







REVIEW ARTICLE

The use of aromatherapy in the nursing context: an integrative review

O uso da aromaterapia no contexto da enfermagem: uma revisão integrativa

Ilisdayne Thallita Soares da Silva¹ , Analice Campelo de Araújo¹ , Yasmin Elvira de Medeiros¹ ,
Rebecca Stefany da Costa Santos² , Mariana Melo da Cruz Domingos Góis¹ , Richardson Augusto
Rosendo da Silva¹ 

ABSTRACT

Objective: The aim was to investigate in the scientific literature how aromatherapy is used in nursing care practice. **Method:** Integrative literature review with the following guiding question: How is aromatherapy used in nursing care practice? The survey of publications occurred between March and April 2020 in the databases BDENF, LILACS and MEDLINE. **Results:** After reading and analyzing the articles, 16 articles were included in final sample of this review. Data were analyzed using thematic categories. The analysis grouped the study into three categories: Aromatherapy used in pain relief; Aromatherapy used in palliative cancer care; and Aromatherapy as a therapeutic resource in mental health. **Conclusion:** The synthesis of the evidence found strengthens the practice of aromatherapy within nursing as an intervention for the comprehensive care of clients, consolidating the National Policy of Integrative and Complementary Practices in the Brazilian National Health System.

Descriptors: Nursing; Aromatherapy; Complementary Therapies.

RESUMO

Objetivo: investigar na literatura científica como a aromaterapia é utilizada na prática assistencial da enfermagem. **Método:** Revisão integrativa da literatura com a seguinte questão norteadora: Como a aromaterapia é utilizada na prática assistencial de Enfermagem? O levantamento das publicações ocorreu no período de março e abril de 2020, nas bases de dados BDENF, LILACS e MEDLINE. **Resultados:** Após a leitura e análise dos artigos, 16 artigos compuseram a amostra final desta revisão. Os dados foram analisados por meio de categorias temáticas. A análise agrupou o estudo em três categorias: A aromaterapia usada no alívio da dor; A aromaterapia usada nos cuidados paliativos oncológicos; e A aromaterapia como recurso terapêutico na saúde mental. **Conclusão:** A síntese das evidências encontradas fortalece a prática da aromaterapia dentro da enfermagem como uma intervenção para o cuidado integral do cliente, consolidando a Política Nacional de Práticas Integrativas e Complementares no Sistema Único de Saúde.

Descritores: Enfermagem; Aromaterapia; Terapias Complementares.

¹Federal University of Rio Grande do Norte – Natal (RN), Brazil. E-mails: ilisdayne@yahoo.com.br, alice.campelo96@outlook.com, yasminnuplac@gmail.com, marimelogois@gmail.com, rirosendo@hotmail.com

²State University of Rio Grande do Norte – Mossoro (RN), Brazil. E-mail: rebeca.stefany@hotmail.com

How to cite this article: Silva ITS, Araújo AC, Medeiros YE, Santos RSC, Góis MMCD, Silva RAR. The use of aromatherapy in the nursing context: an integrative review. Rev. Eletr. Enferm. [Internet]. 2020 [cited on: _____];22:59677. Available at: <https://doi.org/10.5216/ree.v22.59677>.

Received on: 07/21/2019. Accepted on:10/06/2020. Available on: 12/10/2020.

INTRODUCTION

Throughout the world, traditional medicine or integrative and complementary practices (ICP), constitute the basis of health care or a complement to the promotion, prevention and maintenance of the health of populations⁽¹⁾. By recognizing its importance, the World Health Organization (WHO) presents its commitment to encourage member states to develop public policies that incorporate the rational and integrated use of these practices in national health care systems⁽²⁾.

In Brazil, in light of the WHO recommendations, in addition to the growing demand from the Brazilian population expressed in the National Health Conferences, in 2006, the Ministry of Health approved the National Policy for Integrative and Complementary Practices (NPICP) in the National Health Service (Brazilian SUS), covering the areas of homeopathy, medicinal plants and phytotherapy, traditional Chinese medicine/acupuncture, anthroposophical medicine and social thermalism/crenotherapy, which promoted the institutionalization of these practices in the Brazilian health system⁽³⁾.

Among the objectives of the NPICP, the following stand out: inclusion of ICP in the Brazilian SUS with an approach aimed at the prevention of diseases and promotion of health, emphasis on primary health care, provision of continuous, humanized and comprehensive health care; contribution to the system resolution and expansion of the population's access to practices with guarantee of quality, efficiency and safety in the use; and encouragement of social participation with promotion of the involvement of users, managers and workers in the various scenarios of the implementation of health policies⁽³⁾.

From March 2017⁽⁴⁾ to March 2018, another 24 therapies were included, among them, aromatherapy, which is characterized as an approach that uses essential oils for the promotion and improvement of health, wellbeing and hygiene⁽⁵⁾.

Since among all health professionals, nurses have constant contact with clients at all levels of care⁽⁶⁾, the holistic view of these professionals associated with the different ICP may favor their applicability.

Nursing has recognized ICP as a specialty since 1997, through a resolution of the Federal Nursing Council (Portuguese acronym: COFEN) and currently reaffirms the area of Nursing in Integrative and Complementary Practices as a specialty through Resolution No. 581/2018, ensuring support to these professionals for the development of research and performance in the area of ICP in general and, consequently, in aromatherapy⁽⁷⁾.

Aromatherapy has aroused the interest of nursing and been practiced worldwide; it is a complementary tool to nursing care, promotes a comprehensive approach to the

individual, and offers the possibility of applying Nursing Theories in healthcare practice⁽⁸⁾. The development of such theories represents the profession's search for autonomy and delimitation of its actions, hence the need to support the practice of aromatherapy in such a context, especially because the national scientific literature is incipient in this field, which also justifies the development of this study⁽⁸⁾.

This study is relevant because it presents aromatherapy as a possibility of intervention in the nursing field and encourages its evidence-based application in different scenarios of care to users. The aim is to investigate in the scientific literature how aromatherapy is used in nursing care practice.

METHODS

This is an integrative literature review. The use of this method allows the search, selection and analysis of published scientific productions on a given subject⁽⁹⁾.

For the operationalization of this study, the following steps were taken: development of the research question; search or sampling in the literature; data collection; critical analysis of the included studies; discussion of results and presentation of the review⁽¹⁰⁾.

As a way of directing this study, the following guiding question was developed: How is aromatherapy used in nursing care practice?

The survey of publications took place between March and April 2020 in the following databases: Brazilian Nursing Database (Portuguese acronym BDENF), Latin American and Caribbean Health Sciences Literature (LILACS) and Medical Literature Analysis and Retrieval System Online (MEDLINE). No limits regarding the year of publication were established.

For the refinement of articles, the following inclusion criteria were established: articles published in Portuguese, Spanish and English that met the study objective. Documents in editorial format, reflection articles, literature reviews, final papers, theses, dissertations and repeated articles were excluded.

To search for publications in the BDENF, the controlled descriptors of the Health Sciences Descriptors (DeCS) were used, namely: Aromatherapy; Volatile Oils and Nursing.

In the LILACS and MEDLINE databases, the controlled descriptors of the Medical Subject Heading (MeSH) vocabulary in English were selected: Aromatherapy; Oils, Volatile; Nursing.

These descriptors were crossed using the Boolean operator AND, as shown in Table 1.

The process of selection, eligibility and inclusion of articles in the review is described in Flowchart 1.

For the extraction of data from the articles included in the integrative review, was used a previously validated instrument

containing the identification of the article; the introduction and objectives; the methodological characteristics of the study; the results found and conclusions⁽¹¹⁾.

The level of evidence attributed to the articles was based on the following classification:

- level I – evidence resulting from systematic reviews or meta-analysis of clinical trials;

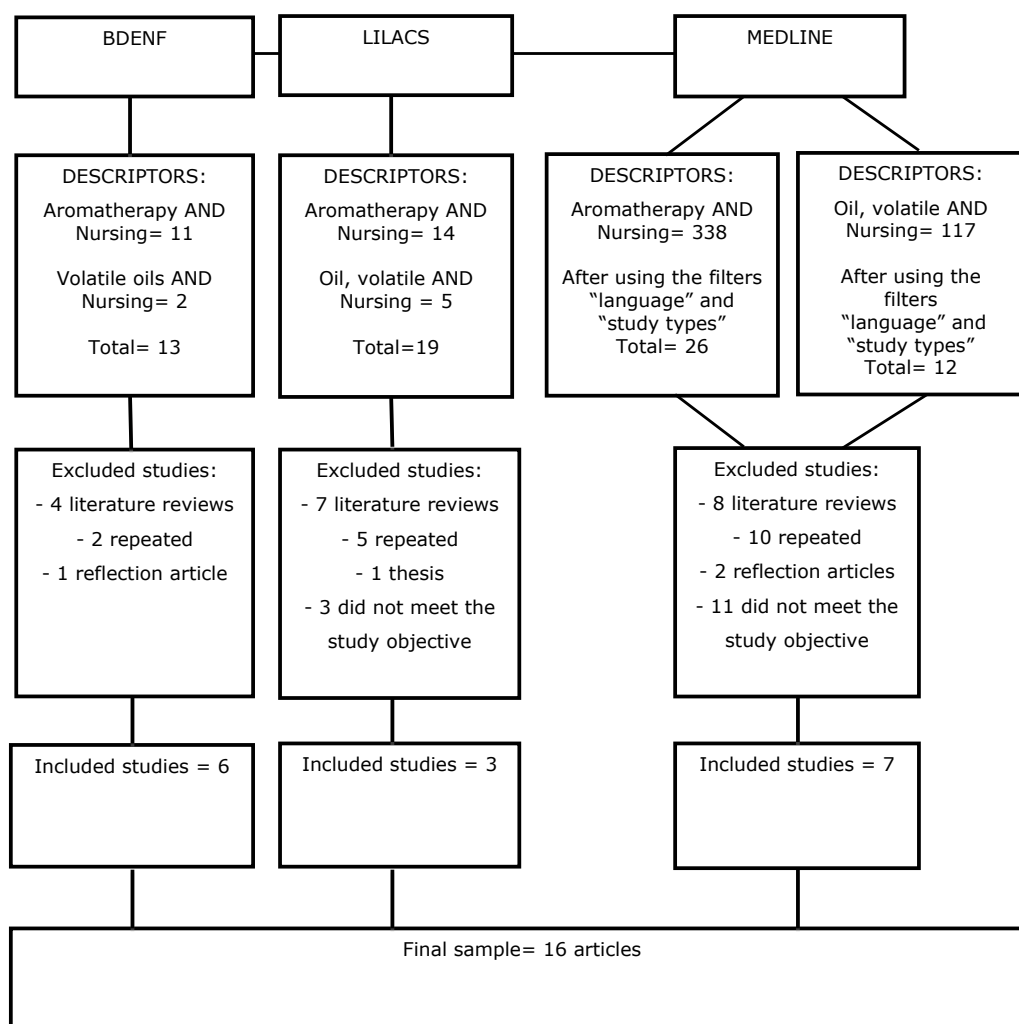
- level II – evidence from at least one well-designed randomized clinical trial;
- level III – clinical trials without randomization;
- level IV – cohort and case-control studies with a good design;
- level V – systematic review of descriptive and qualitative studies;
- level VI – evidence from a single descriptive and qualitative study;
- level VII – evidence based on the opinion of authorities or expert committees⁽¹²⁾.

Table 1. Crossings of the descriptors used in the selected databases. Natal, RN, Brazil, 2020.

Crossings – DeCS	Crossings – MeSH
Aromaterapia AND Enfermagem	Aromatherapy AND Nursing
Óleos voláteis AND Enfermagem	Oils, Volatile AND Nursing

Source: Prepared by the authors.

The data of articles included in the review were made available in a table and analyzed using the thematic analysis method that made it possible to group the content into categories⁽¹³⁾.



Flowchart 1. Process of selection, eligibility and inclusion of articles in the integrative review. Natal, RN, Brazil, 2020.

BDENF: Brazilian Nursing Database; LILACS: Latin American and Caribbean Health Sciences Literature; MEDLINE: Medical Literature Analysis and Retrieval System Online.

Source: Prepared by the authors.

RESULTS

Of the 16 articles selected for analysis, 13 were published in nursing journals. Most (4) were published in the *Revista Escola de Enfermagem da USP*, followed by the *Iranian Journal of Nursing and Midwifery Research* (3), *Acta Paulista de Enfermagem* (2), *online Revista de Enfermagem UFPE* (2), *Revista Cogitare em Enfermagem* (1) and *Journal of Holistic Nursing* (1). Three articles were published in journals specifically aimed at disseminating research in the field of ICP, such as *Evidence-Based Complementary in Alternative Medicine* (2) and *Chinese Medical Sciences Journal* (1).

The analyzed articles were concentrated in the period from 2010 to 2019. The populations of the study were: medical records of parturient women (1), users with personality disorder (2), patients undergoing percutaneous coronary intervention (1), candidates for open heart surgery (1), patients with ischemic heart disease (1), patient diagnosed with "Broken Heart Syndrome" (1), employees in the hygiene and sterilized material center (1), nursing staff at a university hospital (1), nursing staff of the surgical center (1), obstetric nurses (1), nursing students (3), nursing professors (1), cancer patient (1).

The most used essential oil in the studies was lavender (14), the most frequent form of application was the topical application with massage (11), followed by inhalation (7), and foot soak (1).

Regarding the study site, 11 studies were conducted in a hospital environment, four in a university and one in an integrative medical center. Regarding the country of origin of the publication, Brazil stood out in number of productions (9), followed by Iran (3), Korea (1), Egypt (1), New Zealand (1) and China (1). In addition, nine studies were in Portuguese and seven in English.

As for the design of the articles evaluated, in 12 studies was used the quantitative methodological approach, with experimental design (9), quasi-experimental (2) and non-experimental (1), while in four articles was used the qualitative approach and the descriptive, exploratory design. In relation to the strength of evidence, eight articles have level of evidence II, two articles level of evidence III, one study with level of evidence IV and five studies with level of evidence VI.

Table 2 presents the synthesis of information from the articles included in the integrative review.

Regarding the objective of this review, the use of aromatherapy in the context of nursing was grouped into three thematic categories, namely: Aromatherapy used in pain relief; Aromatherapy used in palliative cancer care; and Aromatherapy used as a therapeutic resource in mental health. They will be discussed in the next session.

DISCUSSION

Aromatherapy used in pain relief

Some of the selected studies bring the effectiveness of aromatherapy as a non-pharmacological method for pain relief in three situations: the parturition process, dysmenorrhea and oncological pain. In the first situation, it can represent an important tool in the professional practice of obstetric nurses during labor.

Childbirth is characterized by the final stage of conception, and the promotion of women's comfort and satisfaction in this stage is among the most important actions in the care that values the physiological childbirth and the appropriate use of technologies, respects women's individuality and autonomy and prioritizes humanized care⁽²⁵⁾.

Even though it is a physiological mechanism, labor promotes mechanical and hormonal changes that stimulate uterine contractions and consequently, dilation of the uterine cervix and descent of the fetus, which result in pain. In this context, the adoption of non-pharmacological pain relief measures is necessary, as these are safe and result in fewer interventions. Note the important role of the nursing team in the performance of this care and promotion of pain control, thereby offering women the opportunity to build a positive perspective on the special moment of arrival of their child⁽²⁶⁾.

In several studies, aromatherapy, as a non-pharmacological method for pain relief, has helped women during pregnancy and labor. A certain study showed pain reduction when using the essential oils of Roman chamomile, sage, lavender and frankincense diluted in almond oil for massage⁽²⁷⁾, while in another study, the pain intensity decreased after inhaling the lavender essential oil⁽²⁸⁾. Thus, the implementation of this method by nursing can contribute to the profession's autonomy and a more humanized childbirth care.

In the studied sample, the effectiveness of using aromatherapy for dysmenorrhea relief in nursing students could be assessed too. Dysmenorrhea is characterized by pain in the pelvic region related to menstruation, and may be associated with symptoms such as nausea, headache, dizziness and fainting. Its prevalence in the female population is between 60 to 80%, is characterized as the most common gynecological complaint in young women and depending on the intensity of symptoms, it can also contribute to school or work absenteeism⁽²⁹⁾.

The effectiveness of aromatherapy in dysmenorrhea relief is attributed to more than one action. Pain relief is a result of the activation of the limbic system, improved blood circulation, decreased spasm and of therapeutic properties of essential oils (analgesics, sedatives, anesthetics)⁽²⁰⁾.

In a meta-analysis that investigated the effect of abdominal massage with essential oils and abdominal massage with placebo on pain relief in primary dysmenorrhea, was

Table 2. Synthesis of selected articles. Natal, RN, Brazil, 2020.

Author/Database	Journal/Year of publication	Objective	Study location	Type of study/Level of evidence	Synthesis of outcomes	Oil used/Concentration	Form of application/Frequency
Gnatta JR, Zotelli MFM, Carmo DRB, Lopes CLBC, Rogenski NMB, Silva MJP/BDENF ⁽¹⁴⁾ .	<i>Revista Escola de Enfermagem da USP/2011.</i>	To assess if the use of rose and ylang ylang essential oil alters the perception of self-esteem and compare the effectiveness of rose and ylang ylang oils in the perception of self-esteem.	Hygiene and CME Sectors, University Hospital at USP in São Paulo, Brazil.	Field study, experimental quantitative approach / II.	The essential oils of rose and ylang ylang did not alter the perception of self-esteem.	Rose and ylang ylang. Unspecified concentration.	Inhalation, a drop of oil in the personal aromatizer at the beginning of the work shift, for 60 days.
Duarte MR, Alves VH, Rodrigues DP, Souza KV, Pereira AV, Pimentel MM/BDENF ⁽¹⁵⁾ .	<i>Cogitare Enfermagem/2019.</i>	To identify the care technologies used by obstetric nurses in a Natural Birth Center.	Natural Birth Center of a Maternity hospital in Rio de Janeiro, Brazil.	Descriptive, exploratory, qualitative study/ VI.	Aromatherapy associated with massages helps to relax and reduce the pain of women during the birth process.	Lavender and cinnamon. Unspecified concentration.	Inhalation and topical use with massage in lumbosacral and dorsal region at unspecified frequency.
Dias SS, Domingos TS, Braga EM/BDENF ⁽¹⁶⁾ .	<i>Revista de Enfermagem UFPE online/2019.</i>	Investigate the effectiveness of aromatherapy with essential oils of lavender or ylang ylang, associated with massage for anxiety and stress relief.	Public institution of higher education in the hinterland of São Paulo, Brazil.	Field study, exploratory-descriptive and correlational with quasi-experimental design, before-and-after type, quantitative approach/ II.	Stress was reduced to a greater extent compared to anxiety. The group that used ylang ylang showed a greater reduction in anxiety than the lavender group.	Ylang ylang and lavender. Each oil diluted in neutral cream at a concentration of 3%.	Aromatherapy massage. Six massage sessions in the posterior cervical and thoracic regions lasting 5–10 minutes and a 48-hour interval between sessions.
Domingos TS, Braga EM/LILACS ⁽¹⁷⁾ .	<i>Revista Escola de Enfermagem da USP/2015.</i>	To investigate the effectiveness of aromatherapy associated with massage on the anxiety of patients diagnosed with personality disorder during psychiatric hospitalization.	Psychiatric hospitalization unit in a general hospital in the hinterland of São Paulo, Brazil.	Non-randomized clinical trial/ III.	The association of aromatherapy and massage was effective in reducing anxiety.	Lavender and geranium diluted in neutral gel. Concentration of 0.5%.	Aromatherapy massage. Six massage sessions on the trapezius and posterior chest lasting 20 minutes, three times a week, on alternate days, for two weeks.

Continue...

Table 2. Continuation.

Author/Database	Journal/Year of publication	Objective	Study location	Type of study/Level of evidence	Synthesis of outcomes	Oil used/Concentration	Form of application/Frequency
Gnatta JR, Piason PP, Lopes CLBC, Rogenski NMB, Silva MJJP/ LILACS ⁽¹⁸⁾ .	<i>Revista Escola de Enfermagem da USP</i> /2014.	To assess if the use of ylang ylang essential oil through cutaneous application or inhalation alters the perception of anxiety and self-esteem and the physiological parameters such as blood pressure and temperature.	University Hospital of the University of São Paulo.	Pilot, field, experimental, controlled study with a quantitative approach/ II.	The use of ylang ylang essential oil changed only the perception of self-esteem. Mean arterial pressure and temperature did not change.	Ylang ylang diluted in gel. Concentration of 2%.	Topical use and inhalation. Topical use (gel): three times a day on the wrists and sternum massaged with circular movements for 30 seconds during 90 days. Inhalation: one drop a day in personal aromatizer during work for 90 days.
Montibeler J, Domingos TS, Braga EM, Gnatta JR, Kurebayashi LFS, Kurebayashi AK/LILACS ⁽¹⁹⁾ .	<i>Revista Escola de Enfermagem da USP</i> /2018.	To assess the effectiveness of aromatherapy with lavender and geranium essential oils associated with massage for stress relief of a nursing team in the operating room through the evaluation of biophysiological and psychological parameters.	Surgical center of a teaching hospital in the hinterland of São Paulo, Brazil.	Pilot study with controlled and randomized clinical trial design/ II.	Aromatherapy associated with massage with lavender and geranium oils was effective in reducing the biophysiological parameters of the nursing team.	Lavender and geranium diluted in neutral cream. Concentration of 1% of each oil.	Topical use with massage. Six massage sessions in the posterior thoracic and cervical regions lasting 10–15 minutes, with a 42-hour interval between sessions.
Marzouk TMF, El-nemer AMR, Baraka HN/MEDLINE ⁽²⁰⁾ .	<i>Evidence-Based Complementary and Alternative Medicine</i> /2013.	To investigate the effect of abdominal massage with aromatherapy in menstrual pain relief and in reducing its duration and excessive menstrual bleeding.	Faculty of Nursing, Mansoura University, Egypt.	Randomized clinical trial/ II.	Abdominal massage with aromatherapy relieved dysmenorrhea, reduced its duration and excessive menstrual bleeding.	Cinnamon, clove, rose and lavender diluted in sweet almond oil in the proportion of 1.5: 1.5: 1: 1. Final concentration of 5%.	Topical use with abdominal massage for ten minutes, once a day, seven days before menstruation.
Hosseini S, Heydari A, Vakili M, Moghadda MS, Tazjky S/ MEDLINE ⁽²¹⁾ .	<i>Iranian Journal of Nursing and Midwifery Research</i> /2016.	To determine the effect of lavender on blood levels of anxiety and cortisol in candidates for open heart surgery.	Kord Kouy Hospital, Iran.	Randomized clinical trial/ II.	Inhaling lavender reduced anxiety and blood cortisol levels in patients.	Lavender. There was no oil dilution.	Inhalation. Two drops of oil on sterile gauze inhaled for 20 minutes.

Continue..

Table 2. Continuation.

Author/Database	Journal/Year of publication	Objective	Study location	Type of study/Level of evidence	Synthesis of outcomes	Oil used/Concentration	Form of application/Frequency
Moeini M, Khadibi M, Bekhrad IR, Mahmoudian S, Nazari F/ MEDLINE ⁽²²⁾ .	<i>Iranian Journal of Nursing and Midwifery Research</i> /2010.	To determine the effectiveness of aromatherapy on the quality of sleep of patients with ischemic heart disease admitted to a cardiac ICU.	University Hospital of Medical Sciences in Isfahan, Iran.	Randomized clinical trial/ II.	Aromatherapy with lavender oil in the experimental group decreased the sleep disorders and resulted in improved sleep quality in patients.	Lavender. There was no oil dilution.	Inhalation. Two drops on a cotton ball placed 20 cm away from the patient's pillow for three nights in a row.
Therkleson T, Stronach S/ MEDLINE ⁽²³⁾ .	<i>Journal of Holistic Nursing</i> /2015.	To describe a combined external treatment for "Broken Heart Syndrome" that includes foot soak with lavender, rhythmic massage and oxalis ointment on the abdomen applied by an anthroposophical nurse.	Integrative medical center, Christchurch, New Zealand.	Descriptive and qualitative case study/VI.	The treatment allowed the traumatized patient to overcome fear and find the courage to face stressful situations.	Lavender. Unspecified concentration.	Topical use with massage and foot soak in four weekly sessions.
Liu Q, Ning XH, Wang L, Liu W/ MEDLINE ⁽²⁴⁾ .	<i>Chinese Medical Sciences Journal</i> // 2018.	To describe how aromatherapy was applied to control symptoms in a patient with terminal cancer.	Hospital in China.	Descriptive and qualitative case study/VI.	Aromatherapy relieved pain, nausea and vomiting, edema of the lower limbs and insomnia.	Pain: three drops of lavender, two drops of Wintergreen and one drop of lemon eucalyptus in 20 mL of St. John's wort. Lower limb edema: four drops of grapefruit, three drops of cypress and two drops of vetiver in 30 mL of sweet almond oil. Nausea and vomiting: 15 drops of bergamot, 10 drops of sweet orange, five drops of peppermint in 50 mL of 75% ethyl alcohol.	For pain: Apply 5 mL of the mixture on the lumbosacral region and massage for ten minutes every two hours. For lower limb edema: massage the lower limbs, two-three times a day from the distal to the proximal end for ten minutes or until the patient falls asleep. For nausea and vomiting: spray in the patient's room four times a day.

Source: Prepared by the authors.

demonstrated a significantly greater reduction in menstrual pain in the group that received massage with essential oils. In addition, massage with lavender oil alone was more effective compared to massage with lavender combined with other essential oils⁽³⁰⁾.

Cancer pain is characterized by simultaneous sensations of acute and chronic pain with different levels of intensity associated with both the direct effects of the tumor (bone invasion, nerve compression) and the consequences of treatment (chemotherapy, surgery), and is a challenge for health services and the multidisciplinary team⁽³¹⁾.

In this team, nursing professionals are those who spend more time with the cancer patient and maintain greater contact both with the patient and their families during hospitalization. Therefore, adequate knowledge about pain management is necessary in order to demystify that only continuous use analgesics can provide relief and show that non-pharmacological measures, such as aromatherapy massage may have a positive response as a complementary treatment in pain control⁽³²⁾.

Aromatherapy used in palliative cancer care

Palliative care consists of an approach designed to improve the quality of life of patients, whether adults or children, and their families in the face of the risk of death associated with a pathology. Its basic principles are the recognition of death as a natural process of life and the incorporation of physical, spiritual, emotional and social care in the promotion of comfort to patients⁽³³⁾.

In oncology, palliative care begins when cancer is diagnosed as incurable and can be provided by primary care professionals or specialized professionals⁽³⁴⁾. The nursing professional in palliative care will work with more emphasis on pain relief and improvement of other physical symptoms, in addition to the provision of psychological support through humanized and empathic care⁽³⁵⁾.

In addition to pain, other symptoms such as nausea and vomiting, edema in the lower limbs and insomnia are common in patients with terminal cancer⁽²⁴⁾. The prevalence of nausea and vomiting in oncological diseases can reach 70%, and these are distressing symptoms that harm people's quality of life⁽³⁶⁾.

In a study, was investigated the effectiveness of inhaling ginger essential oil for relieving nausea induced by chemotherapy in children with cancer and 67% of patients reported improvement, although with no statistically significant difference, thereby showing the resource was well received, well tolerated, non-toxic and non-invasive⁽³⁷⁾.

In addition, in a study that tested peppermint essential oil for the relief of nausea and vomiting in the postoperative period, the conclusion was that it can be used in conjunction with controlled breathing to promote symptom reduction⁽³⁸⁾.

The clinical manifestations inherent in advanced cancer are factors that contribute to lower the quality of life related to the patient's health, while therapeutic interventions that offer physical, psychological and spiritual benefits, such as aromatherapy and other ICP can promote improvements and support palliative care and the coping with diseases⁽³⁹⁾.

Aromatherapy as a therapeutic resource in mental health

Aromatherapy is a therapeutic method within integrative and complementary practices in health based on the use of volatile concentrates extracted from plants with the purpose of favoring the health and wellbeing of human beings from the prevention or treatment of physical, psychological and emotional problems⁽⁸⁾.

After essential oils are inhaled, olfactory nerve cells are stimulated and the limbic system is activated. In this region of the brain are components related to emotions, such as pleasure, pain, anger, fear, sadness; memory; patterns of behavior; learning; and mental activity. This explains why oils are capable of producing an effective emotional response in individuals' mental health. Furthermore, they can be applied through massage and reach the bloodstream, causing the desired psychophysiological effects of the oils⁽⁴⁰⁾.

Professional nurses act directly with comprehensive health care, seeking the physical, social and mental wellbeing of their clients⁽⁴¹⁾. In this sense, aromatherapy appears as a possibility in the treatment of mental health problems in different contexts.

Most articles selected for this review addressed the effectiveness of essential oils in mental and emotional conditions in different settings with different populations, namely: users with personality disorder during psychiatric hospitalization, nursing workers and other workers in the hospital setting, nursing students and teachers in the university environment, cardiac patients in the ICU and patients with the broken heart syndrome treated at an integrative medical center.

The broken heart syndrome, stress cardiomyopathy or apical ballooning syndrome are different names for Takotsubo's cardiomyopathy. This is characterized by a similar clinical condition to acute myocardial infarction that is mostly caused by emotional stress (pain, anger, relationship conflicts and financial problems) or physical stress (pneumonia, asthma) and often occurs in postmenopausal women⁽⁴²⁾.

These characteristics can be found in the case described in an article included in the study sample⁽²³⁾ of an 82-year-old woman with tension and stress resulting from seismic shocks in the region where she lived and its consequences (destruction of property, destruction of the community, social isolation). Aromatherapy used in conjunction with other integrative

practices contributed positively to the management of trauma and stress.

In addition, the results of other studies included in this review showed that essential oils contributed to a greater coping with mental disorders, changes in the perception of self-esteem, decreased sleep disorders and reduced levels of anxiety.

Corroborating with the latter, a study with the objective of assessing the effectiveness of aromatherapy in decreasing the levels of stress and anxiety of undergraduate students in courses in the health area showed a significant reduction in the levels of stress and anxiety in the group that received the aroma. The synergy blend consisted of 10% sour orange, 50% lavender, 20% ylang ylang and 20% cedar⁽⁴³⁾.

The use of essential oils improves the quality of life and wellbeing⁽⁴⁰⁾, which contributes to the recognition of aromatherapy as a holistic practice for various human health problems. These authors indicate that essential oils with relaxing and sedative properties, such as bergamot, lavender, lemon and sandalwood, are the best options in the treatment of anxiety, depression and stress.

Regarding the quality of sleep, in addition to lavender, chamomile can be diluted in almond or jojoba oil and applied directly to the skin through massage, or even inhaled. Lavender, chamomile or marjoram can be applied to a cotton ball and placed inside the pillow with the purpose of relaxing and improving sleep⁽⁸⁾.

Finally, the traditional biomedical model favors fragmented care, without viewing human beings in their entirety. The challenges point to the cooperation of nursing in the consolidation of the care model that shifts the work process centered on procedures and professionals towards a user-centered model, in which the expanded clinic is the ethical-political imperative of care⁽⁴⁴⁾.

This process, marked by humanization, is consistent with complementary practices such as aromatherapy and favors the expansion of care provided by nurses, who consider the physical, mental, emotional and spiritual dimensions of human beings.

CONCLUSION

Through this review it was possible to investigate the use of aromatherapy in nursing care practice. This integrative therapy is used as a non-pharmacological method for pain relief in the parturition process, dysmenorrhea and cancer pain; as a therapeutic resource in palliative cancer care; and as a therapeutic resource in mental health, especially in reducing sleep disorders and anxiety levels.

The synthesis of the evidence found helps to deepen and disseminate knowledge, strengthen the practice of aromatherapy within nursing as an intervention for

comprehensive client care, stimulate the application of this approach in the different realities of health services and encourage the development of more studies in the area, with a view to consolidating the NPICP.

A limitation of this integrative review was the still incipient volume of studies on the effectiveness of aromatherapy in nursing care, especially in the area of oncology. In addition, there is a lack of consensus on dosage, frequency and routes of administration of essential oils in the investigated literature. Hence the need for more randomized experimental studies to establish more consistent results and support nurses in the most varied dimensions of care.

REFERENCES

1. Santos MS, Amarello MM, Vigeta SMC, Horta ALM, Tanaka LH, Souza KMJ. Práticas integrativas e complementares: avanços e desafios para a promoção da saúde de idosos. *REME – Rev Min Enferm* [Internet]. 2018 [access at: July 17, 2019];22:e-1125. Available at: https://cdn.publisher.gn1.link/reme.org.br/pdf/en_e1125.pdf. <https://www.dx.doi.org/10.5935/1415-2762.20180048>.
2. Kuba G, Vattimo MFF. O uso de fitoterápicos orientais nas lesões renais: revisão integrativa. *Rev Bras Plantas Med* [Internet]. 2015 [access at: July 17, 2019];17(4 Suppl 3):1192-8. Available at: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S1516-05722015000701192&lng=pt&tlng=pt. https://doi.org/10.1590/1983-084x/14_149.
3. Ministério da Saúde. Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Política nacional de práticas integrativas e complementares no SUS: atitude de ampliação de acesso [Internet]. Brasília, DF: Ministério da Saúde; 2015 [access at: July 17, 2010]. 98 p. Available at: http://189.28.128.100/dab/docs/portaldab/publicacoes/politica_nacional_praticas_integrativas_complementares_2ed.pdf.
4. Ministério da Saúde. Portaria nº 849, de 27 de março 2017. Inclui a Arteterapia, Ayurveda, Biodança, Dança Circular, Meditação, Musicoterapia, Naturopatia, Osteopatia, Quiropraxia, Reflexoterapia, Reiki, Shantala, Terapia Comunitária Integrativa e Yoga à Política Nacional de Práticas Integrativas e Complementares [Internet]. Brasília, DF: Ministério da Saúde; 2017 [access at: July 17, 2019]. Available at: http://189.28.128.100/dab/docs/portaldab/documentos/prt_849_27_3_2017.pdf.
5. Ministério da Saúde. Portaria nº 702, de 21 de março de 2018. Altera a Portaria de Consolidação nº 2/GM/MS, de 28 de setembro de 2017, para incluir novas práticas na Política Nacional de Práticas Integrativas e

- Complementares — PNPIC [Internet]. Brasília, DF: Ministério da Saúde; 2018 [access at: July 17, 2019]. Available at: http://bvsmms.saude.gov.br/bvsm/saudelegis/gm/2018/prt0702_22_03_2018.html.
6. Sibiyi MN, Maharaj L, Bhagwan R. Perceptions of professional nurses towards complementary and alternative modalities (CAM) in the uMgungundlovu District, KwaZulu-Natal. *Int J Afr Nurs Sci* [Internet]. 2017 [access at: July 17, 2019];7:18-23. Available at: <https://www.sciencedirect.com/science/article/pii/S2214139117300124?via%3Dihub>. <https://doi.org/10.1016/j.ijans.2017.06.001>.
 7. Conselho Federal de Enfermagem. Resolução nº 581/2018. Atualiza, no âmbito do Sistema COFEN/COREN, os procedimentos para Registro de Títulos de Pós-Graduação Lato e Stricto Sensu concedido a Enfermeiros e aprova a lista de especialidades [Internet]. Brasília, DF: Conselho Federal de Enfermagem; 2018 [access at: July 17, 2019]. Available at: http://www.cofen.gov.br/resolucao-cofen-no-581-2018_64383.html.
 8. Gnatta JR, Kurebayashi LFS, Turrini RNT, da Silva MJP. Aromaterapia e enfermagem: concepção histórico-teórica. *Rev Esc Enferm USP* [Internet]. 2016 [access at: July 17, 2019];50(1):127-30. Available at: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S0080-62342016000100127&lng=en&tlng=en. <http://dx.doi.org/10.1590/S0080-62342016000100017>.
 9. Soares CB, Hoga LAK, Peduzzi M, Sangaleti C, Yonekura T, Silva DRAD. Revisão integrativa: conceitos e métodos utilizados na enfermagem. *Rev Esc Enferm USP* [Internet]. 2014 [access at: July 17, 2019];48(2):335-45. Available at: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S0080-62342014000200335&lng=en&tlng=pt&nrm=iso. <https://doi.org/10.1590/S0080-623420140002000020>.
 10. Souza MT, Silva MD, Carvalho R. Revisão integrativa: o que é e como fazer. *Einstein* [Internet]. 2010 [access at: July 17, 2019];8(1):102-6. Available at: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S1679-45082010000100102&lng=en&tlng=en. <https://doi.org/10.1590/s1679-45082010rw1134>.
 11. Pompeo DA. Diagnóstico de enfermagem náusea em pacientes no período pós-operatório imediato: revisão integrativa da literatura [dissertação]. São Paulo: Universidade de São Paulo; 2007 [access at: July 17, 2019]. Available at: <https://www.teses.usp.br/teses/disponiveis/22/22132/tde-15102007-140328/pt-br.php>.
 12. Melnyk BM, Fineout-Overholt E, Stillwell SB, Williamson KM. Evidence-based practice: step by step: The Seven Steps of Evidence-Based Practice. *Am J Nurs* [Internet]. 2010 [access at: July 17, 2019];110(1):51-3. Available at: https://journals.lww.com/ajnonline/Fulltext/2010/01000/Evidence_Based_Practice_Step_by_Step_The_Seven.30.aspx. <https://doi.org/10.1097/01.NAJ.0000366056.06605.d2>.
 13. Bardin L. Análise de conteúdo. São Paulo: Edições 70; 2011.
 14. Gnatta JR, Zotelli MFM, Carmo DRB, Lopes CLBC, Rogenski NMB, Silva MJP. O uso da aromaterapia na melhora da autoestima. *Rev Esc Enferm USP* [Internet]. 2011 [access at: July 19, 2019];45(5):1113-20. Available at: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S0080-62342011000500012&lng=pt&tlng=pt. <https://doi.org/10.1590/S0080-62342011000500012>.
 15. Duarte MR, Alves VH, Rodrigues DP, Souza KV, Pereira AV, Pimentel MM. Tecnologias do cuidado na enfermagem obstétrica: contribuição para o parto e nascimento. *Cogitare Enferm* [Internet]. 2019 [access at: July 19, 2019];24(e54164):1-10. Available at: <https://revistas.ufpr.br/cogitare/article/view/54164>. <http://dx.doi.org/10.5380/ce.v24i0.54164>.
 16. Dias SS, Domingos TS, Braga EM. Aromaterapia para a ansiedade e estresse de professores de enfermagem. *Rev Enferm UFPE on line*. [Internet]. 2019 [access at: Apr. 09, 2019];13:e240179. Available at: <https://periodicos.ufpe.br/revistas/revistaenfermagem/article/view/240179/32823>. <https://doi.org/10.5205/1981-8963.2019.240179>.
 17. Domingos TS, Braga EM. Massagem com aromaterapia: efetividade sobre a ansiedade de usuários com transtornos de personalidade em internação psiquiátrica. *Rev Esc Enferm USP* [Internet]. 2015 [access at: July 19, 2019];49(3):453-9. Available at: https://www.scielo.br/pdf/reeusp/v49n3/pt_0080-6234-reeusp-49-03-0453.pdf. <https://doi.org/10.1590/S0080-623420150000300013>.
 18. Gnatta JR, Piason PP, Lopes CLBC, Rogenski NMB, Silva MJP. Aromaterapia com ylang ylang para ansiedade e autoestima: estudo piloto. *Rev Esc Enferm USP* [Internet]. 2014 [access at: July 1, 2019];48(3):492-9. Available at: https://www.scielo.br/pdf/reeusp/v48n3/pt_0080-6234-reeusp-48-03-492.pdf. <https://doi.org/10.1590/S0080-623420140000300015>.
 19. Montibeler J, Domingos TS, Braga EM, Gnatta JR, Kurebayashi LFS, Kurebayashi A. Efetividade da massagem com aromaterapia no estresse da equipe de enfermagem do centro cirúrgico: estudo-piloto. *Rev Esc Enferm USP* [Internet]. 2018 [access at: July 19, 2019];52(03348):1-8. Available at: <https://www.scielo>

- [br/pdf/reecusp/v52/1980-220X-reecusp-52-e03348.pdf](http://pdf/reecusp/v52/1980-220X-reecusp-52-e03348.pdf).
<https://doi.org/10.1590/s1980-220x2017038303348>.
20. Marzouk TME, El-Nemer AMR, Baraka HN. The effect of aromatherapy abdominal massage on alleviating menstrual pain in nursing students: a prospective randomized cross-over study. *Evid Based Complement Alternat Med* [Internet]. 2013 [access at: July 19, 2019];2013(742421):1-6. Available at: <http://downloads.hindawi.com/journals/ecam/2013/742421.pdf>. <https://doi.org/10.1155/2013/742421>.
 21. Hosseini S, Heydari A, Vakili M, Moghadam S, Tazyky S. Effect of lavender essence inhalation on the level of anxiety and blood cortisol in candidates for open-heart surgery. *Iran J Nurs Midwifery Res* [Internet]. 2016 [access at: July 19, 2019]; 21(4):397-401. Available at: <https://www.ijnmrjournal.net/article.asp?issn=1735-9066;year=2016;volume=21;issue=4;spage=397;epage=401;aulast=Hosseini>. <https://doi.org/10.4103/1735-9066.185582>.
 22. Moeini M, Khadibi M, Bekhrad IR, Mahmoudian S, Nazari F. Effect of aromatherapy on the quality of sleep in ischemic heart disease patients hospitalized in intensive care units of heart hospitals of the Isfahan University of Medical Sciences. *Iran J Nurs Midwifery Res* [Internet]. 2010 [access at: July 19, 2019];15(4):234-9. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3203283/?tool=pubmed>.
 23. Therkleson T, Stronach S. Broken Heart Syndrome: a typical case. *J Holist Nurs* [Internet]. 2015 [access at: Apr. 04, 2019];33(4):345-50. Available at: <https://journals.sagepub.com/doi/10.1177/0898010115569883>. <https://doi.org/10.1177/0898010115569883>.
 24. Liu Q, Ning X, Wang L, Liu W. Individualized Aromatherapy in end-of-life cancer patients care: a case report. *Chin Med Sci J* [Internet]. 2018 [access at: Apr. 04, 2019];33(4):234-9. Available at: <https://doi.org/10.24920/003522>.
 25. Kottwitz F, Gouveia HG, Gonçalves AC. Via de parto preferida por puérperas e suas motivações. *Esc Anna Nery* [Internet]. 2018 [access at: Apr. 08, 2020];22(1):e20170013. Available at: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S1414-81452018000100201&lng=en&tlng=en. <https://doi.org/10.1590/2177-9465-ean-2017-0013>.
 26. Souza ENS, Aguiar MGG, Silva BSM. Métodos não farmacológicos no alívio da dor: equipe de enfermagem na assistência a parturiente em trabalho de parto e parto. *Enferm Rev* [Internet]. 2015 [access at: July 19, 2019];18(2):42-56. Available at: <http://periodicos.pucminas.br/index.php/enfermagemrevista/article/view/11693/10337>.
 27. Yazdkhasti M, Pirak A. The effect of aromatherapy with lavender essence on severity of labor pain and duration of labor in primiparous women. *Complement Ther Clin Pract* [Internet]. 2016 [access at: July 19, 2019];25:81-6. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S1744388116300731?via%3Dihub>. <https://doi.org/10.1016/j.ctcp.2016.08.008>.
 28. Osório SMB, Silva Júnior LG, Nicolau AIO. Avaliação da efetividade de métodos não farmacológicos no alívio da dor do parto. *Rev Rene* (online). [Internet]. 2014 [access at: July 19, 2019];15(1):174-84. Available at: <http://periodicos.ufc.br/rene/article/view/3113/2387>. <https://doi.org/10.15253/2175-6783.2014000100022>.
 29. Santos GKA, Silva NCOV, Alfieri FM. Effects of cold versus hot compress on pain in university students with primary dysmenorrhea. *BrJP* [Internet]. 2020 [access at: Apr. 08, 2020];3(1):25-8. Available at: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S2595-31922020000100025&lng=en&nrm=iso&tlng=en. <https://doi.org/10.5935/2595-0118.20200006>.
 30. Sut N, Sut Hk. Effect of aromatherapy massage on pain in primary dysmenorrhea: A meta-analysis. *Complement Ther Clin Pract* [Internet]. 2017 [access at: Apr. 08, 2020];27:5-10. Available at: <https://www.sciencedirect.com/science/article/abs/pii/S1744388117300300?via%3Dihub>. <https://doi.org/10.1016/j.ctcp.2017.01.001>.
 31. Vieira C, Brás M, Frago M. Opióides na dor oncológica e o seu uso em circunstâncias particulares: uma revisão narrativa. *Acta Med Port* [Internet]. 2019 [access at: Apr. 08, 2020];32(5):388-99. Available at: <https://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/10500>. <https://doi.org/10.20344/amp.10500>.
 32. Lara HCAA, Rubira EA, Marcon SR, Oliveira JRT, Britto AS, Alexandre RMS. Conhecimento dos profissionais de enfermagem no manejo da dor de pacientes oncológicos. *Rev Aten Saúde* [Internet]. 2018 [access at: Apr. 08, 2020];16(58):49-56. Available at: https://seer.uscs.edu.br/index.php/revista_ciencias_saude/article/view/5436. <https://doi.org/10.13037/ras.vol16n58.5436>.
 33. Ranallo L. Improving the quality of end-of-life care in pediatric oncology patients through the early implementation of palliative care. *J Pediatr Oncol Nurs* [Internet]. 2017 [access at: Feb. 17, 2018];34(6):374-80. Available at: <https://journals.sagepub.com/doi/10.1177/1043454217713451>. <https://doi.org/10.1177/1043454217713451>.
 34. Simon ST, Pralong A, Radbruch L, Bausewein C, Voltz R. The palliative care of patients with incurable

- cancer. *Dtsch Arztebl Int* [Internet]. 2020 [access at: Apr. 08, 2020];117:108-15. Available at: <https://www.aerzteblatt.de/int/archive/article/212455>. <https://doi.org/10.3238/arztebl.2020.0108>.
35. Almeida PF, Barbosa MGA, Santos SM, Silva EI, Lins SRO. A relação entre o enfermeiro e o paciente nos cuidados paliativos oncológicos. *Braz J Hea Rev* [Internet]. 2020 [access at: Apr. 08, 2020];3(2):1465-83. Available at: <https://www.brazilianjournals.com/index.php/BJHR/article/view/7394/6445>. <https://doi.org/10.34119/bjhrv3n2-011>.
 36. García DMJ, Olivar CM, Sastoque ANN, Acosta FPB. Revisión sistemática para el abordaje de síntomas desagradables gastrointestinales en cuidados paliativos. *Rev Cuid* [Internet]. 2019 [access at: Apr. 08, 2020]; 10(1):1-18. Available at: <https://journals.sagepub.com/doi/10.1177/1043454218782133>. <http://dx.doi.org/10.15649/cuidarte.v10i1.615>.
 37. Evans A, Malvar J, Garretson C, Kolovos EP. The use of aromatherapy to reduce chemotherapy-induced nausea in children with cancer: a randomized, double-blind, placebo-controlled trial. *J Pediatr Oncology Nurs* [Internet]. 2018 [access at: Apr. 08, 2020];35(6):392-8. Available at: <https://journals.sagepub.com/doi/10.1177/1043454218782133>. <https://doi.org/10.1177/1043454218782133>.
 38. Sites DS, Johnson NT, Miller JA, Torbush PH, Hardin JS, Knowles SS, et al. Controlled breathing with or without peppermint aromatherapy for postoperative nausea and/or vomiting symptom relief: a randomized controlled trial. *J Perianesth Nurs* [Internet]. 2014 [access at: Apr. 08, 2020];29(1):12-9. Available at: [https://www.japan.org/article/S1089-9472\(13\)00495-4/fulltext](https://www.japan.org/article/S1089-9472(13)00495-4/fulltext). <https://doi.org/10.1016/j.japan.2013.09.008>.
 39. Mendes DS, Moraes FS, Lima GO, Silva PR, Cunha TA, Crossetti MGO, et al. Benefícios das práticas integrativas e complementares no cuidado de enfermagem. *J Health NPEPS* [Internet]. 2019 [access at: Apr. 08, 2020];4(1):302-18. Available at: <https://periodicos.unemat.br/index.php/jhnpeps/article/view/3452/2979>. <http://dx.doi.org/10.30681/252610103452>.
 40. Sacco PR, Ferreira GCGB, Silva ACC. Aromaterapia no auxílio do combate ao estresse: bem-estar e qualidade de vida. *Revista Científica da FHO|UNIARARAS* [Internet]. 2015 [access at: July 22, 2019];3(1):54-62. Available at: <http://www.uniararas.br/revistacientifica/documentos/art.6-014-2015.pdf>.
 41. Hino P, Horta ALM, Gamba MA, Taminato M, Fernandes H, Sala DCP. Integralidade na perspectiva da saúde coletiva: caminhos para a formação do enfermeiro. *Rev Bras Enferm* [Internet]. 2019 [access at: Apr. 08, 2020];72(4):1119-23. Available at: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S0034-71672019000401119&tlng=en. <https://doi.org/10.1590/0034-7167-2018-0443>.
 42. Boso AC, Oberger JV, Utsumi GMT, Garcia LA, Oribka R. Cardiomiopatia de Takotsubo após pneumonia: relato de caso. *Rev Soc Bras Clín Med* [Internet]. 2015 [access at: Apr. 08, 2020];13(1):65-8. Available at: <http://files.bvs.br/upload/S/1679-1010/2015/v13n1/a4779.pdf>.
 43. Lyra CS, Nakai LS, Marques AP. Eficácia da aromaterapia na redução de níveis de estresse e ansiedade em alunos de graduação da área da saúde: estudo preliminar. *Fisioter Pesqui* [Internet]. 2015 [access at: July 22, 2019];17(1):13-7. Available at: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S1809-29502010000100003&lng=pt&tlng=pt. <https://doi.org/10.1590/S1809-29502010000100003>.
 44. Barbiani R, Nora CRD, Schaefer R. Nursing practices in the primary health care context: a scoping review. *Rev Latino-Am Enferm* [Internet]. 2016 [access at: Apr. 09, 2020];24:e2721. Available at: https://www.scielo.br/scielo.php?script=sci_arttext&pid=S0104-11692016000100609&lng=en&nrm=iso. <https://doi.org/10.1590/1518-8345.0880.2721>.

