



Comprehensive perspective on pain assessment and management

Perspectiva integral sobre la evaluación y manejo del dolor

Mario Fernando Rivera-Escobar
pg.mariofre77@uniandes.edu.ec

Universidad Regional Autónoma de los Andes, Ambato, Tungurahua,
Ecuador

<https://orcid.org/0000-0001-6878-2756>

ABSTRACT

Objective: to analyse the integral perspective on the assessment and management of pain. **Method:** descriptive documentary type. **Results and conclusion:** As progress is made in the understanding and management of pain in critical care settings, it is essential to consider not only the clinical efficacy of the scales, but also their practical and ethical feasibility. The continued search for improved assessment tools tailored to the specific needs of non-communicative critically ill patients remains a priority to improve the quality of care and ensure effective pain relief in these challenging clinical settings.

Descriptors: intensive care units; low back pain; nurse-patient relations. (Source, DeCS).

RESUMEN

Objetivo: analizar la perspectiva integral sobre la evaluación y manejo del dolor. **Método:** De tipo descriptivo documental. **Resultados y conclusión:** A medida que se avanza en la comprensión y gestión del dolor en entornos críticos, es esencial considerar no solo la eficacia clínica de las escalas, sino también su viabilidad práctica y ética. La búsqueda continua de herramientas de evaluación mejoradas y adaptadas a las necesidades específicas de los pacientes críticos no comunicativos sigue siendo una prioridad para mejorar la calidad de la atención y garantizar un alivio efectivo del dolor en estos contextos clínicos desafiantes.

Descriptores: unidades de cuidados intensivos; dolor lumbar; relaciones enfermera-paciente. (Fuente, DeCS).

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Original in brief



INTRODUCTION

The provision of medical care, understanding and management of pain are fundamental pillars in ensuring the overall health of patients. In particular, pain management in those undergoing invasive mechanical ventilation presents a highly complex challenge that demands a comprehensive and thorough approach.^{1 2 3}

This introduction dives into the fascinating field of pain assessment and management, exploring the various dimensions that encompass this clinical experience. From the consideration of specialised pain scales to the application of more advanced intervention strategies, a journey will be undertaken towards an in-depth understanding of how to mitigate suffering in patients connected to invasive mechanical ventilation systems.

Throughout this analysis, it will unravel not only the biological and physiological complexities related to pain, but also the emotional and psychological implications that affect the patient's perception and response. Ultimately, this holistic perspective seeks to illuminate the importance of medical care that not only prolongs life, but also promotes quality of life by addressing pain as an essential component in the pursuit of holistic health.

The aim is to analyse the holistic perspective on pain assessment and management.

METHOD

A descriptive documentary bibliographic research was carried out with an analytical-synthetic approach to address ethical considerations in the management of pain in patients undergoing invasive mechanical ventilation.



The study population consisted of 15 scientific articles selected from prominent databases, such as PubMed and Scielo, specifically addressing pain management in this clinical context.

In the descriptive phase, the identified articles were comprehensively collected and reviewed, assessing their objectives, methodologies used, results obtained and conclusions. Particular attention was paid to the interventions and strategies applied in pain management, as well as the ethical considerations inherent in these approaches.

Subsequently, in the analytical stage, comparisons were made between the different approaches proposed in the selected studies, highlighting similarities and differences in terms of efficacy, safety and ethical aspects. A synthetic analysis was used to integrate the findings and provide a comprehensive view of the ethical strategies adopted in the management of pain in patients with invasive mechanical ventilation.

It should be noted that throughout the process, ethical considerations were taken into account, ensuring confidentiality and respect for the authors of the reviewed articles. In addition, the ethical use of the information collected was guaranteed, respecting the fundamental principles of scientific research.

RESULTS

In the context of pain assessment in critically ill patients, the implementation of the Critical Care Pain Observation Scale (CPOT) is presented as a crucial tool to assess pain in those individuals who cannot express themselves verbally. However, like the Behavioural Pain Scale (BPS), the CPOT has limitations in its application, especially in patients under sedoanalgesia, treatment with neuromuscular relaxants, tetraplegia or polyneuropathy.^{4 5 6}



In the analysis of its application, it is observed that the CPOT incorporates elements of pre-existing scales, including the BPS, by integrating four behavioural items: facial expression, body movements, muscle tension and adaptation to the ventilator in intubated patients, or vocalisation in extubated patients. On the other hand, the Pain Indicating Behaviours Scale (PIDS) focuses on facial expression, calmness (movements), muscle tone, comfort and adaptation to mechanical ventilation. A distinguishing feature of the ESCID from the original Campbell scale is its inclusion of the patient's verbal response rather than adaptation to mechanical ventilation, which makes it more suitable for non-ventilated patients.^{6 7 8}

It is noted that the BPS scale, designed specifically for the assessment of non-communicative patients in critical settings, has the highest reliability compared to other scales. This reliability is supported by its three core items: facial expression, upper limb movement and adaptation to mechanical ventilation. Through various investigations, its robustness in the detection and measurement of pain in critically ill patients has been confirmed, consolidating it as a reliable and valid tool.^{9 10}

The choice between the different scales for pain assessment in critically ill patients should be based on the specific nature of the population studied and the particular clinical conditions. While the CPOT and ESCID are useful in certain contexts, the BPS proves to be the most reliable and validated option for the assessment of non-communicative patients in critical care settings.^{11 12}

In addition, two scales stand out, the Critical-Care Pain Observation Tool (CPOT) and the Pain Indicator Behaviour Scale (ESCID), both of which have limitations, especially in patients with sedoanalgesia or mechanical ventilation.¹³

The CPOT, like the Behavioural Pain Scale (BPS), uses items from existing scales and assesses facial expression, body movements, muscle tension and adaptation to the ventilator or vocalisation. On the other hand, the ESCID differs by considering the patient's verbal response rather than adaptation to mechanical ventilation.^{14 15}



The BPS, designed specifically for non-communicative patients in critical settings, is notable for its reliability and validity, supported by three key items: facial expression, upper limb movement and adaptation to mechanical ventilation. The choice of scale should be based on the nature of the population and clinical conditions, recognising that the BPS is the most robust option for pain assessment in non-communicative critically ill patients.

CONCLUSION

Pain assessment in critically ill patients poses significant challenges, especially in those who are unable to express their discomfort verbally. Although tools such as the CPOT and ESCID offer valuable approaches, each has specific limitations, such as their applicability in patients under sedoanalgesia or mechanical ventilation.

The BPS scale stands out as the most reliable and validated option, focusing on crucial aspects such as facial expression, upper limb movements and adaptation to mechanical ventilation. This preference is supported by the robustness of its design, specifically created to address the complexity of assessing pain in non-communicative critically ill patients.

As progress is made in the understanding and management of pain in critical care settings, it is essential to consider not only the clinical efficacy of the scales, but also their practical and ethical feasibility. The continued search for improved assessment tools tailored to the specific needs of non-communicative critically ill patients remains a priority to improve the quality of care and ensure effective pain relief in these challenging clinical settings.

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CONFLICT OF INTEREST

There is no conflict of interest with individuals or institutions involved in the research.

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To patients in pain for finding ways for their recovery.

REFERENCES

1. López-López C, Arranz-Esteban A, Arias-Rivera S, Solís-Muñoz M, Pérez-Pérez T, Latorre-Marco I. Application of the Behavioural Indicators of Pain Scale in patients with traumatic brain injury. *J Adv Nurs*. 2020;76(7):1862-1870. doi:10.1111/jan.14400
2. Gutysz-Wojnicka A, Ozga D, Mayzner-Zawadzka E, Dyk D, Majewski M, Doboszyńska A. Psychometric Assessment of Physiologic and Behavioral Pain Indicators in Polish Versions of the Pain Assessment Scales. *Pain Manag Nurs*. 2019;20(3):292-301. doi:10.1016/j.pmn.2018.07.006
3. Cargnin ZA, Schneider DG, Vargas MAO, Machado RR. Non-specific low back pain and its relation to the nursing work process. Dor lombar inespecífica e sua relação com o processo de trabalho de enfermagem. *Rev Lat Am Enfermagem*. 2019;27:e3172. Published 2019 Oct 7. doi:10.1590/1518-8345.2915.3172
4. Alshahrani B, Sim J, Middleton R. Nursing interventions for pressure injury prevention among critically ill patients: A systematic review. *J Clin Nurs*. 2021;30(15-16):2151-2168. doi:10.1111/jocn.15709
5. Li MMJ, Ocaý DD, Larche CL, et al. Validation of the Critical-Care Pain Observation Tool (CPOT) in pediatric patients undergoing orthopedic surgery. *Can J Pain*. 2023;7(1):2156332. Published 2023 Feb 17. doi:10.1080/24740527.2022.2156332
6. Zhai Y, Cai S, Zhang Y. The Diagnostic Accuracy of Critical Care Pain Observation Tool (CPOT) in ICU Patients: A Systematic Review and Meta-Analysis. *J Pain Symptom Manage*. 2020;60(4):847-856.e13. doi:10.1016/j.jpainsymman.2020.06.006
7. López-López C, Arranz-Esteban A, Arias-Rivera S, Solís-Muñoz M, Pérez-Pérez T, Latorre-Marco I. Application of the Behavioural Indicators of Pain Scale in patients with traumatic brain injury. *J Adv Nurs*. 2020;76(7):1862-1870. doi:10.1111/jan.14400
8. Guasconi M, Granata C, Sulla F, et al. Validation of the Italian version of Behavioral Pain Scale in sedated, intubated, and mechanically ventilated pediatric patients. *Acta Biomed*. 2021;92(S2):e2021370. Published 2021 Dec 22. doi:10.23750/abm.v92iS2.12429



9. Nazari R, Froelicher ES, Nia HS, Hajihosseini F, Mousazadeh N. Diagnostic Values of the Critical Care Pain Observation Tool and the Behavioral Pain Scale for Pain Assessment among Unconscious Patients: A Comparative Study. *Indian J Crit Care Med*. 2022;26(4):472-476. doi:10.5005/jp-journals-10071-24154
10. Wojnar-Gruszka K, Segá A, Płaszewska-Żywko L, Wojtan S, Potocka M, Kózka M. Pain Assessment with the BPS and CCPOT Behavioral Pain Scales in Mechanically Ventilated Patients Requiring Analgesia and Sedation. *Int J Environ Res Public Health*. 2022;19(17):10894. Published 2022 Sep 1. doi:10.3390/ijerph191710894
11. Mauritz MD, Uhlenberg F, Dreier LA, Giordano V, Deindl P. Discriminant properties of the Behavioral Pain Scale for assessment of procedural pain-related distress in ventilated children. *Scand J Pain*. 2022;22(3):464-472. Published 2022 Apr 25. doi:10.1515/sjpain-2021-0193
12. Pande RK. Behavioral Pain Assessment Tool: Yet Another Attempt to Measure Pain in Sedated and Ventilated Patients!. *Indian J Crit Care Med*. 2020;24(8):617-618. doi:10.5005/jp-journals-10071-23536
13. Kieseewetter I, Bartels U, Bauer A, Schneider G, Pilge S. The German version of the Critical-Care Pain Observation Tool for critically ill adults : A prospective validation study. Die Deutsche Version des Critical-Care-Pain-Observation-Tools : Eine prospektive Validierungsstudie. *Anaesthesist*. 2019;68(12):836-842. doi:10.1007/s00101-019-00694-5
14. Fröhlich MR, Meyer G, Spirig R, Bachmann LM. Comparison of the Zurich Observation Pain Assessment with the Behavioural Pain Scale and the Critical Care Pain Observation Tool in nonverbal patients in the intensive care unit: A prospective observational study. *Intensive Crit Care Nurs*. 2020;60:102874. doi:10.1016/j.iccn.2020.102874
15. Shammass RL, Marks CE, Broadwater G, et al. The Effect of Lavender Oil on Perioperative Pain, Anxiety, Depression, and Sleep after Microvascular Breast Reconstruction: A Prospective, Single-Blinded, Randomized, Controlled Trial. *J Reconstr Microsurg*. 2021;37(6):530-540. doi:10.1055/s-0041-1724465

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