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**A MUSICOTERAPIA COMO INTERVENÇÃO AUTÓNOMA DE ENFERMAGEM PARA CONTROLO DA DOR EM UCI:  
REVISÃO INTEGRATIVA**

**MUSIC THERAPY AS AN AUTONOMOUS INTERVENTION OF NURSES FOR PAIN CONTROL IN ICU: INTEGRATIVE  
REVIEW**

**LA MUSICOTERAPIA COMO INTERVENCIÓN AUTÓNOMA DE ENFERMERÍA PARA EL CONTROL DEL DOLOR EN UCI:  
REVISIÓN INTEGRADORA**

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**RESUMO**

**Introdução:** Num ambiente tão complexo como o de uma Unidade de Cuidados Intensivos (UCI), importa compreender de que forma é que as intervenções de enfermagem, nomeadamente a musicoterapia, podem contribuir para o controlo da dor.

**Objetivo:** Compreender a relevância da musicoterapia, como intervenção autónoma de enfermagem, no controlo da dor dos doentes internados em UCI's.

**Métodos:** Revisão integrativa da literatura, através da pesquisa eletrónica na plataforma B-ON e na base de dados eletrónica PubMed, realizada em janeiro de 2016, utilizando os descritores "enfermagem", "música", "dor" e "cuidados intensivos". Foram considerados como critérios de inclusão artigos publicados entre 2011 e 2015, de abordagem qualitativa ou quantitativa, em *full text*, idioma português, espanhol ou inglês, referindo-se a doentes adultos e em cuidados intensivos, obtendo um total de 818 artigos, dos quais sete foram incluídos no estudo.

**Resultados:** Os estudos obtidos são representativos de um total de 1818 participantes, maioritariamente doentes, de três continentes. Os artigos evidenciaram que a musicoterapia tem eficácia no controlo da dor, mediante as preferências musicais, o tipo de música e o volume da mesma.

**Conclusões:** A musicoterapia é uma intervenção autónoma de enfermagem, que pode ser utilizada como intervenção não farmacológica, no controlo da dor, em doentes com necessidades específicas inerentes a uma UCI.

**Palavras-chave:** Música; Dor; Cuidados Intensivos; Enfermagem

**ABSTRACT**

**Introduction:** In an environment as complex as an Intensive Care Unit (ICU), it is important to understand how nursing interventions, such as music therapy, can contribute to pain control.

**Objective:** To understand the relevance of music therapy, as an autonomous nursing intervention, in controlling the pain of patients hospitalized in ICU's.

**Methods:** Integrative review of the literature, through the electronic research on the B-ON platform and the PubMed electronic database, conducted in January 2016, using the descriptors "nursing", "music", "pain" and "intensive care". Inclusion criteria were articles published between 2011 and 2015, with a qualitative or quantitative approach, in *full text*, Portuguese, Spanish or English, referring to adult patients and in intensive care unit, obtaining a total of 818 articles of which seven were included in the study.

**Results:** Obtained studies are representative of a total of 1818 participants, mostly patients, from three continents. The articles showed that music therapy is effective in controlling pain, through musical preferences, the type of music and the volume of the music.

**Conclusions:** Music therapy is an autonomous nursing intervention that can be used as a non-pharmacological intervention in pain control in patients with specific needs inherent to an ICU.

**Keywords:** Music; Pain; Intensive Care; Nursing

**RESUMEN**

**Introducción:** En un entorno tan complejo como el de una Unidad de Cuidados Intensivos (UCI), es importante entender cómo intervenciones de enfermería, incluyendo la musicoterapia, pueden ayudar a controlar el dolor.

**Objetivo:** Entender la importancia de la musicoterapia, como una intervención independiente de enfermería en el tratamiento del dolor de pacientes admitidos a UCI's.

**Métodos:** Revisión integradora de la literatura a través de la búsqueda electrónica en la plataforma B-ON y base de datos electrónica PubMed, que tuvo lugar en enero de 2016, utilizando los descriptores de "enfermería", "música", "dolor" y "cuidados intensivos". Se consideraron como criterios de inclusión artículos publicados entre 2011 y 2015, con enfoque cualitativo o cuantitativo, en texto completo, idioma portugués, español o inglés, en referencia a adultos en cuidados intensivos, obteniendo un total de 818 artículos, de los cuales siete fueron incluidos en el estudio.

**Resultados:** Los estudios obtenidos son representativos de un total de 1818 participantes, en su mayoría pacientes, de tres continentes. Los artículos demostraron que la musicoterapia es eficaz en el control del dolor a través de las preferencias musicales, el tipo de música y el volumen de la misma.

**Conclusiones:** La musicoterapia es una intervención de enfermería autónoma, que puede ser utilizada como una intervención no farmacológica en el control del dolor en pacientes con necesidades específicas inherentes a la UCI.

**Palabras Clave:** Música; Dolor; Cuidados Intensivos; Enfermería

## INTRODUCTION

When it came to the realization that pain management is inadequate in most parts of the world, the Montreal Declaration was published in 2011 by the International Association for the Study of Pain (IASP), which states that pain control is a fundamental human right (International Pain Summit of the International Association for the Study of Pain, 2011).

According to the Classificação Internacional para a Prática de Enfermagem (CIPE®), pain is understood as a "compromised perception: increase of uncomfortable body sensation, subjective reference of suffering, characteristic facial expression, alteration of muscle tone, self-protection behavior, limitation of focus of attention, alteration of the perception of time, escape of social contact, process of thought compromised, behavior of distraction, restlessness and loss of appetite " (Conselho Internacional de Enfermeiros, 2016, p. 56).

Also, IASP (Merskey & Bogduk, 1994) presents a definition for this concept referring to pain as an unpleasant sensation, involving not only a sensory component, but also an emotional component, associated with actual or potential tissue damage, or described in function of that damage.

The European Pain Federation also adds that it consists of a personal perception arising in a conscious brain, typically in response to a provocative nonoxic stimulus, but sometimes in the absence of a stimulus. The relationship between perception and stimulus is variable, depending on the individual's expectations and beliefs, on his cognitive and emotional state, and not just on the nature of the stimulus (European Pain Federation, nd).

According to Chlan and Halm (2013) uncontrolled pain induces a generalized sympathetic response (increases heart rate, blood pressure, respiratory rate and peripheral resistance), causes sleep and appetite disorders, as well as increases anxiety, which in turn also increases the perception of pain, and all these symptoms interfere with the recovery process.

The Plano Estratégico Nacional de Prevenção e Controlo da Dor (PENPCDor), approved in 2013, goes even further by saying that the socioeconomic repercussions of pain are significant because of the costs involved in frequent use of health services and treatment costs. It also reiterates that indirect costs are also very high, particularly in terms of lost productivity, compensation and subsidies (Portugal, Ministério da Saúde, Direção Geral da Saúde, 2013).

DGS (Portugal, Ministério da Saúde, Direção Geral da Saúde, 2003, p.6) considers intensive care as "places qualified to take full responsibility for patients with organ dysfunction, supporting, preventing and reversing bankruptcies with vital implications."

According to Puntillo & et al (2014), the critical patient often experiences anxiety, pain and discomfort as part of their ICU hospitalization, which may result from their own illness or from the care provided by the professionals. The patient admitted to an ICU is a patient particularly susceptible to pain, and the aforementioned authors even point out that the majority of those who were critically ill recall pain experiences.

The challenge will then be to find ways to reduce stress-inducing experiences in an ICU. Within the scope of its competencies in the fields of professional, ethical, legal and professional development, and taking into account that nurses are the professionals who are closest to patients, the use of autonomous nursing interventions in pain control and thus provide patient satisfaction, well-being and self-care (Ordem dos Enfermeiros, 2001).

It is therefore crucial to determine strategies other than pharmacological strategies that can complement pain management and be managed by nurses autonomously.

If we look back, we can conclude that in recent years there has been an increase in the use of complementary therapies and, since nurses are the health professionals who have more contact with patients, it would be important for us to provide them with knowledge about these therapies in order to provide even better health care and in a holistic way, taking into account the physical, psychological, social and emotional level.

Several authors describe the benefits of complementary therapies, such as having few or no side effects, possibility of control and involvement in the treatment decision-making process, and less invasive techniques. According to Cassileth and Gubili (2010) complementary therapies can act through direct analgesic effects (eg acupuncture), an anti-inflammatory action (eg plants) or by distraction (eg music), with the objective of altering The perception of pain and reduce this symptom, as well as helping to relax, improve sleep or reduce vomiting, anxiety, depression, nausea and neuropathy. For these same authors, when complementary therapies are used in conjunction with a pharmacological regimen, it is possible to improve efficacy and reduce costs. Chlan and Halm (2013) argue that these therapies can be used to reduce stress / anxiety and pain, among others.

Cassileth and Gubili (2010) point out that music can achieve deep emotional levels, and certain types of music can have special meanings individually, and the use of it can alleviate pain.

Thorp and James (2010) further add that music can be particularly beneficial if it is chosen by the patient and appreciated with headphones, rather than added to the background noise of the ICU.

In the opinion of some authors, nurses daily dedicate some time and energy to implementing interventions that improve patient comfort. These interventions can be interdependent, which are carried out in multidisciplinary teams in favor of a common objective or autonomous interventions that are carried out under the sole and exclusive initiative and responsibility of the nurses, according to the Regulamento para o Exercício Profissional de Enfermagem (REPE) (Ordem dos Enfermeiros, 1996).

Cole and LoBiondo-Wood (2014) assume the use of music as a safe, cost-free practice and autonomous intervention that nurses can easily incorporate into patient care routines.

The concept of nursing presented in REPE corroborates this idea, since it affirms that it is a profession with the objective of "providing nursing care to the human being, are or sick, throughout the life cycle, and social groups in which It is integrated in a way that maintains, improves and regains health by helping them reach their full functional capacity as quickly as possible" (Ordem dos Enfermeiros, 1996).

Taking into account these premises, the nurse should, therefore, select the non-pharmacological interventions considering the person's preferences, treatment objectives and available scientific evidence (Ordem dos Enfermeiros, 2008).

This raises the need to understand and reflect on the possibility of music therapy being a potential autonomous nursing intervention for the control of the pain of patients admitted to intensive care. In view of the aforementioned, we outline the following research question: What is the relevance of music therapy, as an autonomous nursing intervention, in controlling the pain of people hospitalized in ICUs?

## 1. METHODS

An integrative literature review was carried out, which is a method that allows the inclusion of several methodologies and has the potential to be a fundamental determinant in evidence-based practice for nursing, since these reviews can present a summary of current problems (Whittemore & Knafl, 2005).

Based on the question above research and taking into account the knowledge that it was intended to summarize, there was a search using the Health Sciences Descriptors - DeCS (compatible with *Medical Subject Headings* - MeSH): music, pain, intensive care and nursing.

Through the association of these descriptors, through the B-ON platform (in the databases CINAHL Plus with Full Text, ScienceDirect, Academic OneFile, SPORTDiscus with Full Text, General OneFile, Expanded Academic ASAP, Business Source Complete, Nursing Reference Center, MEDLINE, Science Citation Index, Social Sciences Citation Index, Informit Health Collection, Science In Context, Health News, LexisNexis Academic, Law Reviews, Scopus, TDX and Literature Resource Center) and PubMed electronic database.

Boolean characters were used to conjugate the different descriptors, and the expression used was (music) AND (pain) AND (intensive care) AND (nursing) NOT (child\* OR adolescent\* OR infant\*).

As for the period of search of the articles, it comprised the first two weeks of January, 2016.

We established as inclusion criteria studies that give response to objective, published between 2011 and 2015 in *full text*, qualitative and quantitative approach and available in Portuguese, English and Spanish. They would have to refer to adult patients and be studies of patients admitted to intensive care.

The research conducted led to an initial sample of 818 scientific studies. Of these, 237 were excluded by repetition, 539 by title and 13 by summary resulting from this process a sample of 29 articles. After reading these 29 studies, 22 were excluded due to inadequacy of the inclusion / exclusion criteria. In Figure 1, the selection process of the included studies is presented as a diagram.

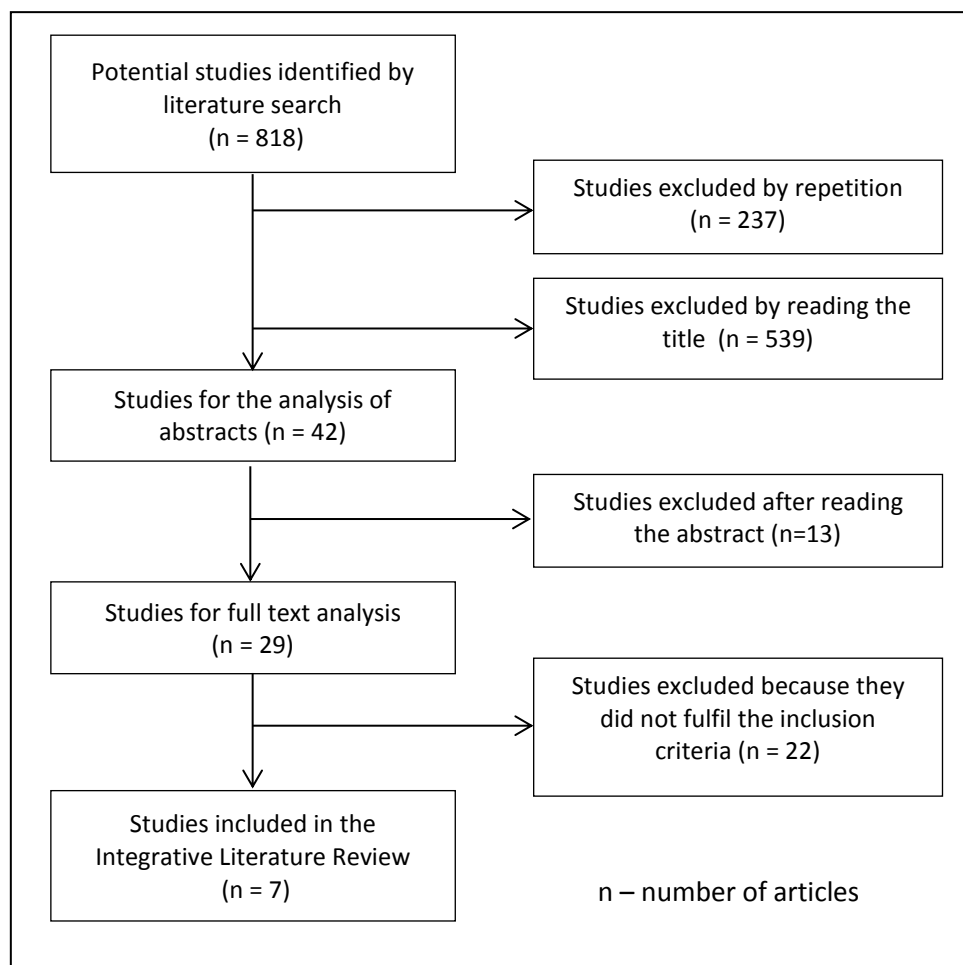


Figure 1 - Selection process of included studies

The seven papers selected were analyzed in order to answer the research question defined for this study. The data were extracted from the articles in order to obtain information about the country and context where the study was carried out, the period during which it was carried out, objectives and study design, number and type of participants, results obtained and conclusions drawn.

## 2. RESULTS AND DISCUSSION

The seven primary studies that met the pre-defined inclusion criteria are presented in table 1, including the author (s), year, country, objectives, sample, methodology and main results of each article.

Table 1 – Summary of evidence found

N.º	Author(s) / Year / Country	Objetives	Sample	Methodology	Results / Conclusions
E1	Jafari, H. Zeydi, A. E. Khani, S. Esmaeili, R. Soleimani, A. 2012 Iran	What are the effects of music in pain intensity, in the patient undergoing cardiac surgery.	N = 60 patients undergoing cardiac surgery 30 listened to the favorite song and 30 formed the control group.	Randomized clinical trial.	Audition of preferred music has benefits in controlling pain. It is a simple, effective and economically accessible intervention.
E2	Gélinas, C. Arbour, C. Michaud, C. Robar, L. Côté, J.  2013 Canada	Describe the perspectives of patients, the family and nurses about the relevance of the use of non - pharmacological interventions for pain control, namely music.	N = 38 32 nurses, with at least two years in an ICU, four transplanted patients who had been hospitalized in the last two years in an ICU and two relatives of ICU patients.	Descriptive qualitative study with eight <i>focus group</i> .	The music is useful and feasible for the control of pain. It varies depending on whether or not the patient likes the music you are listening to.
E3	Özer, N. Ozlu, Z. K. Arslan, S. Gunes, N.  2013 Italy	To investigate the effect of music in the intensity of pain in patients undergoing cardiac surgery.	N = 87 patients undergoing cardiac surgery. Convenience sampling in which 44 were the experimental group and 43 were the control group.	Experimental study conducted from September 15, 2007 to February 15, 2008.	There is evidence supporting the use of music to reduce pain.
E4	Faigeles, B. <i>et al.</i>  2013 USA	Describe the pain of the patient during position change, according to the demographic and clinical variables, determining the use of non - pharmacological interventions.	N = 1395 patients from 169 hospitals, where 65.9% were in an ICU.	Quantitative correlational observational study.	Although music not have been the most sought intervention among non-pharmacological interventions, it was concluded that the use of this is effective for managing pain.
E5	Aktas, Y. Y. Karabulut, N.  2015 Turkey	To determine the effect of music in pain intensity and level of sedation in patients undergoing cardiac surgery during endotracheal aspiration of patients with mechanical ventilation.	N = 66 patients undergoing cardiac surgery. The first 33 submitted to surgery constituted the experimental group and the remaining 33, the control group.	Experimental study from August 2012 to January 2013.	The music is an effective practice to reduce pain in patients undergoing mechanical ventilation suction. It is an independent and independent practice of nurses.
E6	Liu, Y. Petrino, M. A.  2015 China	Investigate the efficiency of music for managing pain, anxiety and vital signs, the patient cardiac surgery.	N = 112 patients 56 were the experimental group and were chosen on odd days and the 56 of the control group on even days.	Randomized trial from November 2013 to March 2014.	The results showed that music decreases the intensity of pain, anxiety, systolic blood pressure and heart rate.
E7	Saadatmand, V. Rejeh, N. Heravi-Karimooi, M. Tadrisi, S. D. Vaismoradi, M. Jordan, S. 2015 United Kingdom	To study the effect of natural sounds in pain intensity of patients with mechanical ventilate support.	N = 60 patients receiving mechanical support. Randomly, 30 were the experimental group and the other 30 were the control group.	Randomized controlled trial from October 2011 to June 2012.	The music is an autonomous and independent nursing intervention. Listening to music decreases pain levels.

The articles were mostly published in 2013 and 2015 and are framed in the quantitative paradigm, using as a data collection tool the questionnaire, but one of the studies, namely E2, falls within the qualitative paradigm. Recent studies show that this is a current and pertinent issue.

The papers selected represent a total sample of 1818 people (mostly ill but also family members and nurses) from three different continents, America, Europe and Asia, which reinforces the credibility of this review as it covers different cultures, traditions and customs.

The main objectives of these articles are the need to understand how a non-pharmacological intervention, in this case music therapy, can be effective in the control of pain, in patients requiring intensive care or care in an ICU, such as (E4), aspiration of secretions (E5), invasive mechanical ventilation (E7), cardiac postoperative (E1, E3 and E6), among others. It should be noted that one of the studies (E2) aimed to describe the perspectives patients, relatives and nurses had regarding non-pharmacological interventions, concluding that music therapy is useful and viable, but varies according to patients' musical tastes.

For the statistical analysis, the authors used different statistical tests using SPSS (E3, E4, E5, E6 and E7), varying the applied tests, from the chi-square (E4, E5 and E6), t-test (E4, E4, E5, E6 and E7), descriptive statistics (E6), multivariate logistic regression models (E4), t-student (E1), one- , GEE analysis (E6) and Kolmogorov-Smirnov (E7) approach. One of the authors (E2) had to use transcription and evaluation of audio tapes as a method of analysis for subsequent code creation and classification of non-pharmacological interventions according to the Nursing Intervention Classification (NIC).

For Chlan and Halm (2013) music functions as a powerful distractor that can be used to occupy the brain channels with a pleasant stimulus rather than a sign of pain or anxiety producing thoughts. If there is a possibility, patients should be able to choose the songs they prefer to listen to, since different symptoms may require different genres of music, varying also if the patient wants a simple distraction or a relaxation.

For these same authors music has immediate benefits and can be safely implemented as a complement to care planning. Thus, music therapy emerges as another way for nurses to make a difference in delivering excellence care to critical patients.

Hetland, Lindquist and Chlan (2015) refer as results of their literature review the fact that critical patients have memories of pain, anxiety and discomfort and that for many music can be a happy memory among many other traumatic memories. Some studies have mentioned that music was considered an aid most of the time when all patients would participate again in an intervention with music.

Kramlick (2014) points out that it can be challenging to implement complementary therapies in intensive care due to space constraints, the presence of many equipment and frequent interventions. However, through the articles studied, it can be seen that this type of intervention can be perfectly feasible in an ICU, since it does not cause any alterations in the physical structures and does not interfere with the existing ones. We verify in all studies that there is pain control when using the music, even decreasing the intensity of the same.

It should be noted that for Gélina, Arbor, Michaud, Robar and Côte (2013) music therapy was seen as potentially useful by nurses for the treatment of patients who were able to select their own music, but this was not considered an ideal approach for those who cannot communicate their musical preferences.

As mentioned in the PENPCDor (Portugal, Ministério da Saúde, Direção Geral de Saúde, 2013), the high prevalence of pain and the transversality of its approach by health professionals, particularly physicians and nurses, should lead to adequate training, which should be pre-graduated period and be continually deepened and updated. This plan even emphasizes that health professionals should adopt pain prevention and control strategies, contributing to the well-being, reducing morbidity, and humanizing patient care.

In this way, Cassileth and Gubili (2010) argue that when complementary therapies, as in the case of music therapy, work in synergy with a pharmaceutical regimen for pain, it is possible to improve effectiveness and reduce costs, once music reaches deep emotional levels and certain types of music can have special meanings for each person.

Hetland, Lindquist and Chlan (2015) report that the evidence points to music therapy as an effective intervention to minimize symptoms related to mechanical ventilation and that promotes gains and is therefore a potential intervention to reduce costs and increase patient satisfaction. Moreover, Jafari, Zeydi, Khani, Esmaeili and Soleimani (2012) demonstrated in their study that there are beneficial effects in the use of preferred music to control pain after surgery while patients are hospitalized in the ICU. They further argue that listening to music is a simple, inexpensive intervention that can simply be provided by a music player and headphone reader, thus recommending the extensive use of music therapy in patients undergoing open heart surgery to lead to pain reduction in the postoperative.

In their study, Aktas and Karabulut (2015) demonstrated that music therapy is a practice with results in reducing pain and in controlling levels of sedation in patients with mechanical ventilation during endotracheal aspiration and that it is a noninvasive nursing intervention without expenses and without side effects.

We corroborate the opinion of the aforementioned authors when they report that more studies are needed to prove the gains of music use during mechanical ventilation and other procedures, since although these seven studies obtain the same conclusion, which proves the efficacy and efficiency of music in the control of pain in patients with intensive care needs, it is

important to study this issue further. This is considered a very pertinent fact, not only because it is an autonomous intervention of nursing, but also because it is an intervention without costs and has proved to be efficient and effective in the control of pain. In three of the seven articles (E2, E5 and E7) it is verified that music therapy can and should appear as an autonomous nursing intervention for the control of pain. After collecting the patient's musical preferences, adjusting the volume of the song and adjusting the timing of the intervention implementation, the results were found to be favorable.

According to the Regulamento dos Padrões de Qualidade dos Cuidados Especializados em Enfermagem em Pessoa em Situação Crítica (Ordem dos Enfermeiros, 2011, p. 4-6), the nurse specialist in medical and surgical nursing has considered as competencies the "differentiated and effective management of pain with the implementation of pain assessment instruments and therapeutic protocols - pharmacological and non-pharmacological measures - for pain relief", "precise, efficient, timely, effective and holistic intervention in relation to the critically ill person" and "as quickly as possible, of potential client problems for which nurses are competent to prescribe, implement and evaluate interventions that contribute to avoiding or minimizing undesirable effects." Therefore, nurses who are specialists in medical-surgical nursing, besides being able to apply the intervention itself, as well as generalist nurses, can still manage and supervise the implementation of protocols or procedures. In light of the scientific evidence, it is possible to conclude that music is an autonomous effective nursing intervention in the control of pain in adult patients hospitalized in ICU.

## CONCLUSIONS

The main results obtained show that music therapy is effective in controlling pain in patients with specific needs inherent to an ICU. Different authors affirm that music is effective in controlling pain, as well as other vital signs; however, the results of this intervention vary according to the types of music used, the musical preferences of the patient, as well as the volume of the same.

There are many unpleasant and painful nursing procedures for patients, such as those associated with mechanical ventilation, postoperative, positioning, aspiration of secretions, among others, in which music emerges as an independent and independent practice of nursing. Nursing, which can be used as a non-pharmacological strategy for pain management.

Through this analysis it was found that the use of music is useful in reducing pain and in However, it would be pertinent to invest in further studies in order to corroborate the use of music as an autonomous activity of the nurse.

In the final analysis, and since the use of music as a non-pharmacological therapeutic measure is still at an early stage of dissemination and use, the opportunity should be seized for its practice to be regulated and regulated; this regulation, through the Order of Nurses could be embodied in the skills of the specialist nurse.

However, in the first place it is imperative to modify mentalities, attitudes and policies of the services and institutions, in order to guarantee the conditions of the use of music as an autonomous nursing activity.

It is part of the competencies of nurses to provide nursing care in order to maintain, improve and recover the patient's health. Pain control is a duty of the nurse and it is therefore essential that the nurse is able to select non-pharmacological interventions, taking into account patients' preferences and the objectives to be achieved, taking into account the current scientific evidence.

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