ACUPUNTURA NO CONTROLE DE NÁUSEAS E VÔMITOS EM PACIENTES ONCOLÓGICOS
ACUPUNCTURE IN THE CONTROL OF NAUSEA AND VOMITING IN ONCOLOGY
PATIENTS
ACUPUNTURA EN EL CONTROL DE NÁUSEAS Y VÓMITOS EN PACIENTES ONCOLÓGICOS

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RESUMO

Objetivo: verificar o efeito da acupuntura no controle de náuseas e vômitos em pacientes submetidos à quimioterapia. Método: trata-se de um estudo bibliográfico, descritivo, tipo revisão integrativa da literatura, entre 2008 a 2018, na BVS (Biblioteca Virtual de Saúde) e na MEDLINE via PUBMED. Analisaram-se os artigos pela leitura reflexiva e criteriosa acerca das principais informações e elementos que compõem a temática nos estudos. Resultados: resultaram-se 15 artigos em inglês, espanhol e português. Percebeu-se que o efeito da acupuntura no controle de náuseas e vômitos induzidos pela quimioterapia foi satisfatório em 13 dos 15 estudos que compuseram esta revisão, mostrando uma diminuição desses sintomas durante e após o tratamento. Destacaram-se, entre os métodos evidenciados nos estudos, a acupuntura clássica e a electroacupuntura. Conclusão: avalia-se que a acupuntura é uma prática integrativa e complementar aos tratamentos convencionais na oncologia, pois melhora a qualidade de vida dos pacientes em tratamento quimioterápico.

Descritores: Acupuntura; Náusea; Neoplasia; Auriculoterapia; Enfermagem; Terapias Complementares.

ABSTRACT

Objective: to verify the effect of acupuncture on the control of nausea and vomiting in patients undergoing chemotherapy. Method: this is a bibliographic, descriptive, integrative literature review type study, between 2008 and 2018, at the VHL (Virtual Health Library) and at MEDLINE via PUBMED. The articles were analyzed by a reflexive and careful reading about the main information and elements that make up the theme in the studies. Results: the result was 15 articles in English, Spanish and Portuguese. It was noticed that the effect of acupuncture in the control of nausea and vomiting induced by chemotherapy was satisfactory in 13 of the 15 studies that composed this review, showing a decrease in these symptoms during and after treatment. Among the methods evidenced in the studies, classical acupuncture and electroacupuncture were highlighted.
**Conclusion:** acupuncture is considered an integrative practice and complementary to conventional treatments in oncology, because it improves the quality of life of patients in chemotherapy treatment.

**Descriptors:** Acupuncture; Nausea; Neoplasm; Auriculotherapy; Nursing; Complementary Therapies.

**RESUMEN**

**Objetivo:** verificar el efecto de la acupuntura en el control de náuseas y vómitos en pacientes sometidos a quimioterapia. Método: se trata de una revisión bibliográfica, descriptiva, integradora de la literatura, entre 2008 y 2018, en la BVS (Virtual Health Library) y MEDLINE vía PUBMED. Los artículos fueron analizados mediante una lectura reflexiva y atenta sobre las principales informaciones y elementos que componen el tema de los estudios. Resultados: se publicaron 15 artículos en inglés, español y portugués, se notó que el efecto de la acupuntura en el control de náuseas y vómitos inducidos por quimioterapia fue satisfactorio en 13 de los 15 estudios que componen esta revisión, mostrando una disminución de estos síntomas durante y después del tratamiento. Entre los métodos evidenciados en los estudios se destacaron la acupuntura clásica y la electroacupuntura. Conclusión: se evalúa que la acupuntura es una práctica integradora y complementaria a los tratamientos convencionales en oncología, ya que mejora la calidad de vida de los pacientes sometidos a quimioterapia.

**Descriptores:** Acupuntura; Náusea; Neoplasia, Auriculoterapia; Enfermería; Terapias complementarias.

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How to cite this article


INTRODUCTION

It is estimated that, in Brazil, during the triennium 2020-2022, there will be 625 thousand new cases of cancer (450 thousand, excluding the cases of non-melanoma skin cancer, which will be the most incident, with 177 thousand cases). It is estimated that the most frequent types of cancer in men will be prostate (29.2%), colon and rectum (9.1%), lung (7.9%), stomach (5.9%) and oral cavity...
It is expected in women the predominance of breast (29.7%), colon and rectum (9.2%), cervix (7.4%), lung (5.6%) and thyroid (5.4%) cancers.¹

It is known that one of the main treatments for the cure and palliation of cancer is chemotherapy, consisting in the infusion of cytotoxic substances through the intravenous, oral, subcutaneous, intramuscular and intratecal routes. It is classified, according to the purpose of the treatment, as adjuvant chemotherapy, neoadjuvant, palliative, curative, potentiating, monoquimiotherapy and poliquimiotherapy.²

It is understood that antineoplastic chemotherapy drugs are classified as to their relationship with the cell cycle or as to chemical structure and cell function. They are divided into specific and non-specific cycles. It is defined that the specific chemotherapy cycles are those that have a better performance in the cells that are in a certain phase of the cell cycle. It is verified on the chemotherapic unspecific cycles that the cytotoxic effect is found in any phase of the cell cycle.³

It is observed that antineoplastic chemotherapy drugs, which act in a non-specific way, damage malignant and benign cells, providing adverse effects to the patient. It is therefore considered important that, before starting the treatment, an evaluation of the patient's general health status be performed, ensuring that he or she will be able to overcome the toxic effects of the antineoplastic drug.³

Among the side effects most reported by patients in chemotherapy treatment, nausea and vomiting are mentioned as the most stressful side effects by most patients, being pointed out as two of the contributing factors for abandonment and delay of treatment.⁴

It is noted, with the continuation of treatment, that this side effect can cause considerable clinical complications, such as risk of malnutrition, dehydration, hydroelectrolytic disorders and dysphagia, which can lead to hospitalization and interruption of chemotherapy treatment. It is noticeable, in a chronic way, that these symptoms drastically diminish the quality of life of the patient, harming his daily and work activities.⁴

It is evident that acupuncture can be an ally to prevent and treat side effects on the patient in oncologic treatment, such as nausea and vomiting, providing the constancy of treatment, above all, an improvement in the quality of life of these patients.⁵

It is known that acupuncture is an ancient practice, which began from the observation that the Chinese made of nature. The procedure is carried out from the insertion of needles in specific points under the skin.

Acupuncture can be used as an instrument to balance the energetic meridians of the body. According to the Yin-Yang theory, the energies are opposed but complementary and inseparable. It is argued, for the body to be in balance, that these two polarities need to be in movement and
It can be seen that in Traditional Chinese Medicine, physiology, pathology, diagnosis and treatment can be reduced to the fundamental theory of Yin-Yang, being an Oriental medical rationality, because it has its own anamnesis, diagnosis and treatments. It is argued that this rationality, also known as Integrative and Complementary Practice, can and should be associated with allopathic medicine. It is observed that acupuncture uses specific points for therapeutic purposes. These points are distributed throughout the body, where energetic meridians responsible for organs and viscera pass through. According to each diagnosis presented, according to the Chinese medicine, specific points are selected with the objective of sedating and toning the energy of a certain organ or viscera, with the purpose of harmonizing them.

Traditional Chinese Medicine considers that nausea and vomiting are caused by excess or deficiency. It is suggested that the excess is caused by an imbalance in the food part, leading to what is called a rebellion of the Qi of the stomach, and that the deficiency occurs due to some pathology that consumes the Yin or Yang of the stomach, preventing the descent of the Qi of the stomach and generating a disharmony.

Acupuncture is used to treat this and other imbalances in the body. However, it is necessary to build and present scientific data that prove the importance of this assistance as a differential within the process of illness.

**OBJECTIVE**

Verify the effect of acupuncture on the control of nausea and vomiting in patients undergoing chemotherapy.

**METHOD**

It is a bibliographic, descriptive, integrative literature review and research synthesis study on the use of acupuncture in the relief of nausea and vomiting in patients undergoing chemotherapy treatment from what was published in national and international journals from 2008 to 2018.

Five phases were covered:

1) Identification of the problem and elaboration of the guiding question; 2) search and selection of publications; 3) data evaluation; 4) data analysis; 5) presentation of results.

Initially, there was a need to investigate how the use of acupuncture could interfere with the quality of life of patients undergoing chemotherapy treatment. It was then formulated as a guiding question: “What is the effect of acupuncture in the control of nausea and vomiting induced by chemotherapy?”.

The second phase of the review was the search and selection of publications. We searched the
following databases: Medical Literature Analysis and Retrieval System Online (MEDLINE via PubMed) and the Virtual Health Library (VHL). It is important to clarify that the pertinent bases for the research topic were contemplated, and that accesses were available at the educational institution to which the researcher belongs. It is added that the PRISMA recommendations were observed and that the searches were assisted by the coorientadora linked to the same educational institution.

It is observed, still in this stage, that the search strategy included correlated and combined descriptors by Boolean operators, thus, in the VHL, “acupuncture” AND “nausea” AND “neoplasm” were used and, in PubMed, “acupuncture” OR “auriculotherapy” AND “nausea” AND “neoplasms” were used.

The following were chosen as inclusion criteria: complete articles; available online; written in Portuguese, English or Spanish; published between 2008 and 2018; that addressed the experiences of the use of acupuncture in the control of nausea and vomiting induced by chemotherapy and articles that treated several adverse effects, including nausea and vomiting. Excluded were studies that did not answer the research question, studies involving animals, studies that addressed pathologies other than cancer and publications that were not articles, such as dissertations, theses, reflection studies, end-of-course papers and magazine editorials.

For the selection of publications, a careful work was started, first selecting the texts by title and abstract (Figure 1). From this pre-selection, the full text was read in order to identify those that met the question of the study and the inclusion/exclusion criteria.

Further articles were excluded because they did not address the study question during the initial readings or in full. To better understand this selection process, Preferred Reporting Items for Systematic reviews and Meta-Analyses PRISMA Statement was organized.7
In the data evaluation phase, a table was elaborated that allowed the extraction of all the relevant data from the articles included in this integrative review. The table was composed by the following data: name of the author; year of publication of the article; journal; database; experiences and results obtained presented in the article.

In the fourth phase, the data analysis of the articles was carried out; classifying them first according to the level of scientific evidence. The experiences and results achieved on acupuncture in the control of nausea and vomiting induced by chemotherapy were then organized in a chart. We analyzed the convergences and divergences between authors of each method and point used, always seeking quality of life and control of symptoms.

During phase five of the IR, the presentation of data and discussion of the articles were related to the types of acupuncture applied, such as classical acupuncture, acupressure and auricular acupuncture, and their benefits for the care of the oncologic patient who undergoes the chemotherapy treatment. A flow was organized focusing on the objectivity and clarity of the articles that imply in their validation.

**RESULTS**

The 15 articles found between the years 2008 and 2018 were published, with the United States and China having the highest number of publications, with four articles each.

As for the level of evidence, one study was classified as a pilot study and 14 studies as a quantitative approach. It is recorded, regarding the databases, that there was a homogeneous distribution of the findings (Figure 2).
It is noticeable, with regard to the 15 articles,\(^5\)\(\text{--}\)\(^{21}\) which form the analysis territory of this study three systematic review articles, one prospective study article and 11 randomized controlled trial articles. The articles were also organized as to the experiences and results achieved (Figure 3).

<table>
<thead>
<tr>
<th>Article title</th>
<th>Experiences</th>
<th>Main results</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>The efficacy of acupoint stimulation for the management of therapy-related adverse events in patients with breast cancer: a systematic review</em>(^8)</td>
<td>Evidence on the use of acupuncture point stimulation for the management of adverse events related to breast cancer therapy was examined.</td>
<td>It was reported in 88% of the studies that at least one of the conditions examined was positive; three clinical trials showed that stimulation of PC6 was beneficial for nausea and vomiting induced by chemotherapy.</td>
</tr>
<tr>
<td><em>Inpatient Acupuncture at a Major Cancer Center</em>(^9)</td>
<td>The impact of acupuncture on the symptoms of treatment therapy for oncologic patients within a hospital environment was assessed.</td>
<td>Significant improvement after treatment for nausea and other symptoms such as pain, sleep disorder, anxiety and fatigue after receiving acupuncture.</td>
</tr>
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<td><em>Patient-reported Outcomes of Acupuncture for Symptom Control in Cancer</em>(^10)</td>
<td>The symptoms and satisfaction rates of 90 patients who received acupuncture in an Integrative Oncology clinic were examined retrospectively.</td>
<td>It was revealed that 21% of patients reported that nausea was significantly reduced after the first session; 62% reported a reduction in the prevalence rates of fatigue, pain, anxiety, distress and poor quality of life, since the first session and after the last one.</td>
</tr>
<tr>
<td><em>Systematic Review of Acupuncture in Cancer Care: A Synthesis of the Evidenc</em>(^11)</td>
<td>Evaluation of the effectiveness of acupuncture in the treatment of symptoms in patients with cancer. The studies were evaluated for risk of bias (ROB) according to Cochrane criteria.</td>
<td>Acupuncture has been shown to be an appropriate adjuvant treatment for chemotherapy-induced nausea/vomiting, but further studies are needed. For other symptoms, efficacy remains undetermined due to the high ROB between studies.</td>
</tr>
<tr>
<td><em>Use of Transcutaneous Nervous Electrical Stimulation Applied to PC6 Acupuncture Point for the Reduction of Symptoms of Nausea and Vomiting Associated with Antineoplastic Chemotherapy</em>(^12)</td>
<td>It was verified if the application of low frequency TENS in PC6 - Neiguan reduces the anticipatory and acute symptoms of nausea and vomiting associated with the neoadjuvant and adjuvant chemotherapy treatment of high and moderate emetogenic potential.</td>
<td>Results show significant improvement in symptoms of nausea and anticipatory and acute vomiting resulting from chemotherapy treatment, both in its intensity and frequency, in the experimental group.</td>
</tr>
</tbody>
</table>
EA versus sham acupuncture and no acupuncture for the control of acute and delayed chemotherapy-induced nausea and vomiting: a pilot study. Assessment of the feasibility of a randomized controlled trial to determine whether electroacupuncture provides better control of chemit-induced nausea and vomiting than a placebo electroacupuncture or standard antiemetic treatment alone.

Reduction in Nausea and Vomiting in Children Undergoing Cancer Chemotherapy by Either Appropriate or Sham Auricular Acupuncture Points with Standard Care. The objective of the article is to report the findings of a feasibility and pilot study using ear acupuncture to control nausea and vomiting in a small group of children.

Integrative Therapeutic Approaches for the Management and Control of Nausea in Children Undergoing Cancer Treatment: A Systematic Review of Literature. Identification of current evidence on integrative therapeutic approaches to control CINV in children with cancer.

Effect of transcutaneous electrical acupoint stimulation combined with palonosetron on chemotherapy-induced nausea and vomiting: a single-blind, randomized, controlled trial. Investigation of the clinical effects of transcutaneous electrical acupoint stimulation (TEAS) on nausea and vomiting after transcatheter arterial chemoembolization (TACE).

The Effects of Acupressure on Meridian Energy as well as Nausea and Vomiting in Lung Cancer patients Receiving Chemotherapy. The effects of acupressure on meridian energy, as well as nausea and vomiting, were explored in 70 lung cancer patients receiving chemotherapy.

The Effect of Auricular Acupressure on nausea and vomiting caused by chemotherapy among breast cancer patients. Evaluation of the effect of acupressure on the relief of nausea and vomiting among women who received chemotherapy.

Efficacy of acupuncture in prevention of delayed chemotherapy induced nausea and vomiting in gynecologic cancer patients. Comparison of the effectiveness of acupuncture and ondansetron in the prevention of late chemotherapy induced nausea and vomiting (CINV).

Randomized, placebo Controlled Trial of K1 Acupoint Acustimulation to Prevent Cisplatin-Induced or Oxaliplatin-Induced nausea. Evaluation of the effects of electro-stimulation of the acupuncture point K1, located in the sole of the foot, which is believed to have the potential to control nausea and vomiting induced by chemotherapy.
It is noticeable, regarding the thematic organization, that three articles approached the action of acupuncture in women with gynecological tumors. It was found that an article researched the effects of integrative practices, including acupuncture on the child. It is noted that two studies have analyzed the effect of acupuncture on the control of symptoms related to chemotherapy, including nausea and vomiting.

It is described, in relation to the types of acupuncture performed in the study, that four articles used the electroacupuncture method to treat nausea and vomiting, two studies investigated the response of acupuncture to chemotherapy-induced nausea, one of them with children, three studies reported the responses of acupressure at acupuncture points in the treatment and prevention of nausea and entesis. Three studies have analyzed the effect of acupuncture to diminish several adverse effects, including nausea, one study addressed the effect of integrative practices, including acupuncture, on children in the treatment phase, four studies investigated the effects of PC6 acupuncture point and, finally, a study analyzed the action of classical acupuncture related to antiemetic in the treatment and prevention of nausea and vomiting.

It is recorded that the effect of acupuncture in the control of nausea and vomiting induced by chemotherapy has been beneficial and effective in 13 studies, showing that there was a decrease in these symptoms during and after treatment. Also added is the reduction in the use of antiemetics support in post-chemotherapy. It should be noted that two studies have not obtained significant results. In one study, it was found that there were no significant differences in nausea and vomiting due to acupuncture between the active and control groups, however, this study showed differences in clinical tendency between the groups, which may have been generated due to the small number of samples. It was observed, in another study, that there was a reduction in the picture of intolerable nausea between the active and placebo groups, but it was not statistically significant.

**DISCUSSION**

**Effect of acupressure on chemotherapy-induced nausea and vomiting in gynecologic cancer patients in Turkey**

Evaluation of the effect of acupressure applied to the acupuncture point of pericardium 6 (PC6 or Neiguan) on nausea, vomiting and anxiety in patients with breast cancer.

A significant decrease in mean patient nausea scores and use of antiemetic drugs was found after acupressure applied to patients with bracelet, compared to mean nausea scores and use of antiemetic drugs before application.
It is noticeable that the acupuncture point most used in articles for the control of nausea and vomiting was the PC6 (Neiguan), which is part of the pericardial canal and is located near the flexion fold of the wrist, in the radial margin of the flexor carpal ulnar tendon. It is a point that, by Chinese medicine, harmonizes the stomach, eliminates heat and regulates the flow of energy. It is understood that one of its indications is to relieve nausea and vomiting and other gastrointestinal problems. According to the studies, positive results were obtained with the use of PC6 in acupuncture protocols.\textsuperscript{8,12,21-2}

It is emphasized that the most evident methods among the articles were classical acupuncture\textsuperscript{8-11,19} e to electroacupuncture.\textsuperscript{12-3,16,20} Classic acupuncture is defined by the insertion of needles in specific points in the energetic channels scattered throughout the human body. It is known that electroacupuncture is an acupuncture technique that uses electrical impulses to stimulate acupuncture. In this method, a device that generates electrical impulses is installed in the needles, using small clips, in order to maintain standardized stimuli by means of specific frequencies.

It is noted, with regard to studies on classical acupuncture, that all results were positive for the control of nausea and vomiting induced by chemotherapy; however, only one article on electroacupuncture obtained a positive result.\textsuperscript{13} One of the authors' justifications was the low number of participants, which led to statistically non-significant results.

It was revealed by the practice of acupuncture, when compared to the effect of the antiemetic of ondansetron, that in the prevention of CINV (control of chemotherapy induced nausea and vomiting), there was a more significant response in the acupuncture group (52.8%) than in the ondansetron group (35.7%). It is noteworthy, when contrasting the control of delayed foramenesis, that the two groups were comparable, without many statistical differences. It is understood, therefore, that delayed nausea control was significantly greater in the acupuncture group (54.3%), when contrasted with the ondansetron group (34.3%). It was found that acupuncture can be used as an alternative treatment, mainly for patients who do not tolerate the adverse effects of ondansetron.\textsuperscript{19}

CONCLUSION

It is concluded that acupuncture is a recommended practice to be applied as a complementary therapeutic measure to standard treatments in oncology, since it generates benefits to patients in terms of quality of life, especially in relation to reducing the side effects of chemotherapy treatment. It is reinforced that the modalities of acupuncture found in the study were classical acupuncture, electroacupuncture, acupressure and auricular acupuncture. The practice of acupuncture is recognized by the Federal Nursing Council as Postgraduate and Specialization, and
can be applied by nurses who deal daily with cancer patients, from basic care to intra-hospital, ensuring comfort and quality of life to these patients.

The need for more robust studies was identified in order to obtain strong scientific evidence, which was not found in this literary search. It is believed that one of the main reasons for the difficulty in performing studies with strong evidence on acupuncture is the long time of treatment and follow-up of patients. It is added that each individual responds to protocols in different ways and at different times, making it difficult to stipulate the number of ideal sessions to obtain positive and effective results.

It is thus argued that this study is relevant for teaching, research and professional practice, since it seeks knowledge of the benefits that acupuncture can bring to cancer patients. It is a field to be explored and that can contribute to the progress of Nursing as a profession and science, helping the nurse and the multiprofessional team to act in front of the oncologic patient, also contributing to the promotion of an integral and individual care.

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