

# Pain management: education of the adult Intensive Care Unit nursing staff

*Gerenciamento da dor: educação da equipe de enfermagem da Unidade de Terapia Intensiva adulta*

Micheli Wojciechowski<sup>1</sup>, Larissa Marcondes<sup>1</sup>, Mariéli Terassi<sup>1</sup>

<https://doi.org/10.5935/2595-0118.20240038-en>

## ABSTRACT

**BACKGROUND AND OBJECTIVES:** Taking into account the complexity and subjectivity of pain for the patient and the need for constant updating of the healthcare team, the objective was to verify the knowledge and care practices of the nursing team regarding pain management in hospitalized adult patients in the Intensive Care Unit (ICU) before and after carrying out an educational activity.

**METHODS:** 32 nurses and nursing technicians who had been working in the ICU for more than six months participated. The stages included the application of the pre-test, educational activity and post-test, addressing assessment scales and pharmacological and non-pharmacological management methods.

**RESULTS:** Regarding the concepts of chronic pain and acute pain, 68% responded that they knew the differences, however 15% answered questions related to acute pain correctly and 3% answered questions related to chronic pain correctly in the pre-test. Regarding prior knowledge about pain assessment scales, 84% knew the Numerical Verbal Scale, 15% knew the Behavioral Pain Scale, and 6% knew the Advanced Dementia Pain Scale; 62% said they had difficulty assessing pain in patients with advanced dementia and/or on mechanical ventilation. In questions

related to pharmacological management, 44% got the questions right in the pre-test and 71% got them right in the post-test. Regarding non-pharmacological management, 31% always perform it, and 96% use adequate positioning in bed as a measure.

**CONCLUSION:** After the educational activity, there was an increase in the number of correct answers regarding questions related to assessment scales, pharmacological and non-pharmacological management.

**Keywords:** Intensive Care Unit, Nursing, Pain assessment.

## RESUMO

**JUSTIFICATIVA E OBJETIVOS:** Levando em consideração a complexidade e subjetividade da dor para o paciente e a necessidade de atualização constante da equipe de saúde, objetivou-se verificar o conhecimento e as práticas assistenciais da equipe de enfermagem acerca do manejo da dor de pacientes adultos internados na Unidade de Terapia Intensiva (UTI) antes e após a realização de uma atividade educativa.

**MÉTODOS:** Participaram do estudo 32 enfermeiros e técnicos de enfermagem alocados em UTI há mais de seis meses. As etapas compreenderam a aplicação do pré-teste, atividade educativa e pós-teste, abordando escalas de avaliação e métodos de manejo farmacológico e não farmacológico.

**RESULTADOS:** Quanto aos conceitos de dor crônica e dor aguda, 68% responderam que conheciam as diferenças, porém 15% acertaram questões relacionadas à dor aguda e 3% acertaram questões relacionadas à dor crônica no pré-teste. Quanto ao conhecimento prévio sobre as escalas de avaliação da dor, 84% conheciam a Escala Verbal Numérica, 15% conheciam a *Behavioral Pain Scale*, e 6% conheciam a Escala de dor na Demência Avançada; 62% afirmaram sentirem dificuldade em avaliar a dor em pacientes com demência avançada e/ou em ventilação mecânica. Nas questões relacionadas ao manejo farmacológico, 44% acertaram as questões no pré-teste e 71% acertaram no pós-teste. Em relação ao manejo não farmacológico, 31% realizam sempre, e 96% utilizam como medida o posicionamento adequado no leito.

**CONCLUSÃO:** Após a atividade educativa, houve aumento no número de acertos referente às questões relacionadas às escalas de avaliação, manejo farmacológico e não farmacológico.

**Descritores:** Avaliação da dor, Enfermagem, Unidade de Terapia Intensiva.

Micheli Wojciechowski – <https://orcid.org/0000-0002-1091-8128>;  
Larissa Marcondes – <https://orcid.org/0000-0002-8745-6486>;  
Mariéli Terassi – <https://orcid.org/0000-0002-8933-3519>.

1. Federal University of Paraná, Clinical Hospital Complex, Urgent and Emergency Care Multiprofessional Residency, Curitiba, PR, Brazil.

Submitted on February 10, 2024.

Accepted for publication on May 07, 2024.

Conflict of interests: none - Sponsoring sources: none.

## HIGHLIGHTS

- The complexity and subjectivity of pain for the patient and the need for constant updating of the healthcare team.
- The results reveal gaps in the nursing team's knowledge and care practices.
- After the educational activity, there was an increase in the number of correct answers related to the topics covered in the questionnaire.

Associate editor in charge: Maria Belén Salazar Posso  
<https://orcid.org/0000-0003-3221-6124>

## Correspondence to:

Micheli Wojciechowski

E-mail: micheli.woj1512@gmail.com



This is an open-access article distributed under the terms of the Creative Commons Attribution License.

## INTRODUCTION

Within the Intensive Care environment, numerous intrusive and painful procedures are carried out, with approximately half of patients reporting pain at some point during their hospitalization. Correct pain assessment is associated with less time spent on mechanical ventilation (MV) and a lower risk of infection<sup>1</sup>.

In an attempt to raise awareness about the patients' pain, pain has come to be referred to as the fifth vital sign and is measured using various scales and assessment methods. Pain is subjective and can be associated with tissue damage or not, and includes various pathophysiologicals. Although pain brings extreme discomfort to the patient and has a high incidence in hospitalized patients, it is often not given relevance during treatments<sup>2</sup>. Within the critical care environment, pain assessment has additional barriers, as many of these patients are sedated or have neurological injuries that make it impossible to measure it properly<sup>2</sup>.

It is up to nurses to ensure safe analgesia, promote comfort and pain control measures, apply non-pharmacological techniques for relief, and apply drugs before activities that may cause pain<sup>2</sup>.

The gap in knowledge regarding understanding the importance of pain assessment and knowledge about pain management has been perceived since the undergraduate process. In a survey of undergraduate nursing students, approximately half of the participants in the study did not learn how to assess pain as the 5th vital sign, and around 68% reported not having been encouraged by their teachers to use pain assessment scales during the curricular internship period<sup>3</sup>.

Another study also points out that approximately 65% of those interviewed believe they didn't receive enough information about pain management during their undergraduate studies and 87% said they didn't know the International Association for the Study of Pain (IASP) definition<sup>4</sup>.

The Intensive Care Unit (ICU) is an environment that requires constant updating through health education for professionals, due to the care provided to patients in serious conditions and the technology that are used. However, the fragility of this practice is mainly related to the high demand on professionals due to the intensive care characteristics of the patients, or even the availability of the unit's schedule and routine<sup>5</sup>.

Taking into account the complexity and subjectivity of pain for the patient, the lack of knowledge of many professionals in the evaluation and management of pain, a result of the undergraduate courses and the need for constant updating, especially in an intensive care environment, the present study's objective was to verify the knowledge and care practices of the nursing team regarding the management of pain in adult ICU patients before and after an educational activity.

## METHODS

This is a quantitative, descriptive cross-sectional study carried out with the nursing teams of three ICUs at the Clinical Hos-

pital Complex of the Federal University of Paraná (CHC-U-FPR), which offer tertiary health care services.

Participants were selected using a non-probabilistic convenience sampling plan. The following inclusion criteria were used to select the participants: nurses and nursing technicians assigned to the adult ICU who had been working directly in the care of critically ill patients for more than six months. The exclusion criteria were: professionals on vacation and/or on leave during the collection period, professionals transferred to other sectors within the hospital during the collection period and those who did not answer the questionnaire after the educational intervention.

Data collection took place from June to September 2023, in the participants' sector, so as to minimally interfere with the sector's routine. Data was collected during the day and at night. The questionnaire applied in the pre- and post-intervention stages was developed by the researchers due to the absence in the literature of validated instruments in Brazil that aim to identify professionals' prior knowledge of pain. Thus, the instrument was constructed based on the existing literature regarding basic precepts related to pain, pharmacological and non-pharmacological treatment and the main scales used to assess pain, and consists of two sections.

The first section contains questions on sociodemographic data and the second section consists of 27 questions on basic concepts of pain, pharmacological and non-pharmacological management methods, and pain assessment scales. The variables were measured using multiple-choice questions. After approval by the Ethics Committee, the questionnaire was sent to three researchers with experience in pain studies for evaluation and recommendations on the selected questions. A pilot test was carried out with five nurses to assess the applicability of the questionnaire and the educational activity.

After the participants agreed to take part and signed the Free and Informed Consent Term (FICT), the pre-test was applied. Shortly after, the educational intervention was carried out, lasting 30 minutes, and then the professionals answered the post-test.

The educational intervention methodology used was applied after the pre-test had been completed. A dialogic lecture was chosen, consisting of content transmitted through verbal guidance covering the following topics: pain physiology, pharmacological and non-pharmacological interventions and pain assessment methods using validated scales, and problem-based learning. A post-test was administered after the educational intervention.

The data was organized in a Microsoft Excel<sup>®</sup> spreadsheet and tabulated using frequency analysis.

The research project was approved by the HC-UFPR Human Research Ethics Committee under opinion no. 6.084.679 of May 27, 2023.

## RESULTS

The results of the study were presented in five parts: sociodemographic profile, knowledge and behavior related to pain

concepts and evaluation, knowledge of assessment scales, pharmacological management, and non-pharmacological management. Thirty-two professionals working in an adult ICU environment took part in the study, 17 of them nurses and 15 nursing technicians. The sociodemographic characteristics of the participants are shown in table 1.

Most of the participants were female (75%), with a mean age of 39. The majority has worked as nurses or nursing technicians for more than 10 years (68.75%), and has worked in ICU for between 1 and 5 years (31.25%). In terms of training, 50% had specialization degrees. Most of the professionals had only one employment contract (81%).

Table 2 shows the data on the professionals' knowledge and behavior in relation to pain concepts and assessment.

Of the nursing professionals involved in the research, 59% said they had taken part in some training related to pain, 9.37% knew the concept of total pain at the time of the pre-test, when

asked if they knew how to differentiate between acute pain and chronic pain, 68% reported knowing how to differentiate, but 84.37% got questions related to acute pain wrong and 96.68% got questions related to chronic pain wrong in the pre-test. In the post-test, 65.62% got acute pain questions right and 78.12% persisted getting chronic pain questions wrong.

As for assessing pain when checking vital signs, 53.12% of the participants reported that they always did so and 56.25% sometimes recorded the assessment in their medical records. Of the survey participants, 62.5% reported difficulty in assessing pain in patients with MV and/or advanced dementia.

As for the participants' knowledge of assessment scales, 84.37% know the Verbal Numeric Scale (VNS)<sup>6</sup>, 15.62% know the Behavioral Pain Scale (BPS)<sup>7</sup> and 6.25% know the Pain Assessment in Advanced Dementia Scale (PAINAD)<sup>8</sup>. Table 3 shows the data related to professionals' knowledge of pain scales.

In the pre-test, 81.25% got VNS questions right, 12.5% got BPS questions right and 12.5% got PAINAD questions right. In the post-test, 93.75% got VNS questions right, 87.5% got BPS questions right and 75% got PAINAD questions right.

**Table 1.** Sociodemographic profile of the participants

Variables	n	%
<b>Gender</b>		
Female	24	75
Male	8	25
<b>Contractual relationship with the unit</b>		
Nurse	17	53.12
Nurse technician	15	46.87
<b>Time working as a nurse (years)</b>		
1 to 5	5	15.62
5 to 10	5	15.62
> 10	22	68.75
<b>Time working at the ICU (years)</b>		
< 1	6	18.75
1 to 5	10	31.25
5 to 10	7	21.87
> 10	9	28.12
<b>Schooling</b>		
Technician	10	31.25
Undergraduate	4	12.5
Specialization	16	50
Master's	2	6.25
Doctor's	0	0
<b>Specialization</b>		
Intensive Care	8	25
Urgent and Emergency Care	4	12.5
Oncology	2	6.25
Other	8	25
No specialization	10	31.25
<b>Employment</b>		
1 job	26	81
2 jobs	6	19
3 or more jobs	0	0

**Table 2.** Participants' knowledge and behavior regarding pain concepts and assessment

Variables	Pre-test		Post-test	
	n	%	n	%
<b>Knows the concept of total pain</b>				
Yes	3	9.37	29	90.62
No	29	90.62	3	9.37
<b>Acute pain</b>				
Right answers	5	15.62	20	62.50
Wrong answers	27	84.37	12	37.50
<b>Chronic pain</b>				
Right answers	1	3.12	7	21.87
Wrong answers	31	96.68	25	78.12
<b>Always evaluates pain when checking vital signs</b>				
Always	17	53.12	21	65.62
Sometimes	15	46.87	11	34.37
Rarely	0	0	0	0
Never	0	0	0	0
<b>Records the assessed pain score in the medical record</b>				
Always	8	25	14	43.75
Sometimes	18	56.25	14	43.75
Rarely	3	9.37	2	6.25
Never	3	9.37	2	6.25
<b>When to reassess pain after applying management measures</b>				
Right answers	21	65.62	30	93.75
Wrong answers	11	34.37	2	6.25
<b>Difficulty in assessing pain in patients with advanced dementia and/or patients on mechanical ventilation</b>				
Yes	20	62.5	19	59.37
No	9	28.12	8	25
Lack of knowledge	3	9	5	15

**Table 3.** Participants' knowledge of pain assessment scales

Variables	Pre-test		Post-test	
	n	%	n	%
<b>Verbal Numeric Scale</b>				
Aware	27	84.37	30	93.75
Not aware	5	15.62	2	6.25
<b>Behavior Pain Scale</b>				
Aware	5	15.62	26	81.25
Not aware	27	84.37	6	18.75
<b>Pain Assessment in Advanced Dementia</b>				
Aware	2	6.25	24	75
Not aware	30	93.75	8	25
<b>Question about the Verbal Numeric Scale</b>				
Right answers	26	81.25	30	93.75
Errors	2	6.25	2	6.25
Not aware	4	12.5	0	0
<b>Question about the Behavior Pain Scale</b>				
Right answers	4	12.5	28	87.5
Errors	4	12.5	3	9.37
Not aware	24	75	1	3.12
<b>Questions about the Pain Assessment in Advanced Dementia</b>				
Right answers	4	12.5	24	75
Errors	2	6.25	5	15.62
Not aware	26	81.25	3	9.37

**Table 4.** Participants' knowledge of pharmacological management with opioids

Variables	Pre-test		Post-test	
	n	%	n	%
<b>Codeine</b>				
Right answers	5	15.65	23	71.87
Wrong answers	27	84.37	9	28.12
<b>Morphine</b>				
Right answers	16	50	21	65.65
Wrong answers	16	50	11	34.37
<b>Fentanyl</b>				
Right answers	12	37.5	23	71.87
Wrong answers	20	62.5	9	28.12

Regarding the knowledge about the pharmacological management of opioids, 15.65% got questions about codeine right, 50% for morphine and 37.5% fentanyl in the pre-test. In the post-test, 71.87% got questions about codeine right, 65.65% for morphine and 71.87% for fentanyl (Table 4).

As for the non-pharmacological management (Table 5), 62.5% use it "sometimes", while 40.62% always record it in their medical records when carrying out non-pharmacological management. The most commonly used non-pharmacological measures were proper positioning of the patient in bed (96.87%), care with folded sheets (71.87%), fixing a bladder catheter

**Table 5.** Participants' behavior in non-pharmacological management

Variables	Pre-test		Post-test	
	n	%	n	%
<b>Uses non-pharmacological pain relief strategies</b>				
Always	10	31.25	22	68.75
Sometimes	20	62.5	10	31.25
Rarely	1	3.12	0	0
Never	1	3.12	0	0
<b>Records non-pharmacological pain relief actions taken in medical records</b>				
Always	13	40.62	12	37.5
Sometimes	11	34.37	18	56.25
Rarely	6	18.75	2	6.25
Never	2	6.25	0	0
<b>With regard to non-pharmacological pain relief measures, which of the following do you use or have you ever used?</b>				
Proper positioning of the patient in bed	31	96.87	31	96.87
Care with folded sheets	30	93.75	29	90.62
Fixing a bladder catheter	23	71.87	30	93.75
Fixing an orotracheal tube	23	71.87	30	93.75
Removal of physical stimuli	18	56.25	27	84.37
Performing airway suction	20	62.5	27	84.37
Performing intimate and body hygiene	21	65.62	28	87.5
Other	4	12.5	8	25

(71.87%), fixing an orotracheal tube (71.87%) and performing intimate and body hygiene (65.62%). Table 5 shows the data on the non-pharmacological strategies used by professionals to manage pain.

## DISCUSSION

It was found that 59% of the participants reported having taken part in training on pain, a percentage higher than that found in other studies, such as the one carried out in a city in Santa Catarina with nurses and nursing technicians, where only 27.5% had some subject on pain during their undergraduate studies, and 30.6% had carried out some training or educational activity on the subject<sup>9</sup>.

In another study carried out with nurses in the emergency department, only 29.2% considered their training to be adequate for the practice of assessing pain in critically ill patients<sup>10</sup>. In comparison, a study carried out in Colombia with nurses and nursing assistants, 63.3% reported having received previous training on the subject<sup>11</sup>.

Several measures can help to teach pain assessment and management, which can occur during the training process, by addressing pain in various subjects that make up the curriculum<sup>12</sup>, as well as in-service education<sup>13</sup>.

Most of the survey participants reported knowing the difference between acute pain and chronic pain (68%), as in another study carried out with professionals who care for cancer patients, where 76.4% reported knowing the differences<sup>14</sup>. However, in this study, when asked about differential concepts, 15.62% were right in their answers about acute pain and only 3.12% correctly answered questions about chronic pain.

According to the literature, acute pain has a protective purpose and signals an injury, while chronic pain can cause various complications for the body. The former lasts less than three months and both have different nociceptive transmission pathways, in addition to chronic pain being considered a disease<sup>15</sup>.

With regard to the assessment of pain, just over half (53.12%) of the participants rated it as the 5th vital sign. A study carried out with nursing professionals, which included various educational stages with the team, showed that the indicators of pain recorded as the 5th vital sign was 46.4% before the intervention and 92% after the last intervention in the inpatient units, from 53.1% to 75.6% in the Maternity Unit and 16.7% to 45.3% in the Emergency Room<sup>13</sup>. This finding corroborates another study, in which pain was recorded in the vital signs field in 41.90% of patients, 39.05% at screening and 2.86% during their stay in the unit<sup>16</sup>. Regarding the reassessment of pain after management measures, whether pharmacological or non-pharmacological, 65.62% agreed on the appropriate time as established in the institution's guidelines, which would be between 30 minutes and 1 hour after management. In addition, the findings of another study carried out in an emergency service showed that the record in the medical record regarding the reassessment of pain occurred in only 1.90% of patients<sup>16</sup>.

Self-reporting is considered the gold standard for pain assessment, but there are barriers that can hinder this process, such as the endotracheal tube and MV<sup>17</sup>. When asked about pain assessment in patients with advanced dementia and/or on MV, 62.5% said they found it difficult to assess these patients.

As described in the literature, one of the factors that hinders the correct assessment of patient pain is the team's lack of knowledge, since the assessment of patients on MV requires knowledge of ventilatory dynamics and parameters and behavioral identification. Another difficulty is practice based on experience rather than evidence<sup>17</sup>. The literature highlights the importance of educational activities as a way of remedying knowledge deficits and improving patient care<sup>13-18</sup>.

As for pain assessment scales, the best known was VNS (84.37%), followed by BPS (15.62%) and PAINAD (6.25%). VNS also appears as the most used in other literature (88.5%; 62.5%)<sup>10-14</sup>, followed by the Faces Scale (FS) (71.9%), Visual Analog Scale (VAS) (63.5%), BPS (2.1%) and PAINAD (1%)<sup>14</sup>.

The question related to the VAS included the correct statement related to its applicability in oriented patients with good cognitive ability<sup>6</sup>; as for the correct statement related to BPS, the aspects used for assessment were: facial expression, body movements and MV tolerance<sup>7</sup>; in relation to PAINAD, the correct answer included assessment characteristics: physiological state and behaviors such as breathing, vocalization, facial expression, body language and consolability<sup>8</sup>.

As for the use of opioids, the greatest knowledge in the pre-test referred to morphine, followed by fentanyl and codeine, with a greater number of correct answers in the post-test. In the questions related to pharmacological management, the correct statements were related to the maximum effect time of codeine VO (1h), morphine VO (1h), morphine IV (15 min), duration of effect of morphine (3 to 6h)<sup>19</sup>, onset of action (5 min) and duration (30 to 60 min) of fentanyl<sup>1</sup>, the main adverse effects of opioids: sedation, vomiting, sweating, constipation, nausea, drowsiness and dizziness<sup>19</sup>.

In a study carried out in a high-complexity tertiary hospital in the south of São Paulo between May 2019 and April 2020 with the nursing team before and after an educational intervention carried out in three stages, a week of theoretical and practical training, an assessment of adherence to the pain protocol and on-site guidance and electronic training on the subject, the treatment indicators went from 38% to 84% in the inpatient units, 49.4% to 81.8% in the Maternity Ward and 42% to 71.8% in the Emergency Room. The study concluded that educational activities have a relevant and lasting impact on the processes of assessing pain as the 5th vital sign and treatment measures<sup>13</sup>.

The use of sedoanalgesia can contribute to pharmacological management, but depending on its dosage, it may be insufficient, or in high doses it may cause more time in MV and consequently more time in the hospital<sup>17</sup>. The literature shows a gap in knowledge about the use of analgesics by healthcare teams<sup>9</sup>.

Non-pharmacological measures include various techniques, such as physical, cognitive, cognitive-behavioral therapy, psychosocial and spiritual interventions<sup>20</sup>, among others. The techniques most often reported by the teams were related to physical interventions, mainly those used in routine care, and 31.25% always carry them out, the most commonly used being proper positioning of the patient in bed.

In comparison, a survey carried out in Colombia with nurses and nursing assistants showed that 93% of the participants reported having good knowledge of non-pharmacological management<sup>11</sup>. Non-pharmacological measures have positive results in relieving pain and are less costly within health services, but they are little used<sup>11</sup>.

After the educational activity, there was an increase in the number of correct answers to the questions related to the assessment scales, pharmacological and non-pharmacological management, indicating the effectiveness of the educational intervention. It is worth mentioning that one limitation of the present study is the number of participants.

## CONCLUSION

It was found that the participants in the study mainly use VNS and many are unaware of the tools used to assess pain in patients under MV or with advanced dementia. Regarding the pharmacological management, most of the participants got the opioid questions wrong.

As for non-pharmacological management, the majority used it infrequently, the most common being proper positioning in bed. After the educational activity, there was an increase in the



number of correct answers to questions related to the assessment scales, pharmacological and non-pharmacological management. Educational activities are essential in the intensive care setting, due to the complexity of care and the need for constant assessment and interventions that contribute to patients' well-being.

## AUTHORS' CONTRIBUTIONS

### Micheli Wojciechowski

Statistical analysis, Data Collection, Conceptualization, Resource Management, Project Management, Research, Methodology, Writing - Preparation of the original, Writing - Review and Editing

### Larissa Marcondes

Statistical analysis, Resource Management, Project Management, Research, Methodology, Writing - Preparation of the original, Writing - Review and Editing, Supervision

### Mariéli Terassi

Statistical analysis, Conceptualization, Project Management, Methodology, Writing - Preparation of the original, Writing - Review and Editing, Supervision

## REFERENCES

- Velasco IT. Medicina intensiva: abordagem prática: ed. atualizada COVID-19. Porto Alegre, RS, Editora Manole, 2020.
- Viana RAPP, Whitaker IY, Zanei SSV. Enfermagem em terapia intensiva: práticas e vivências. São Paulo, Editora Grupo A; 2020.
- Santos AF. Formação dos discentes de enfermagem acerca da avaliação da dor. Rev Enferm UFPE Online. 2019;13(5):1380-6.
- Souza NN. Conhecimento de graduandos de enfermagem sobre a dor. Brasília - DF: Centro Universitário de Brasília, 2016.
- Ribeiro BCO, Souza RG, Silva RM. A importância da educação continuada e educação permanente em Unidade de Terapia Intensiva: revisão de literatura. Rev In Cient Extensão. 2019;2(3):167-75.
- Fortunato JGS. Escalas de dor no paciente crítico: uma revisão integrativa. Revista HUPE. 2013;12(3):110-7.
- Morete MC. Tradução e adaptação cultural da versão portuguesa (Brasil) da escala de dor Behavioural Pain Scale. Rev Bras Terap Intens. 2014;24(4):373-8.
- Valera GG. Adaptação cultural para o Brasil da escala Pain Assessment in Advanced Dementia - PAINAD. Rev Esc Enferm USP. 2014;48(3):462-8.
- Kipel AGB; Franco SC; Muller LA. Práticas de Enfermagem no manuseio da dor em hospitais de um município de Santa Catarina. Rev Dor. 2015;16(3):198-203.
- Mota M. Gestão da dor na prática de enfermagem no serviço de urgência. Millenium. Portugal. 2020;2(5):269-79.
- Bonilla-Marciales AP. Evaluación de conocimientos para el manejo no farmacológico del dolor. Rev Ciencia y Cuidado. 2020;17(2):65-76.
- Romanek FARM, Avelar MCQ. Percepção dos docentes acerca do ensino da dor para graduandos em enfermagem. Rev Eletr Enferm. 2013;15(2).
- Silva LM. Impacto de estratégias educativas nos indicadores de qualidade do controle de dor em um hospital de alta complexidade. Rev Bras Dor. 2020;3(4):342-7.
- Sanciani KCMM. Conhecimento da equipe de enfermagem no manejo da dor de pacientes oncológicos internados em clínica médica e cirúrgica. São Paulo, 2020.
- Barros N. Entendendo a dor. Porto Alegre, RS, Editora Grupo A, 2023.
- Figueira AIR, Amaral GMMS, Carmo TIG. A avaliação e registro da dor no serviço de urgência: um estudo transversal. Enfermeria: Cuidados Humanizados. 2022;11(1):1-13.
- Gonçalves AF, Righetti EAV, Magrin SFF. Protocolos nacionais e internacionais para manejo de dor em unidade de terapia intensiva adulta. Braz J Develop. 2021;7(9):92177-193.
- Silva BU, Yoshioka EM, Salvetti MG. Conhecimento dos enfermeiros sobre o manejo da dor oncológica. Rev Bras Cancerol. 2022;68(4):1-8.
- Nucci GD. Tratado de farmacologia clínica. São Paulo, Grupo GEN, 2021.
- Velasco IT, Ribeiro SCDC. Cuidados paliativos na emergência. Porto Alegre, RS, Editora Manole, 2020.