims	Type of study	Method	Results Discussion
A1[11]	Changes in vital signs before, during and after bed bathing in the critical ill patient: an observational study	L. Scozzo, A. Viti, L. Tritapepe, A. Mannocci (2022) Italy	To analyze the usefulness of the BPS and CCPOT scales in assessing pain in patients with different degrees of sedation in the ICU.	Quantitative observational	Cross-sectional study	It was demonstrated that pain signals increased significantly during interventions on both scales (BPS and CCPOT) and then returned to values close to the resting period. The RASS results correlated significantly and positively with the BPS and CCPOT results. A strong correlation was found between the results of both scales at each stage of the study. Nursing procedures are a source of pain in sedative-analgesic patients. The BPS and CCPOT scales are useful tools for assessing the occurrence of pain in patients on mechanical ventilation, including those in deep sedation.
A2[12]	I Feel! Therefore, I Am from Pain to Consciousness in DOC Patients	Francesco Riganello, Paolo Tonin, Andrea Soddu. (2023) Switzerland	To eplore the role of pain in consciousness, the challenges of pain assessment, pharmacological treatment in patients with altered consciousness and the implications of pain assessment in detecting alterations in consciousness.	Experimental Study	Case study with intervention	This study highlights the distinction between nociception and pain, with the latter, in an acute or chronic form, having effects on the patient's attention and its pharmacological treatment may have an impact on the patient's consciousness and cognitive recovery. In patients with disorders of consciousness (DOC), the presence of pain may be an indicator of residual consciousness, influencing prognostic considerations and care plans to be implemented. This study suggests a significant need for optimization of pharmacological treatments that consider cognitive recovery, together with the investigation of the long-term effects of repeated exposure to pain. It also raises the possible relationship between repeated exposure to pain and the recovery trajectory and its transition from unconscious to conscious state.
A3[13]	Comparison of two behavioural pain scales for the assessment of procedural pain: A systematic review	Hanne Cathrine Birkedal, Marie Hamilton Larsen, Simen A. Steindal, Marianne Trygg Solberg. (2020) Norway	To examine the clinical utility and measurement properties of the Critical-Care Pain Observation Tool and the Behavioral Pain Scale when used to assess pain during procedures in the intensive care unit.	Systematic review of quantitative studies	Narrative synthesis of observational studies on pain in critical patients using the CPOT and BPS scales	Eleven studies were included in this review, both CPOT and BPS showed good reliability and validity and were good options for evaluation of the dor pain during painful procedures in ICU patients unable to self-report pain. The CPOT appears to be the preferred scale for assessment during painful procedures, meaning that the CPOT assesses pain better whether the patient believes they are in pain. Thus becoming an important tool to distinguish between discomfort and pain and provide the best treatment. The BPS scale was associated with greater ease of memorization and use than the CPOT because only 3 domains were assessed instead of 4.
A4[14]	Pain assessment in intensive care units of a low-middle income country: impact of the basic educational course	Ali Sarfraz Siddiqui, Aliya Ahmed, Azhar Rehman, Gauhar Afshan. (2023) Pakistan	To assess basic knowledge and practice of pain assessment in critically ill patients and reassess it in all course participants, comparing pre- and post-test results.	Experimental Study	Educational course with pre and post-test	A total of 205 intensive care physicians and nursing staff participated in the courses. Both the pre-test and post-test were completed by 149 (72.6%) participants, of whom 53 (35.6%) were female and 96 (64.4%) were male. The mean pre-test score of the participants was 57.83±11.86 and the mean post-test score of the participants was 67.43±12.96, and this was statistically significant (p=<0.01). In the univariate analysis, the effect of the training was significantly greater in females (p=0.0005) and in participants from the metropolitan city (p=0.010). In the multivariate analysis, participants from non-metropolitan cities showed less improvement in post-test scores compared to those from the metropolitan city (p=0.038).
A5[15]	Pain Assessment with the BPS and CCPOT Behavioral Pain Scales in Mechanically Ventilated Patients Requiring Analgesia and Sedation	Katarzyna Wojnar-Gruszka, Aurelia Sega, Lucyna Płaszewska-Żywko Stanisław Wojtan Marcelina Potocka, Maria Kózka. (2022) Poland	To analyze the usefulness of the BPS and CCPOT scales in assessing pain in patients with different degrees of sedation.	Prospective observational study	Repeated measurements using the BPS and CCPOT scales in 81 mechanically ventilated and sedated patients, performed three times a day by three trained observers	The results of the study indicate that some nursing procedures commonly used in ICUs are a source of pain, including in patients undergoing deep sedation and analgesia. It concludes that the BPS and CPOT scales are useful tools for assessing the presence of pain.
A6[16]	Use of PADIS Assessment Tools by Critical Care Nurses: An Integrative Review	Denise Waterfield, Susan Barnason (2021) United States of America	To explore the perspectives and intention of care nurses intensive to use the recommended evaluation tools for pain, agitation/sedation, delirium, immobility and sleep interruption (PADS) in intensive care units for adults.	Integrative review	Analysis of 47 studies published between January 2013 and April 2020, organized according to the behavioral theory Reasoned Action Approach to assess the intention to use the evaluation tools by ICU nurses	The intention of intensive care nurses to use or not to use the pads assessment tools is influenced by their behavioral, normative and control beliefs in relation to the tools themselves and their unit. Examples of barriers to the use of tools and perceived standards found in reviewed studies were the low priority by colleagues and the perception that the use of the tool bothered other professionals. However, the motivators for use involved training and communication with others. Normative beliefs about the use of the PADS tool are beliefs that individuals or groups would approve or disapprove of tools by nurses or whether these references use tools. It was specifically demonstrated that intensive care nurses are significantly influenced by pairs, or individuals or groups that approve or disapprove. Due to the hierarchy of functions that Often there is intensive care (Glynn & Ahern, 2000), inexperienced nurses may be less likely to use the pads tools if no priority is given to their use by nursing hierarchy. Kizza and Mulira (2015) showed low unit priority for pain assessment as a significant predictor of acute pain assessment practices. Educational interventions to improve the recognition of delirium, which included the adhesion of the bosses, led to a more successful implementation and support.
A7[17]	Validation Testing of the European Portuguese Critical-Care Pain Observation Tool	Rita Marques, Filipa Araújo, Marisa Fernandes, José Freitas, Maria Anjos Dixe e Céline Gélinas. (2022) Portugal	Validate the Portuguese version of Critical-Care Pain Observation Tool (CPOT) in the adult population seriously sick from Portugal. Specific objectives were to determine the discriminative validity, the validity of criterion and the converging validity of the CPOT, as well as the inter-examinating reliability of the Portuguese version.	Prospective observational study	CPOT Evaluation in mechanically admitted ventilated patients in an intensive care unit. Consecutive sample of 110 patients observed at pre-procedure rest during a harmful procedure and 20 minutes post-procedure. Two evaluators participated in the data harvest.	The Portuguese version of CPOT seems to be a valid and reliable tool for pain evaluation in UCI patients under mechanical ventilation, or not, whether they are aware or unconscious. Thus, CPOT is an alternative option to BPS which, so far, has been the only scale validated to evaluate pain in Portuguese patients in UCI. CPOT inter-evaluators reliability was excellent at rest and moderate during harmful procedures. The CPOT was able to discriminate between conditions with higher scores during the nociceptive procedure compared to CPOT scores at rest. The ideal CPOT cutting score was> 2, with 71% sensitivity and specificity of 80%, using the self -report as a standard gold criterion. Significant, lower correlations have been found between CPOT scores, heart rate and respiratory rate during the harmful procedure, concluding that nurses should not rely on vital signs to evaluate pain, but should be encouraged to use behavioral scales and correlation between them.
A8[18]	The Diagnostic Accuracy of Critical Care Pain Observation Tool (CPOT) in ICU Patients: A Systematic Review and Meta-Analysis Diagnostic Values of the Critical Care	Yue Zhai, RN, BsN, Shining Cai, RN, MsN, e Yuxia Zhang, RN, FAAN. (2020) China	Determine the diagnostic reliability of CPOT in critical patients.	Systematic Review and Meta-Analysis	Analysis of 25 diagnostic studies published between 2006 and February 2020, involving 1920 patients and 3493 experimental results. Evaluation of the quality of studies with the Quadas-2 tool and data extraction according to Stard 2015 guidelines.	CPOT has moderate diagnostic parameters with a two or three threshold, suggesting that it is a good but not an excellent evaluation tool. More research on the validity of CPOT in specific subgroups is required to expand its applicability in critical care.
A9[19]	Pain Observation Tool and the Behavioral Pain Scale for Pain Assessment among Unconscious Patients: A Comparative Study	Roghieh Nazari, Erika Sivarjan Froelicher, Hamid Sharif Nia, Fatemeh Hajihosseini, Noushin Mousazadeh. (2022) Iran	To compare the value Diagnosis of the pain observation tool in intensive care (CPOT) and the behavioral scale of pain (BPS) for pain assessment in unconscious patients.	Transverse study	Comparison of CPOT and BPS scales in 45 unconscious ICU patients during harmful and non -nociceptive procedures	CPOT and BPS have acceptable discriminating validity in the differentiation of non -nociceptive and harmful procedures, although the effect of CPOT is greater than that of BPS. Although both instruments have low reliability, the reliability of the BP scale is better. It also states that nursing teams should pay more attention to non -verbal signs when evaluating pain in the use of both scales in unconscious patients.

Results discussion

The analysis and reflection on the results of the selected studies contributed to answering the starting question of this research.

According to all the studies analyzed, better pain control in the unconscious or unable to self-report it is required. It is a convergent point that most patients suffer from pain for much of their hospitalization period, being a significant percentage of moderate to severe pain, and that this has repercussions on hospitalization times, comorbidities and well-being after hospital discharge. The first step for proper pain treatment is the accuracy of your assessment using appropriate instruments. The most referenced and present tools in all studies analyzed, except for the study conducted in Italy by Riganello *et al* (2023)[12], were BPS and CPOT.

Scozzo *et al* (2022)[11], and other authors analyzed here, tell us that nursing procedures are promoters of hemodynamic changes in patients admitted to ICU, but find that after 30 minutes, they usually return to the reference values at rest, not being confirmed the association of pain caused to changes in vital parameters. However, the importance of preventing complications associated with nursing care provided, as well as the return to the "basic principles of nursing care", for example the provision of hygiene care, being suggested here a model of hygiene care, interventional Hygiene (IPH), saying that it requires a reflection of priorities in ICU nursing care in ICU, as well as ICU nursing care an effective transmission of the importance of nursing foundations to future generations of professionals.

Riganello *et al* (2023)[12], exploit the role of consciousness, the challenges of pain assessment, pharmacological treatment in consciousness disorder (doc) and the implications of pain assessment in detecting consciousness changes. The disentanglement between pain and nociception is the first approach made, and the second refers to peripheral neurophysiological pathways within the sensory nervous system that detects and relay harmful (thermal, mechanical ...) stimuli from the body to the spinal cord, stimulating reflective behavior to protect the body. Such an event can occur before pain and potentially without perception. In turn, pain is characterized by a more conscious experience and the result of the perception of nociceptive information from internal or external sources. Being individuality, the way of thinking, of behaving or individual experience influences how each one perceives and responds to pain. This study also brings us to the use of the Nociceptive Coma Scale (NCS) and its review (NCS-R) such as those indicated for pain assessment in patients with DOC, however, that there is a significant need to optimize pharmacological treatments that consider the cognitive recovery of these patients, together with investigation of long-term exposure to pain and possible influence on the transition from unconscious state conscious.

The study by Birkedal *et al* (2020)[13], in order to evaluate the reliability and validity of the CPOT and BPS scales, concludes that both pain assessment tools are reliable, however it states that CPOT demonstrates greater reliability and validity to evaluate pain during painful procedures in self-relate patients.

The authors Birkedal *et al* (2020)[13] and Marques *et al* (2022)[17] attribute preference to the use of the CPOT scale because it is applicable to unconscious patients who are mechanically ventilated or not.

The study carried out in Pakistan by Siddiqui *et al* (2023)[14] with the aim of evaluating the impact of training on the ability and accuracy of use of pain assessment instruments by health professionals, specifically doctors and nurses, shows us that the results obtained in post-training tests are better than those obtained in pre-training and that there is a need to implement valid tools and a practice of recording and training the multidisciplinary team in the use of pain assessment tools and their treatment. The study in question states that vital parameters such as respiratory or heart rate are not in themselves predictors of pain, and also mentions the BPS and CPOT scales as the most valid and reliable for assessing pain in patients unable to self-report. It also recommends that professionals involved in the treatment of patients in intensive care should regularly undergo training sessions in the use of pain

assessment instruments, with this training resulting in an improvement mainly in female professionals.

Wojnar-Gruszka *et al* (2022)[15] present a study carried out in Poland on 81 ICU patients under mechanical ventilation and sedation, which demonstrated that pain signs increase significantly during diagnostic, nursing or therapeutic interventions, on both scales, then returning to values close to those at rest. They report that better results were found after implementing pain assessment tools in the services, including a reduction in the duration of mechanical ventilation and ICU stay. And like Waterfield and Barnason (2021)[16], they approach pain as part of the ICU triad, pain, agitation and delirium (PAD). The degree of sedation, RASS score, is a significant independent predictor of an increase in pain intensity during an intervention; the higher the RASS (less sedated patient), the more visible the signs of pain during an intervention. Since sedation and analgesia promote patient comfort, reduce anxiety and agitation, and improve patient-ventilator synchrony, studies indicate that excessive sedation is a disadvantage, being associated with a prolonged duration of mechanical ventilation and longer stay in the ICU. Wang *et al*[20] indicate that more than 87% of physicians use sedation and analgesia in ICU patients and more than half never apply strategies to keep the patient conscious. It is also reported that the intensity of pain during painful procedures is more evident in patients who have been hospitalized for a longer time in the ICU, which seems to be explained by the cumulative effect of negative stimuli (fatigue, sleep deprivation, excessive stimuli in the ICU), thus also explaining why the assessment of pain in the same procedures and patients presents higher values in the afternoon and evening. The study concludes that the BPS and CPOT scales are both valid in the assessment of pain in unconscious people in critical condition, regardless of the level of consciousness, in agreement with other studies analyzed here. It also indicates that nursing procedures are a source of pain regardless of the level of sedation and that greater sensitivity and accuracy of assessment is obtained with the simultaneous use of both instruments rather than their individual use.

Waterfield and Barnason (2021)[16] carry out an integrative review of a total of 47 articles carried out in different countries and, like Siddiqui *et al* (2023)[14]. They warn us of some of the reasons for refusal or reluctance to use pain assessment instruments in patients unable to verbalize their pain, among them are overwork, lack of confidence in the effectiveness of using the instruments, refusal to use these same instruments for peer evaluation, especially if they are in higher hierarchical positions. The length of professional experience appears to be a preponderant factor, more experienced nurses in the area of people in critical situations tend to prioritize their intuition and previous experiences in the use of pain assessment instruments, as well as perceiving their use as a "restriction of thought". Therefore, an organizational policy or action protocols are crucial and their absence also appears as a restrictive factor.

However, nurses consider that the use of pain, sedation and anxiety assessment instruments increases the quality, continuity and consistency of the care provided, and the distinction between pain and sedation becomes easier with their use. The combined use of pain and sedation assessment instruments is recommended, since the latter, when excessive, is identified by nurses as a barrier to the use of scales and, as also mentioned by Marques *et al* (2022)[17], the level of sedation can influence pain behaviors, making them less frequent or less clear.

Marques *et al* (2022)[17] and Siddiqui *et al* (2023)[14], as well as other authors, warn us of the low correlation between the scores obtained with the use of CPOT and changes in vital parameters, especially with blood pressure, in which the relationship shown is low or practically null. Although it may be possible to associate tachycardia as a result of a painful process, the vital signs assessed individually are not relevant, as they may be influenced by other factors such as anxiety, sedation, respiratory difficulties or sepsis. In addition to the studies mentioned, we can add a Swedish one by Frandsen *et al* (2016)[21] and another Danish one by Damström *et al* (2011)[22], which tell us that the CPOT can be applied to critically ill patients who are unable to verbalize, presenting good inter-rater reliability. The study by Marques

et al (2022)[17] concludes that the Portuguese version of the CPOT appears to be a valid and reliable tool for assessing pain in ICU patients on mechanical ventilation, whether they are conscious or not, thus constituting an alternative option to the BPS which, until now, has been the only validated scale for assessing pain in Portuguese patients admitted to the ICU, and in 2010 it was only applied in 8 ICUs in the country[4]. Yue Zhai Y. *et al* (2020)[18] conducted a study in which patient self-reporting, the use of VAS or NRS were adopted as the reference standard. This study warns us of an important fact, also mentioned in other studies analyzed, the lack of understanding of pain scales by patients. Failure in understanding the scales leads to a possible bias in the data obtained, which do not reflect the real extent of the pain. Gélinas *et al* (2019)[23] believed that the assessment tool, CPOT, is better able to identify intense pain than moderate to mild pain. They report that among the pain assessment instruments, CPOT and BPS are the best, however they do not define which is the best among them, while Nazari *et al* (2022)[19] refer to us in the study carried out in Iran that the BPS assessment instrument makes a better differentiation between nociceptive and non-nociceptive procedures as opposed to the CPOT instrument. However, according to studies by Wojnar-Gruszka *et al* (2022) [15], Waterfield and Barnason (2021)[16], Yue Zhai Y. *et al* (2020)[18] and Nazari *et al* (2022)[19], the CPOT was designed to assess pain in patients regardless of their level of consciousness, and is recommended by the Society of Critical Care Medicine for assessing pain in ICU patients who are unable to communicate verbally or use signs, whether or not they are on mechanical ventilation.

According to all the studies analyzed, the effective and systematic assessment of pain to prevent is more effective than the treatment of established pain, so therapeutic plans appropriate to the patient as an individual must be designed, with objectives defined over time.

Conclusion

Nursing care is essential and highly demanding in terms of science and technology, and differentiation and specialization are imperative. Patients in critical situations and their families expect nurses to conduct themselves appropriately, effectively, up-to-date and humanely, considering that the individual is not a disease, but rather a complex being who must be treated as a whole.

Research on pain suggests that the way individuals think and react to pain will differ depending on a variety of sociocultural factors, cognitive beliefs and expectations. All of these factors raise ethical and philosophical questions about our ability to truly understand the pain experience of others.

The studies presented indicate that the most painful procedures experienced by patients admitted to the ICU are nursing care procedures such as changing positions and endotracheal suctioning. It is therefore imperative that nursing professionals know which assessment tool to use and are as qualified as possible to use it correctly according to the patient's clinical condition and context. This scoping review therefore identified the main pain assessment scales for unconscious people in critical situations who are unable to communicate, the BPS and the CPOT, as well as the reasons for their reluctance to use in healthcare units.

The main strategies for better pain management described in the studies and which will allow for more efficient and safe nursing interventions for patients and their families are: the creation of standards, protocols and guidelines, training and specific education on pain assessment strategies. Since there are no universal signs of pain and individual pain treatment based on different assessment instruments is a complex task, pain assessment should be entrusted to members of the multidisciplinary team after training.

Systematic pain assessment with valid tools is essential for correct pain management and it is an indicator of good practice. In the absence of self-reporting, the use of behavioural and physiological indicators become important indicators, and the latter should not be considered individually.

According to the regulations governing the competencies of Specialist Nurses, one of their responsibilities is to contribute to the promotion of quality healthcare, supported by research, evidence-based practice and respecting the ethical and deontological principles that guide the profession. As nurses are the professionals who spend the most time with patients, they play a fundamental role in this area, as agents they promote change in practices so that pain management takes on a preventive and not just corrective role.

It is extremely important to reinforce the importance of carrying out new studies in the area of pain management, particularly in intensive care settings, in order to encourage changes in nurses' behavior.

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