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PAIN MANAGEMENT PROTOCOLS APPLIED BY NURSES IN THE EMERGENCY DEPARTMENT: A SYSTEMATIC LITERATURE REVIEW

PROTOCOLOS DE GESTÃO DA DOR APLICADOS POR ENFERMEIROS NO SERVIÇO DE URGÊNCIA: REVISÃO SISTEMÁTICA DA LITERATURA

PROTOCOLOS DE MANEJO DEL DOLOR APLICADOS POR EL PERSONAL DE ENFERMERÍA EN URGENCIAS: REVISIÓN SISTEMÁTICA DE LA LITERATURA

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ABSTRACT

Introduction: Pain is a challenge in emergency services, and its management is a right of patients and a duty of health professionals. The overcrowding of these services reinforces the need for pain management protocols that enable a faster, more effective and systematic approach, ensuring the relief of suffering and a better patient experience.

Aim: Identify the impact of pain management protocols applied by nurses in emergency departments.

Methodology: A systematic literature review was carried out based on the question: "What is the impact of the existence of protocols, applied by nurses, on the pain management of patients who visit the emergency department?". The search was conducted in December 2023 on the EBSCO Discovery Service platform, using validated descriptors. As inclusion criteria, we considered individuals who use the emergency department, primary studies with full text, peer-reviewed, with a publication date between 2019-2023. After analysis, 6 articles were selected.

Results/Discussion: The studies analysed show that implementing pain management protocols reduces waiting times for treatment, provides faster and more effective pain relief and improves the overall patient experience in emergency departments.

Conclusions: The adoption of pain management protocols has a significant impact on the reduction of time to treatment, the effectiveness of pain relief and the patient experience, reinforcing the importance of their implementation in emergency services.

Keywords: Emergency Service; Nurses; Nursing Protocols; Pain; Pain Management; Triage.

RESUMO

Introdução: A dor é um desafio nos serviços de urgência, sendo a sua gestão um direito dos doentes e um dever dos profissionais de saúde. A sobrelotação destes serviços reforça a necessidade de protocolos de gestão da dor que possibilitem uma abordagem mais rápida, eficaz e sistemática, assegurando o alívio do sofrimento e uma melhor experiência dos doentes.

Objetivo: Identificar o impacto da existência de protocolos de gestão da dor, aplicados por enfermeiros, nos serviços de urgência.

Metodologia: Realizou-se uma revisão sistemática da literatura baseada na pergunta: "Qual o impacto da existência de protocolos, aplicados por enfermeiros, na gestão da dor dos doentes que recorrem ao serviço de urgência?". A pesquisa foi conduzida em dezembro de 2023 na plataforma EBSCO *Discovery Service*, utilizando descritores validados. Como critérios de

inclusão consideramos indivíduos que recorrem ao serviço de urgência, estudos primários com texto integral, revisto por pares, com data de publicação entre 2019-2023. Após análise, selecionaram-se 6 artigos.

Resultados/Discussão: Os estudos analisados evidenciam que a implementação de protocolos de gestão da dor reduz o tempo de espera para o tratamento, proporciona um alívio mais rápido e eficaz da dor e melhora a experiência global do doente nos serviços de urgência.

Conclusões: A adoção de protocolos de gestão da dor tem impacto significativo na redução do tempo até ao tratamento, na eficácia do alívio da dor e na experiência do doente, reforçando a importância da sua implementação nos serviços de urgência.

Palavras-chave: Dor; Enfermeiros; Gestão da Dor; Protocolos; Serviço de Urgência; Triagem.

RESUMEN

Introducción: El dolor es un reto en los servicios de urgencias, y su tratamiento es un derecho de los pacientes y un deber de los profesionales sanitarios. La saturación de estos servicios refuerza la necesidad de protocolos de manejo del dolor que permitan un abordaje más rápido, eficaz y sistemático, asegurando el alivio del sufrimiento y una mejor experiencia del paciente.

Objetivo: Identificar impacto de los protocolos de manejo del dolor aplicados por enfermería en los servicios de urgencias.

Metodología: Se realizó una revisión sistemática de la literatura a partir de la pregunta: "¿Cuál es el impacto de la existencia de protocolos, aplicados por el personal de enfermería, en el manejo del dolor de los pacientes que acuden a urgencias?". La búsqueda se realizó en diciembre de 2023 en la plataforma EBSCO *Discovery Service*, utilizando descriptores validados. Como criterios de inclusión, se consideraron personas usuarias del servicio de urgencias, estudios primarios a texto completo, revisados por pares, con fecha de publicación entre 2019-2023. Tras el análisis, se seleccionaron 6 artículos.

Resultados/Discusión: Los estudios analizados muestran que la implementación de protocolos de manejo del dolor reduce los tiempos de espera para el tratamiento, proporciona un alivio del dolor más rápido y efectivo y mejora la experiencia general del paciente en los servicios de urgencias.

Conclusiones: La adopción de protocolos de manejo del dolor tiene un impacto significativo en la reducción del tiempo hasta el tratamiento, la efectividad del alivio del dolor y la experiencia del paciente, lo que refuerza la importancia de su implantación en los servicios de urgencias.

Descriptores: Dolor; Enfermería; Manejo del Dolor; Protocolos; Triaje; Urgencias.

INTRODUCTION

Emergency services are fundamental pillars of the healthcare system to respond to urgent/emergency situations. However, high demand leads to overcrowding in services and, consequently, longer waiting times and longer patient stays, with a negative impact on the quality of the service[1,2].

To improve the management of patient admission processes in emergency services, risk classification systems have been developed considering the severity of each episode. Thus, a triage system was implemented that prioritizes care based on severity, assessed at the patient's first contact with a healthcare professional in a hospital environment[3]. Triage is carried out by nurses with specific technical and scientific skills in the area of urgency/emergency[4].

Pain is seen as a constant challenge in the healthcare area, whose intervention and management are considered fundamental rights of individuals and inalienable duties of healthcare professionals. Pain management is an ongoing challenge for healthcare professionals, and its proper assessment and control are crucial, highlighting it as a symptom that, when persistent and of high intensity, may have a significant impact on the physical and mental health of patients. The relationship between pain and suffering is emphasized as an ethical and professional aspect, and the denial or devaluation of pain constitutes a compromise in the quality of healthcare. Throughout the life cycle, regardless of age or the nature of the pain, it is essential to recognize, to evaluate and to respect the pain experience of patients. Nevertheless, and despite the efforts and commitment of professionals to improve care, it is important to emphasize that gaps still persist in the assessment and treatment of pain[5].

In emergency services, the nurse is the first healthcare professional to come into contact with the sick person. Therefore, in order to ensure their comfort and satisfaction of their needs, it is crucial to be able to identify, characterize and intervene in pain as early as possible[6]. Characterized by its individuality and complexity, pain is described as an unpleasant sensory experience, related to multidimensional concepts and past painful experiences and influenced by social, cultural and emotional aspects[7]. It is defined by the International Association for the Study of Pain (IASP) as an unpleasant sensory and emotional experience, associated with a specific or potential tissue injury or described in relation to such injury, playing an important role in prevention and recovery of the body's normal functions[7]. Given the well-known challenges of logistical and human resources management in emergency services, the unpleasant experience of the disease, based on long waiting times, may worsen the patient's clinical condition. Therefore, early pain management is an essential component of providing quality care in emergency services[7,8].

Early administration of analgesia is essential, since prolonged pain can intensify the sympathetic nervous system response, leading to cardiovascular, metabolic and immunological changes, in addition to negatively impacting the experience, well-being and psychological state of patients. The implementation of strategies to improve pain management in emergency services aims to promote speed in the administration of analgesic therapy and reduce the length of stay in the service[9].

Currently, in the vast majority of emergency departments without established protocols, pain control through the administration of analgesics can only be initiated after medical assessment and prescription. Thus, in overcrowded environments, such as emergency departments, considerable delays between admission and medical care are common, resulting in increased time until analgesics are administered[10,11]. With the implementation of pain management protocols applied by nurses, these professionals could administer drugs according to validated and pre-defined criteria, ensuring a more structured and rapid approach, without patients having to wait for a medical assessment. However, this approach should not neglect the simultaneous implementation of non-pharmacological strategies, which enhance the effect of treatment, allowing the use of lower doses of drugs, with reduced side effects and healthcare costs[12].

To support these protocols, pain assessment is necessary using validated scales adapted to each individual. The use of self-assessment scales, such as the Visual Analogue Scale [VAS], Numerical Scale [NS], Faces Scale [FS] and Qualitative Scale [QS] is recommended; or hetero-assessment, such as the Critical Care Pain Observation Tool [CPOT]. Published scientific evidence emphasizes that all scales are valid, appropriate and reliable in the emergency context[13].

Therefore, based on these premises and with pain management integrated into the units of the Specific Competencies of the Specialist Nurse in Medical-Surgical Nursing – Critical Situation Person, set out in Regulation No. 429/2018, of July 16, of the Portuguese Nurses Association[14], it is considered pertinent to carry out a systematic review with the aim of identifying the impact of the existence of pain management protocols, applied by nurses, in emergency services.

METHODOLOGY

This systematic literature review was undertaken in search of new knowledge to ensure excellent care, building on theoretical knowledge and clinical experience. The main aim of this review is to identify the impact of the existence of pain management protocols, applied by nurses, in emergency services.

The PICO (Population, Intervention, Comparison and Outcomes) methodology[15] was used for this study, as follows: Population – patients who use the emergency service; Intervention – pain management protocols applied by nurses; Comparison – not applicable; and Outcomes – pain management.

Based on this methodology, the central question of this systematic review was formulated, which guides the research strategy and ensures the relevance of the results. Thus, the following research question was defined: "What is the impact of the existence of protocols, applied by nurses, on the pain management of patients who use the emergency service?".

The research was conducted on the EBSCO Discovery Service platform, selecting the CINAHL Ultimate and MEDLINE Ultimate databases. The search strategy was outlined using the descriptors "Pain Management", "Nurses", "Emergency Service", "Triage" and "Nursing Protocols", previously validated in the Health Science Descriptors/Medical Subject Headings (DeCS/MeSH)[16]. These descriptors were crossed with the Boolean operator "AND", allowing the intersection of the terms and delimiting the results obtained.

The research was conducted in December 2023 and, in addition to the selection of the databases, inclusion criteria were applied, considering only articles with full text available, peer-reviewed, published between January 1, 2019 and December 31, 2023, in Portuguese, English and Spanish. Based on these criteria, 208 articles were obtained. Next, a screening process was carried out based on the analysis of the titles, excluding articles that were not relevant to the topic. This process resulted in 10 articles, of which 7 were selected after analysis of the abstracts. Subsequently, the full reading of these articles allowed the inclusion of 6 studies in this review, as they met the established criteria and answered the research question. The selection process is detailed in Figure 1↗, which presents the PRISMA 2020 Diagram[17], documenting each stage of inclusion and exclusion of articles.

To assess the methodological quality of the selected studies, the critical analysis tools of the Joanna Briggs Institute [JBI] – Critical Appraisal Tools[18] were used.

Based on the JBI levels of evidence, taking into account effectiveness, it was found that all articles had a level 3.c. All articles were also reviewed according to the JBI grade of recommendation – JBI Grades of Recommendation, in accordance with the FAME method using Feasibility, Adequacy, Significance and Effectiveness, thus confirming a high methodological quality for all studies with a grade of recommendation of A – strong, as can be seen in Table 1↗[18].

RESULTS

Table 2↗ summarizes the data extraction from the studies included in this systematic review, following the JBI guidelines. The table includes information about the author, study aim, sample, interventions, results, period and country of origin.

DISCUSSION

This systematic review presents the most recent scientific evidence on the impact of pain management protocols implemented by nurses in emergency departments. Considering the analysis of the studies (A1[19], A2[20], A3[21], A4[22], A5[23], A6[24]), all of them highlight that the development of pain management protocols can positively influence the quality of patient care and efficiency in emergency departments, with a significant reduction in waiting time for treatment and consequent improvement in pain management and the patient's own experience.

Study A2[20] demonstrates that the implementation of the analgesic medication administration protocol by nurses resulted in faster pain control and consequently in a reduction in analgesia in adult patients admitted to an emergency department classified as semi-urgent. These results corroborate evidence reported in other developed countries, as demonstrated by Sepahvand *et al* (2019)[24], Pierik *et al* (2016)[25], Finn *et al* (2012)[26] and Fosnocht (2007)[27], who state that pain management protocols initiated by nurses resulted in a reduction in the time to analgesia, a decrease in the level of pain and an increase in patient satisfaction. However, it was not possible to demonstrate the impact of the pain protocol on the length of stay in the service, concluding that the implementation of these protocols continues to be a challenge.

In study A6[24], applied to patients with pain resulting from musculoskeletal injuries, two groups and two moments were considered: the pre-intervention group (before the application of the pain management protocol) and the post-intervention group (after the application of the pain management protocol). The implementation of the protocol at triage significantly reduced pain intensity and improved patient satisfaction compared to the pre-intervention group, with 75.8% of patients in the post-intervention group receiving pharmacological treatment within the first hour. Nursing performance improved significantly when the protocol was implemented as it allowed for more effective assessment, reassessment and management of pain, timely administration of analgesia, recording of pain scores, and decreased waiting time from hospital admission to medical observation and discharge/hospital transfer. The mean time to administration of the first analgesic decreased from 64 to 22 minutes after the protocol was implemented. These authors highlighted that these data are corroborated by several studies demonstrating that nurse-initiated pain management protocols can significantly reduce waiting time for analgesic administration. Muntlin *et al* (2011)[28] reported that nurse-initiated administration of analgesics does not increase the risk of misdiagnosis and can reduce waiting time. Patrick *et al* (2015)[29] described a mean reduction of 68 minutes in time from initial assessment to administration of analgesia. Pierik *et al* (2016)[25] showed that nurse-initiated pain management protocols improve the frequency of analgesic administration, while Ridderikhof *et al* (2017)[30] indicated that their implementation can reduce the length of stay in the emergency department. Furthermore, Vatnøy *et al* (2013)[31] reported that the adoption of these protocols may increase patient satisfaction by reducing waiting times.

Another study that highlights the positive influence of administering analgesia since triage is A5[23], which demonstrates a considerable decrease in pain levels assessed by VAS after the intervention, as well as improving the care of patients seeking emergency care, reducing pain during the waiting time for medical evaluation, which increases the effectiveness and efficiency of the care received. Finn *et al* (2012)[26] corroborate these findings when analyzing the influence of administering analgesia since triage by Advanced Practice Nurses (APNs), demonstrating a significant reduction in pain levels after the intervention. Similarly, Hatherley *et al* (2016)[32] conducted a literature review and concluded that the performance of APNs improves the effectiveness of care, ensuring faster and more efficient pain treatment. These results reinforce the importance of implementing protocols that enable early administration of analgesia by nurses, reducing the need for subsequent medical prescription and optimizing care flows in emergency services. Furthermore, the high adequacy of protocol activation observed in the study highlights its safety and clinical applicability, in line with the trend towards valuing the role of nursing in pain management in emergency settings.

Study A4[22] discusses the impact of a new analgesic administration protocol that allowed emergency room nurses to administer paracetamol and oral opioid analgesics without prior medical validation, in accordance with a strict list, whereas the previous protocol only allowed the administration of acetaminophen. There was an increase and improvement in the administration of analgesics in patients with severe pain, with an exponential increase in the administration of oral opioids in this group. The study also demonstrated that the average time from admission to the administration of the first analgesic by the triage nurse decreased, from 18 to 16 minutes, suggesting that the implemented protocol was successful in facilitating access to pain treatment for patients. Contrary to what is reported in several studies in the USA, such as those ones by Jones *et al* (2014)[33] and Lyapustina *et al* (2017)[34], who mention the high risk of opioid misuse in emergency services and, for this reason, create barriers to the creation and application of these protocols, this study demonstrated that, despite surveillance being recommended, the risk was controlled by excluding patients with acute or chronic poisoning.

In study A3[21], conducted in Australia, the prevalence and importance of nurse-initiated analgesia protocols in emergency departments is highlighted. The service where the study was conducted has a well-structured and consolidated policy, allowing more than 80% of nurses to administer analgesic medication, from paracetamol to intravenous opioids. According to Cabilan & Boyde (2017)[35], a systematic review and meta-analysis demonstrated that the administration of analgesia according to protocols reduced the waiting time of patients by 30 minutes compared to those who had to wait for medical evaluation. The results of this study, which indicate an average time of 48 minutes for the administration of the first analgesic, are in line with the best practice recommendations described by Hatherley *et al* (2016)[32], evidencing the direct relationship between the professional responsible for prescribing analgesia and the time until its administration. In this context, Finn *et al* (2012)[26] highlight nurse-initiated analgesia protocols as a fundamental strategy for rapid pain relief in the emergency department. However, according to Varndell, *et al* (2018)[36], in a systematic review that analyzed the implementation of these protocols in different emergency department settings, it was not possible to demonstrate that this approach significantly reduces the total length of stay of patients in the service, despite evidence that the protocols allow for faster administration of the first analgesic.

Regarding the resistance to the implementation of these protocols in some countries, already mentioned previously in study A4[22], it is reinforced in study A1[19], in which the lack of clear policies and legal restrictions in the United States of America can hinder and, in some cases, prevent the efficient and timely implementation of nurse-initiated pain management protocols, resulting in delays in the provision of care and prolonged patient suffering. However, studies such as those by Bruce *et al* (2015)[37], Considine *et al* (2019)[38] and Ho *et al* (2018)[39]

argue that despite these regulatory barriers, nurse-initiated protocols have demonstrated improvements in the efficiency of emergency services, reducing waiting times and improving the quality of care provided. Furthermore, Douma *et al* (2016)[40] point out that resistance from other professional classes, as well as inadequate training of nurses, may pose additional challenges to the implementation of these protocols. On the other hand, studies such as those by Gurney *et al* (2014)[41] highlight that inconsistent regulation across different US states creates uncertainty in clinical practice and may limit the adoption of evidence-based measures. Given this scenario, Castner *et al* (2013)[42] suggest that laws should be reformulated to a national standard, allowing nurses to act more autonomously within established protocols, promoting an evidence-based approach aligned with the evolving needs of society and the health care delivery system.

It is fundamentally important to highlight and to relate the main points between the studies. All authors of the 6 studies included (A1[19], A2[20], A3[21], A4[22], A5[23], A6[24]) consider that the implementation of protocols for the administration of analgesic therapy by nurses in hospital emergency departments can benefit patients. It is worth highlighting the importance of protocols in reducing waiting times for pain treatment and in improving pain management and the patient experience. There is consensus on the positive role of protocols in reducing pain and the number of analgesics, and also increasing patient satisfaction. However, the challenges and barriers associated with the implementation of these protocols by higher authorities and the countries themselves are also highlighted, particularly in studies by A1[19], A3[21] and A4[22].

CONCLUSION

Based on the studies, it is possible to conclude that the implementation of specific protocols suggests significant benefits in the management of pain in patients. The results of the studies analyzed indicate a reduction in waiting time for treatment and faster and more effective pain relief, and a potential improvement in the overall patient experience in emergency services. Despite the encouraging results, it is important to recognize that there are challenges to be overcome, such as institutional and professional resistance, legal barriers and the need for ongoing training so that nurses can act with greater autonomy in the implementation of analgesia protocols. These obstacles can limit the effective application of these protocols in the emergency service and, consequently, compromise the quality of patient care. Therefore, it is essential to adopt an integrated approach that considers not only the implementation of protocols, but also issues related to organizational culture, professional training

and institutional policies. In addition, it is essential to promote the adoption of evidence-based practices and the reform of health policies to ensure effectiveness and efficiency in pain management in hospital emergency services, always aiming at the well-being and satisfaction of the patient. In summary, despite the identified obstacles, the creation and implementation of well-structured, nurse-initiated pain management protocols with a solid legal basis and institutional support not only promotes patient comfort and satisfaction, but can also have a positive impact on the overall efficiency of the emergency department, enabling more agile and effective care. Therefore, despite the challenges, the results suggest that the implementation of these protocols is beneficial. From a macroeconomic perspective, efficient pain management allows for cost reduction and health gains.

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RP: Coordination of the study, study design, collection, storage, analysis and review and discussion of the results.
MT: Coordination of the study, study design, collection, storage, analysis and review and discussion of the results.
MS: Study design, data analysis, review and discussion of results.
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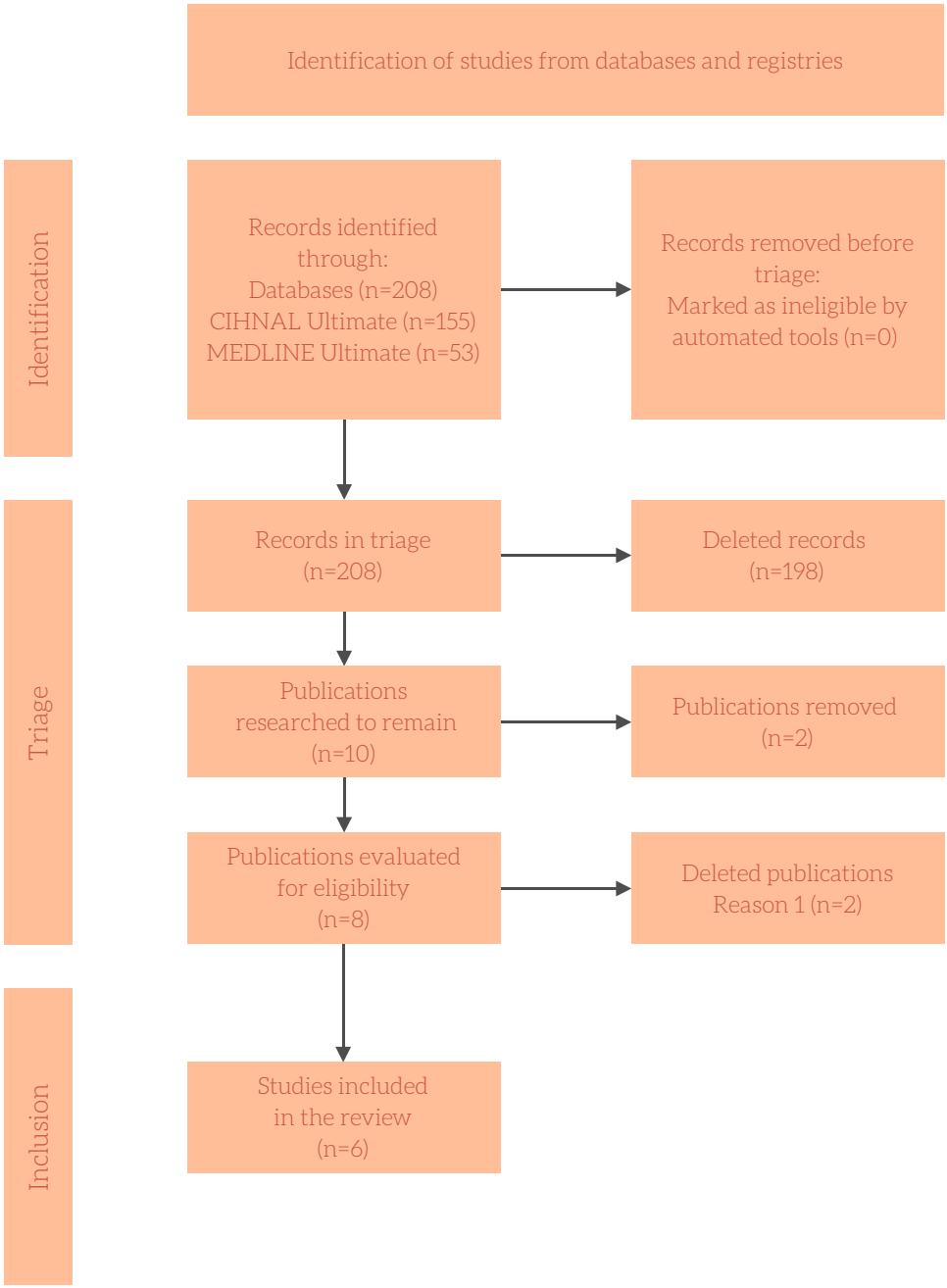

Figure 1 – Flow diagram adapted from PRISMA Statement representing the research process[17].

Table 1 – Type of studies and assessment of the level of evidence and level of recommendation of the studies according to JBI.[↖]

Identification of studies	Type of study	Level of evidence	Recommendation grade
A1[19] – Castner & Boris (2020)	Correlational Approach With A Cross-Sectional	3.c	STRONG
A2[20] – Santos *et al* (2021)	Prospective Cohort	3.c	STRONG
A3[21] – Hughes *et al* (2021)	Retrospective Cohort	3.c	STRONG
A4[22] – Muscat *et al* (2021)	Observational, Retrospective, Single-Center	3.c	STRONG
A5[23] – Rodríguez-Montalvo *et al* (2020)	Retrospective Cohort	3.c	STRONG
A6[24] – Sepahvand *et al* (2019)	Pre-Post Intervention Design	3.c	STRONG

Table 2 – Data extracted from the analyzed articles.

Authors	Aims of the study	Sample	Intervention	Results	Time/ Country
A1[19] Castner & Boris (2020).	To explore the relationship between the state regulatory environment and the use of nurse-initiated protocols in emergency departments in the United States of America [USA].	A total of 350 surveys were returned from 48 US states and the District of Columbia. Sixty-three percent were ED nurses, 26% were hospital managers or administrators, hospital managers or administrators with emergency department [ED] responsibilities, and the remaining 11% included educators, physicians, nurses, nursing professors, nurses in non-ED departments, or administrators without ED responsibilities.	A nine-item questionnaire was developed for the purposes of this study. It addressed the characteristics and policies of the hospital where the participants work and was prepared electronically via an Internet connection using Vovici software. It included open-ended fields for comments after multiple binary response options to a question about whether the nurse could initiate activities based on protocols established by the hospital.	There is a statistically significant relationship between hospital policy and nursing practice. Regulatory barriers such as prohibitions on nurse-initiated protocols may limit the quality and efficiency of life-saving emergency care in several states. Additional research is needed to better elucidate the implications of delayed treatment in emergency departments resulting from state prohibitions on nurse-initiated protocols. However, participants in this study reported that nurse-initiated protocols offer advantages such as reduced wait times and improved patient satisfaction. Experience suggests that such protocols can increase treatment efficiency and optimize patient flow, but it is unclear whether their implementation is legal.	From January to June, 2014. USA.
A2[20] Santos *et al* (2021). A3[21]	To evaluate the implementation of a nurse-initiated pain management protocol for patients triaged as semi-urgent, and its impact on pain intensity in the emergency department.	A total of 185 adult patients (18 years old or older) were included in this study.	Of the 185 patients included, 55 (30%) received the intervention (pain management protocol applied) and 130 (70%) were treated conventionally (analgesic medication administered after medical evaluation).	Patients in the intervention group reported more significant reductions in pain levels. The implementation of the nurse-initiated pain management protocol resulted in more significant improvement in pain and decreased use of analgesics when compared to patients who were managed in the conventional manner.	Between April and December 2015. Brazil.

Table 2 – Data extracted from the analyzed articles.

Authors	Aims of the study	Sample	Intervention	Results	Time/ Country
A3[21] Hughes *et al* (2021).	To examine factors associated with time to administration of the first analgesic medication in the emergency department.	A total of 383 patients were included in this study.	The variable of this study (time to administration of the first analgesic medication in the emergency department) was extracted from the patient's medication administration record and the electronically recorded arrival time. A model containing nine explanatory variables associated with time to first analgesic medication was identified.	Of the 383 patients, 290 (75.92%) received analgesic medication in an average time of 45 minutes (reference time in Australia is 30 minutes). This article corroborates previous studies that emphasize the importance of nurse-initiated analgesia administration protocols for timely pain management, highlighting that patients have access to medication earlier compared to those to whom such protocols are not applied.	Not defined. Australia.
A4[22] Muscat *et al* (2021).	To assess the impact of a new pain management protocol initiated by nurses, without the need for a medical prescription, for patients with moderate or severe pain in the emergency department of a hospital in France.	A total of 756 patients aged 16 years old with moderate to severe pain were included: 377 before and 379 after implementation of the protocol.	The study evaluated the implementation of a nurse-initiated protocol for the treatment of moderate to severe pain in 16-year-old patients, with oral administration of paracetamol and strong opioid analgesics on admission.	The use of oral analgesics at admission increased from 44.3% to 57.8% and from 50.2% to 76.6% among patients with severe pain. The administration of strong opioid analgesics increased from 2.1% to 41.2%. Physician prescriptions for analgesics decreased from 28.6% to 21.4%. These results suggest that the implementation of the protocol allowed for a faster initiation of pain management, ensuring that patients received analgesia more quickly, especially in cases of severe pain. Furthermore, greater autonomy of nurses in pain management reduced the need for direct medical intervention for initial analgesia, reducing delays in pain relief and promoting more efficient use of analgesia in the emergency department.	From 4-10 January or 16-22 May 2016 (before implementation of the protocol), and from 2-8 January or 15-21 May 2017 (after implementation of the protocol). The protocol was implemented in October 2016. France.

Table 2 – Data extracted from the analyzed articles.

Authors	Aims of the study	Sample	Intervention	Results	Time/ Country
A5[23] Rodríguez-Montalvo *et al* (2020).	To assess the adequacy of the "moderate" pain management protocol, through advanced triage, and its impact on the need for subsequent analgesia in the emergency department in Spain (Costa do Sol Health Agency).	357 patients were included in this study.	The intervention consisted of the triage nurse offering an individual oral analgesia kit consisting of 1 gram of paracetamol and 25 mg of dexketoprofen to patients with moderate pain (level III or IV according to the Spanish triage system), with no previous pathology, no allergies to the aforementioned compounds, and who had not taken analgesia in the previous 6 hours.	60.8% (n = 217) of patients did not require analgesia during their stay in the emergency department after administration of the initial kit during triage. In the remaining 39.2% (n = 140) who required analgesia with a subsequent medical prescription, the intravenous route was the most used, corresponding to 52.1% of cases. Patients' pain levels measured by VAS decreased considerably after the intervention, supporting the administration of analgesia initiated by nurses to improve care for patients arriving at the emergency department.	Between 1 November 2014 and 30 November 2015. Spain.
A6[24] Sepahvand *et al* (2019).	To evaluate the effects of a nurse-initiated pain management protocol in patients with musculoskeletal injuries in the emergency department of a hospital in Iran.	240 patients with traumatic injuries were included	The intervention consisted of case study sessions and implementation of a nurse-initiated pain management protocol. Outcomes were assessed based on the pain score according to the numerical scale, the pain management satisfaction questionnaire, the nursing performance checklist and the waiting time assessment form.	Mean pain intensity 30 and 60 minutes after triage and at discharge decreased significantly in the post-intervention group. Patient satisfaction with pain management and nurse performance improved in the post-intervention group. Waiting time: There was a significant reduction in the post-intervention group in the time from completion of triage to medical observation, from patient arrival to discharge or transfer, and time to administration of first analgesia.	Between January and July 2016. Iran.