

## Effect of auricular acupuncture on cancer pain: a systematic review

### Efeito da auriculoterapia na dor oncológica: revisão sistemática

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## **ABSTRACT**

**Aims:** To analyze the scientific evidence available in the literature about the effect of auricular acupuncture on cancer pain. **Method:** Systematic review of the literature guided by the criteria of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA Statement); whose research question was “What are the effects of auriculotherapy/auricular acupuncture on cancer pain in adults?”. EndNote and Rayyan platforms were used to manage references and manage the stages of article selection, respectively. The Jadad scale was used to assess the methodological quality of the studies. The data collected from the articles were grouped into tables and analyzed descriptively. **Results:** A total of 3484 articles were found, of which 11 made up the sample of this study, in which the majority showed excellent methodological quality (54.54%). 533 adults complaining of cancer pain were treated, using auricular acupuncture as the only intervention or as a complement to another treatment and, in all studies, it proved to be effective both for painful symptoms and for relieving other secondary signs, such as anxiety and insomnia. **Conclusions:** Auricular acupuncture is effective in relieving cancer pain when administered either through needles or seeds and at specific pain points (aché point), in addition to the shemman, sympathetic, subcortex, and kidney points.

**Keywords:** cancer pain, auriculotherapy, cancer patients.

## **RESUMO**

**Objetivos:** Analisar as evidências científicas disponíveis na literatura sobre o efeito da acupuntura auricular na dor causada pelo câncer. **Método:** Revisão sistemática da literatura guiada pelos critérios dos Itens Preferenciais para Revisões Sistemáticas e Meta-Análises (Declaração PRISMA); cuja pergunta de pesquisa foi "Quais são os efeitos da auriculoterapia/acupuntura auricular sobre a dor oncológica em adultos? As plataformas EndNote e Rayyan foram utilizadas para gerenciar referências e gerenciar as etapas de seleção de artigos, respectivamente. A escala Jadad foi utilizada para avaliar a qualidade metodológica dos estudos. Os dados coletados dos artigos foram agrupados em tabelas e analisados de forma descritiva. **Resultados:** Foi encontrado um total de 3484 artigos, dos quais 11 constituíram a amostra deste estudo, no qual a maioria mostrou excelente qualidade metodológica (54,54%). Foram tratados 533 adultos queixando-se de dor cancerígena, utilizando a acupuntura auricular como única intervenção ou como complemento a outro tratamento e, em todos os estudos, demonstrou ser eficaz tanto para sintomas dolorosos como para aliviar outros sinais secundários, como ansiedade e insônia. **Conclusões:** A acupuntura auricular é eficaz no alívio da dor cancerígena quando administrada através de agulhas ou sementes e em pontos específicos de dor (ponto aché), além do shemman, simpático, subcortex e pontos renais.

**Palavras-chave:** dor por câncer, auriculoterapia, pacientes com câncer.

## 1 INTRODUCTION

Pain is one of the most frequent complaints associated with neoplasms; and its evaluation and control are necessary to improve the quality of life and the results of the patient treatment<sup>(1, 2)</sup>. Therefore, cancer pain has become one of the most feared phenomena among people with cancer, since, in addition to the painful symptoms, they face different impacts on their quality of life, whether due to emotional effects or physical discomforts present in different stages of the disease, from diagnosis to outcome<sup>(3,4)</sup>. Thus pain management should be a priority in oncology, as it allows tolerance and greater adherence to cancer treatment.

The use of analgesics and opioids is the most common and easily accessible treatment for pain relief<sup>(5)</sup>, however, in addition to the high cost of this therapy, they can cause adverse effects, such as: constipation, sedation, nausea and vomiting, respiratory depression, dependence; among other factors. Given this context, it is necessary to identify non-drug therapies for the treatment of cancer pain, which are easily accessible and low-cost.

Among the non-drug therapies, auricular acupuncture stands out, which is among the most used Traditional Chinese Medicine (TCM) techniques for the relief of cancer pain<sup>(6)</sup>, either complementary to conventional treatment or as a holistic therapy for the care of people with cancer. Auriculotherapy is performed through the application of specific devices in the ear<sup>(7)</sup>, such as mustard seeds and needles, which will stimulate a specific point on the ear that will correspond to a part of the body or meridians, generating results such as analgesia and relief of symptoms of diseases<sup>(8)</sup>.

The effect of auricular acupuncture on pain management was documented in a study by Yeh *et al* (2015)<sup>(9)</sup>, in which it was observed to be effective in reducing pain intensity in people diagnosed with cancer; however, the authors concluded the need for controlled clinical studies in order to extract conclusive evidence of the analgesic effect of auricular acupuncture for cancer patients.

Therefore, it is important to develop studies, especially systematic reviews that can identify and synthesize scientific evidence regarding the efficiency of auricular acupuncture in the treatment of pain in people with cancer, so that it is possible to develop validated and efficient protocols. Thus, this study aimed to analyze scientific evidence in the literature about the effect of auricular acupuncture on cancer pain.

## 2 METHOD

This is a systematic review of the literature that was reported according to the criteria of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses for Acupuncture

(PRISMA-A)<sup>(10)</sup>, which consists of a checklist with about 27 items and seven steps of a flowchart.

The PICO strategy (P -population; I -intervention; C -comparison; O -outcomes) was used to construct the research question and the bibliographic search. For this study, the P consisted of cancer patients; the I, auricular acupuncture; the C, standard treatment for pain and, the O, cancer pain relief. Thus, the guiding question of the study was “What effect does auriculotherapy/auricular acupuncture have on the pain of adults with cancer?”.

The terms (Chart 1) for searching the articles were combined, according to each database, using the Boolean operators AND and OR, following the structured and trilingual vocabulary MESH Medical Subject Headings, with the descriptors “Acupuncture, Ear” and “Cancer pain”. The selected databases were: Medical Literature Analysis and Retrieval System Online (MEDLINE) via the US National Library of Medicine National Institutes of Health Central (PMC), Virtual Health Library (BVS), Virtual Health Library in Traditional, Complementary and Integrative (BVS MTCI Americas), Embase, Scopus, Web of Science, CINAHL, Physiotherapy Evidence Database (PEDro), International auricular acupuncture bibliography, The Cochrane Central Register of Controlled Trials The Cochrane Library (CENTRAL), Chinese Biomedical Literature Database (CBMdisc), China National Knowledge Infrastructure (CNKI) and Chinese Scientific Journals Database (CSJD-VIP).

Table 1 – PICO strategies for the search for articles in the databases. Alfenas-MG, Brazil, 2020.

PICO	Keywords	MESH	Titles
P	Cancer patients	-	-
	AND	AND	AND
I	Auriculotherapy	Acupuncture, Ear	Acupuncture, Ear OR Acupunctures, Ear OR Ear Acupunctures OR Auricular Acupuncture OR Ear Acupuncture OR Acupuncture, Auricular OR Acupunctures, Auricular OR Auricular Acupunctures OR Auriculotherapy OR Auriculotherapies OR Acupressure OR Ear, External OR auricular therapy OR auricular needle OR auricular acupressure OR ear acupressure OR acupuncture ear OR otopoint OR oto needle OR auriculoacupuncture.
	AND	AND	AND
C	Standard treatment	-	-
O	Cancer pain relief	Cancer pain	Cancer pain OR Cancer Pains OR Pain, Cancer OR Pains, Cancer OR Cancer-Associated Pain OR

			<p>Cancer Associated Pain OR Cancer-Associated Pains OR Pain, Cancer-Associated OR Pains, Cancer-Associated OR Neoplasm-Related Pain OR Neoplasm Related Pain OR Neoplasm-Related Pains OR Pain, Neoplasm-Related OR Pains, Neoplasm-Related OR Oncological Pain OR Oncological Pains OR Pain, Oncological OR Pains, Oncological OR Tumor-Related Pain OR Pain, Tumor-Related OR Pains, Tumor-Related OR Tumor Related Pain OR Tumor-Related Pains OR Tumor-Associated Pain OR Pain, Tumor-Associated OR Pains, Tumor-Associated OR Tumor Associated Pain OR Tumor-Associated Pains OR Oncology Pain OR Oncology Pains OR Pain, Oncology OR Pains, Oncology OR Cancer-Related Pain OR Cancer Related Pain OR Cancer-Related Pains OR Pain, Cancer-Related OR Pains, Cancer-Related OR Neoplasm-Associated Pain OR Neoplasm Associated Pain OR Neoplasm-Associated Pains OR Pain, Neoplasm-Associated OR Pains, Neoplasm-Associated.</p>
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Source: Made by the author (2020).

Eligibility criteria were: experimental or quasi-experimental studies that used auricular acupuncture to treat pain in people with cancer, with abstracts available for reading, and that answered the guiding question of this research. Theses, dissertations, articles that did not have a full abstract, and those that were not located by any means (online or direct contact with the author) were excluded.

The ENDNOTE web® tool was used as a reference manager, import and export of articles to other software. Then, these studies were conducted on the Rayyan® software, which was used to manage the stages of article selection (Identification of duplicate articles and eligibility criteria).

The next step was the reading of the articles in full, carried out to define the study sample, being carried out by two reviewers independently and, in case of divergent decisions, these were resolved by a third reviewer.

To assess the methodological quality of eligible studies, the *Jadad scale*<sup>(11)</sup> was used, which is centered on internal quality, in which the questions have a yes/no answer option, with a total score of five points: three times one point for yes answers, and two additional points for appropriate methods of randomization and allocation concealment<sup>(12)</sup>, with a score greater than three indicating low methodological quality.

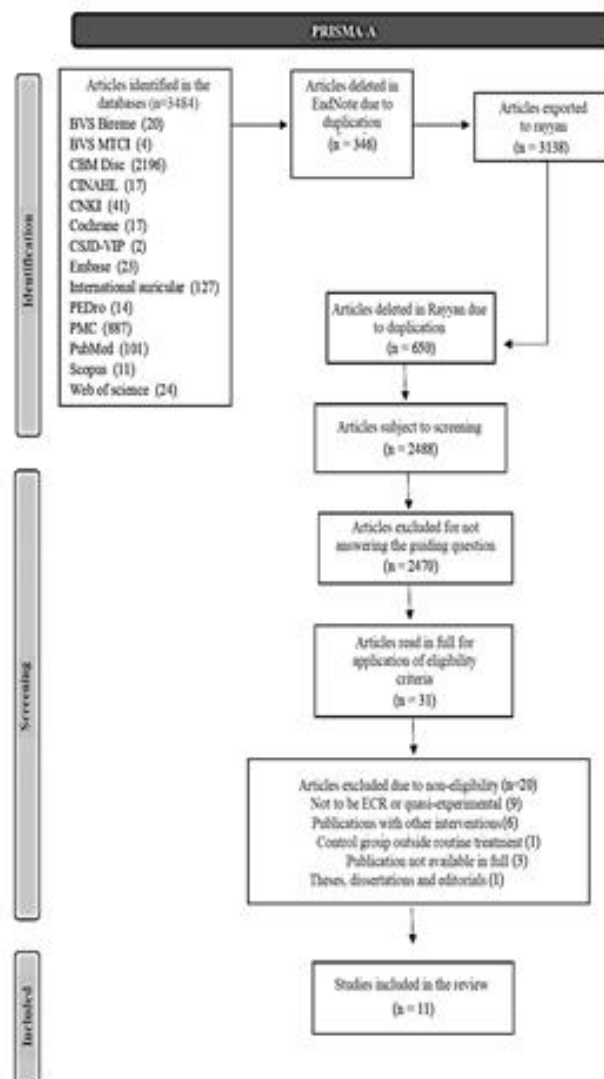
For the organization and analysis of the data of the included articles, a table was created that contained the following information: title of the articles; year of publication; study objective; population/sample; and intervention used. The identification of auricular

acupuncture technique was identified through the guidelines of the *Standards for Reporting Interventions in Clinical Trials of Acupuncture (STRICTA)*<sup>(13)</sup>, which comprises the following information: devices used, type of material, number, frequency and duration of sessions.

### 3 RESULTS

A total of 3,484 studies were surveyed. After the exclusion of duplicates, 2488 remained. Of these, 18 were selected for full-text reading, and 11 articles made up the final sample of this study (Figure 1).

Figure 1 – Article selection flowchart, adapted to PRISMA-A(10). Alfenas-MG, Brazil, 2020.



Source: Made by the author (2020).

Regarding the methodological quality of the studies, evaluated by the Jadad scale, 45.45% (n=5) obtained the maximum score<sup>(6, 14, 15, 16, 17)</sup>; 9.09% (n=1) obtained a score of

three<sup>(18)</sup>; 9.09% (n=1) obtained a score of one<sup>(19)</sup>. Blinding was reported by 45.45% (n=5)<sup>(6, 14, 15, 16, 17)</sup>; 54.55% (n=6) did not have adequate blinding<sup>(20, 9, 21, 19, 18, 22)</sup> and 36.37% (n=4) did not describe the loss to follow-up<sup>(20, 9, 21, 22)</sup>. With regard to randomization, 54.55% (n=6) reported the randomization method<sup>(6, 14, 15, 16, 17, 18)</sup> being appropriate for the type of study.

Regarding the profile of the studies (Chart 2), five clinical trials<sup>(6, 14, 21, 16, 17)</sup>, three pilot studies<sup>(15, 18, 19)</sup> and three quasi-experimental studies<sup>(9, 20, 22)</sup> were identified. , of the pre-and post-intervention type; of which a total of 533 adults complaining of cancer pain were found. All the studies analyzed identified beneficial effects of auriculotherapy/auricular acupuncture (AA) in adults with cancer pain, not only in reducing the level of pain but also in other patients' symptoms, such as insomnia, anxiety, among others.

Table 2 – Profile of the analyzed studies (objective, type of study, population, intervention and results/conclusion). Alfenas-MG, Brazil, 2020.

Authors/Publication year	Aim	Study type	Population	Intervention	Results/Conclusion
ALIMI, D. et al (2003)	To evaluate the effectiveness of auricular acupuncture in cancer patients' pain reduction.	randomized clinical trial	90 patients	auricular acupuncture	A statistically significant reduction in pain intensity was observed in the group of patients who received the intervention compared to the placebo group.
DILLON, M. et al (1999)	To evaluate the level of pain after the application of auriculotherapy in terminal patients	quasi-experimental study	28 patients	auricular acupuncture	The results showed significant improvement in pain after application of auricular acupuncture.
RUELA, L. O. et al (2018)	To evaluate the effectiveness of auricular acupuncture in the pain of cancer patients undergoing chemotherapy and possible changes in the consumption of analgesics after the application of the intervention	randomized clinical trial	31 patients	auricular acupuncture	Ear acupuncture was effective in reducing pain in patients undergoing chemotherapy.
YEH, C. H. et al	To examine the	quasi-	50 patients	auricular	After treatment,



(2015)	feasibility of auriculotherapy according to an acupressure research protocol to assess pain management and analgesic effects of acupuncture for patients with cancer.	experimental study		acupuncture	there was a reduction in pain intensity and the use of analgesics.
YEH, C. H. et al (2015)	To evaluate the ability of acupuncture to control pain, fatigue and sleep disturbances in breast cancer patients.	Pilot randomized clinical trial	31 patients	auricular acupuncture	There was a moderate reduction in the investigated symptoms.
ALIMI, D. et al (2000)	To evaluate the effectiveness of auricular acupuncture in the treatment of severe and persistent cancer pain.	randomized clinical trial	20 patients	auricular acupuncture	The study demonstrated the analgesic activity caused by auricular acupuncture.
XU, L. P. et al (2020)	to evaluate the effect of wrist-ankle acupuncture therapy combined with auricular acupuncture on cancer pain.	randomized clinical trial	160 patients	Conventional analgesia vs auricular acupuncture	Combination therapy had a stronger effect and faster time to onset, based on NRS scores, and patients receiving combination therapy had reduced analgesic use.
GARCIA, M. K. et al (2014)	to investigate the feasibility, safety, and initial efficacy of acupuncture for uncontrolled pain in cancer patients.	pilot study	52 patients	auricular acupuncture	Acupuncture was considered a viable adjuvant for the treatment of uncontrolled pain among cancer patients.
CREW, K. D. et al (2007)	to evaluate the effectiveness of acupuncture together with adjuvant aromatase	pilot study	21 patients	Systemic and auricular acupuncture	Acupuncture reduces joint symptoms related to aromatase inhibitors and improves patients' functional capacity.



	inhibitor therapy on joint symptoms in patients with cancer.				
CREW, K. D. et al (2010)	To evaluate and investigate the effect of acupuncture on arthralgias induced by aromatase inhibitors in breast cancer patients.	randomized, blinded, controlled trial	38 patients	auricular acupuncture	Women with aromatase inhibitor-induced arthralgia and treated with true acupuncture had significant improvement in joint pain and stiffness.
ABDORAL, P. R. G. et al (2021)	to verify the effect of auriculotherapy in the management of pain in cancer patients undergoing chemotherapy.	quasi-experimental study	12 patients	auricular acupuncture	Auriculotherapy is a promising complementary treatment for the management and reduction of pain and analgesic consumption.

Source: Made by the author (2020).

Table 3 presents the description of auricular acupuncture for the treatment of pain in people with cancer identified in the studies, according to STRICTA<sup>(13)</sup>.

Table 3 - Ear acupuncture intervention protocols of the articles, according to STRICTA

Authors/Publication year	Line of treatment	Number of sessions	Treatment duration	Application devices	Device dwell time	Type of stimulation	Application points	Un
ALIMI, D. et al (2003)	The information was recorded through the auricular point codes proposed by Oleson et al (1980) that divide the ear in 150 areas.	3 sessions	44 minutes/session, for 62 days.	Treated group: needle Placebo group 1: needle; Placebo Group 2: Seed. 3.4mm needle length and a cylindrical head measuring 1.2 mm in diameter and height.	13 days	Uninformed	Projected pain points, using microvoltmeter.	
DILLON, M. et al (1999)	According to LEWITH GT Modern Chinese Acupuncture, 2nd ed. Wellingborough: Thorsons, 1983.	2 sessions	4 weeks	Semi-permanent needle (2.9mm x 1.55mm)	2 weeks	Uninformed	Áreas sensíveis* do pavilhão auricular. * Conforme referencial da linha de tratamento.	
RUELA, L. O. et al (2018)	Based on the study by ALIMI, D. et al. (2003) and WHITE et al (2007).	8 sessions	2 months	Semi-permanent needles (0.5mm x 1.5mm)	2 weeks	there was no stimulus	Experimental Group: Shenmen, Kidney, Sympathetic points of energy balance and Relaxation muscular. Placebo group: Eye and trachea.	
YEH, C. H. et al (2015)	According to the auricular reflex theory of Dr. Huang (HUANG, 2005).	1 session	7 days	vaccariae seed	7 days	Manual stimulation, 3 times a day, for 3 minutes	Sympathetic, subcortex and site with painful sensitivity	

YEH, C. H. et al (2016)	Uninformed	4 sessions	4 weeks	Vaccariae seed, approximately 2mm in diameter.	5 days	Manual stimulation for 3 minutes.	Shenmen, Sympathetic, Occipital, Nervous subcortex, Neurasthenia points/area, Anxiety, points corresponding to the location of the pain. Control group: Stomach, mouth, duodenum, and eye acupuncture points.	
ALIMI, D. et al (2000)	Uninformed	Uninformed	4 months	sterile needles	5 to 35 days	Uninformed	Painful tender points	Un
XU, L. P. et al (2020)	According to Q. Wang, Q. Zhou, Theoretical origin and clinical application of wrist-ankle acupuncture therapy, Zhongguo. Zhen. Jiu 37 (5) (2017) 509-512. and The National Standard of the People's Republic of China, Nomenclature and location of auricular point, China, 2008.	3 sessions	7 days	Disposable sterile filiform needle (0.3 mm in diameter and 25 mm in length.  A sterile disposable tack needle (0.23 mm in diameter and 1.3 mm in length).	2 to 12 hours	Needle manually pressed 3 times a day, 20 presses at a time, until the ear turned red and warm. After 2-3 days, the treatment was applied to the other ear.	matching ear dots to intestines and viscera.	
GARCIA, M. K. et al (2014)	According to Deng LY. Chinese Acupuncture	Maximum of 10 sessions	5 weeks	Gold-plated stainless steel needles	25 minutes	electrical stimulation	Cingulate gyrus (GC), Shenmen, zero point and	Bil

	and Moxibustion. Beijing, China: Foreign Languages Press; 1997			(32-40 gauge and 15-40 mm length).			subcortex.	
CREW, K. D. et al (2007)	uninformed	12 sessions	6 weeks	Systemic acupuncture needles were of 25mm or 40mm and 34 gauge and ear needles were 15 mm and 38 calibers.	30 minutes per session	manual stimulation	Systemic: SJ 5-wai guan, GB 41-zulin qi, GB 34-yang ling quan, LI 4-he gu, ST-41-jie xi and KD 3-tai xi. Auricular acupuncture: shen men, kidney, liver, upper and sympathetic lung. Joint points: shoulder (LI-15, SJ-14, SI-10); handle (SJ-4, LI-5); fingers (SI-5, SI3, baxie, LI-3); low back (Du-3, Du-8, UB-23); hip (GB-30, GB-39); and knee (SP-9, SP-10, ST-34).	Bil (al
CREW, K. D. et al (2010)	According to the Treatment Manual proposed by SCHNYER R.N., ALLEN J.J., (2002)	12 sessions	6 weeks	Systemic acupuncture needles were 25 mm or 40 mm and 34 gauge and auricular needles were 15 mm and 38	30 minutes per session	manual stimulation	Three of the most painful areas according to patient complaints.	Bil (al

				gauge.				
ABDORAL, P. R. G. et al (2021)	uninformed	5 sessions	5 days	Mustard seed.	uninformed	manual stimulation	Shenmen, kidney, sympathetic, analgesia point and the point corresponding to the site of the pain complaint.	Un

Source: Made by the author (2020).

In 81.82% (n=9) of the studies, only AA<sup>(6,20,14,9,15,21,19,17,22)</sup> was performed, while the other 18.18% (n=2) contained a combination of other interventions<sup>(16,18)</sup>, them being: wrist-ankle acupuncture<sup>(16)</sup>, systemic acupuncture<sup>(18)</sup> and treatment with conventional analgesia<sup>(16)</sup>.

The number of sessions for AA for cancer pain ranged from one to twelve sessions, thus, the average is approximately seven sessions (6.92 sessions), and the duration of treatment, is from one week to four months. Regarding the application devices, variations were observed between seeds and semi-permanent auricular needles or systemic acupuncture needles, with manual stimulation or electrical stimulation. The permanence of the AA device used varied: for seeds, the minimum was five days and the maximum was seven days (average of six days); for semi-permanent needles, from seven days to two weeks (average of 11 days); and systemic acupuncture needles from 25 minutes to 45 minutes (mean 35 minutes).

#### 4 DISCUSSION

Auricular acupuncture has shown positive results in the relief of cancer pain, being performed as the main or complementary treatment; which corroborates the theory that AA promotes the activation of A $\delta$  nociceptive fibers (localizers) and C-type fibers (slow conduction and related to affective and motivational sensations), acting on the Pain Control Gate (stimulation is interrupted by electrostimulation, which prevents its arrival in the brain and, consequently, controls pain perception)<sup>(23)</sup>.

Although only six studies<sup>(6,14,15,16,17,18)</sup> presented adequate methodological quality<sup>(12)</sup>, it is important to emphasize that there are several challenges for the development of an experimental study with interventions aimed at holistic practices, which require not only the individualization of the technique administered but also the patient's response to it.

In two studies<sup>(9,16)</sup>, a decrease in the consumption of pain medication was identified in people who received AA, reaffirming its analgesic effect and its effectiveness as an adjuvant treatment. In addition to analgesia, AA action on joint stiffness was observed<sup>(17)</sup>, in which there was a decrease in the same due to selected pain points in: shoulder (LI-15, SJ-14, SI-10); handle (SJ-4, LI-5); fingers (SI-5, SI3, ba xie, LI-3); lumbar (Du-3, Du-8, UB-23); hip (GB-30, GB-39); and knee (SP-9, SP-10, ST-34).

Therefore, AA can improve other pain-related signs and symptoms, which will affect the person's quality of life; since, as shown in another study<sup>(24)</sup>, patients with pain have more intense symptoms and worse quality of life.

Regarding the application of the technique, the analysis did not find a standardization for the treatment of cancer pain, as several aspects of AA were observed concerning the duration of treatment, the devices used, the points and methods of location, as well as the type of stimulus and treatment line. This corroborates with another author<sup>(25)</sup> who found a diversity of pain treatment by AA, concluding that investment in more clinical studies is necessary to determine a safe and effective method of administering therapy for pain treatment.

Regarding the application devices, it was observed that the administration of AA with a needle showed better results, however, its use was described as "uncomfortable" regarding its insertion and permanence, which is a disadvantage when compared to the seed. Nevertheless, the seeds, after being inserted, require manual stimulation for the effects to be achieved<sup>(26)</sup>, three to four times a day, for one minute or until the point becomes sensitive<sup>(25,27)</sup>; for needle-type devices, manual or electrical stimulation can be applied<sup>(26)</sup>. Therefore, both devices have advantages and disadvantages, which contributed to the lack of consensus about the best material for the use of AA in the treatment of pain.

In the neurophysiological aspect, auricle stimulation acts directly on the Peripheral Nervous System and Parasympathetic Nervous System, releasing neurotransmitters that regulate pain control<sup>(28)</sup>.

Regarding the application points, the most frequent were Shenmen, Sympathetic, Kidney and Subcortex; in addition, to the point regarding analgesic stimulus/local pain complaint.

An integrative review carried out in 2020<sup>(29)</sup>, sought to understand the efficacy and effectiveness of the use of auricular acupuncture in pain management and found that auricular acupuncture protocols for the treatment of pain varied due to the types of pain, however, the Shenmen and Rim points were also the most recurrent in the studies surveyed. In addition,

another study<sup>(30)</sup> showed that the Shenmen and Rim points combined result in analgesia, as well as the Achi (algic) point.

To locate the points, the most used method was the reference point of the patient's complaint/sensitivity point<sup>(17)</sup>, the electronic point locator<sup>(15,9)</sup>, the micro voltmeter<sup>(6)</sup>; and an electronic chart<sup>(21)</sup>. However, six studies did not inform the technique for locating or identifying the points used to treat pain; despite its importance for the effectiveness of the method and replication of the study. The point finder allows points to be selected from the principles of electric potential, where the lower the electric potential, the higher the precision point<sup>(31)</sup>.

Of the selected studies, seven<sup>(6,20,14,9,15,21,19,17,22)</sup> performed the intervention isolated, which makes the approach more positive, since the results obtained are not mixed with any other type of intervention, therefore, it only demonstrates the consequences of the technique itself. In addition, it proves that AA is an intervention capable of restoring the energy balance of the entire body, promoting health rehabilitation<sup>(32)</sup>.

## 5 STUDY LIMITATIONS

The limitations of the study are linked to the phenomenon of investigation, in which the standardization of the AA technique for pain treatment, opposes the principle of traditional Chinese therapy, in which each person is unique, and thus, approaches and achievements depend on specific particularities, since the balance of the body in self-healing has an individual character, that is, holism.

## 6 CONTRIBUTION TO PRACTICE

Despite the lack of consensus in the literature about the method of application of AA for pain, it is possible to identify, for future clinical implementation, the establishment of the following protocol: application of the technique in seven sessions, with seeds, semi-permanent needles or sterile needle, in the Shenmen (Central Nervous System), Sympathetic (Sympathetic Nervous System or Neurovegetative System), Kidney, Subcortex and pain/analgesia points, bilaterally, with average permanence time varying between the devices, in which with seeds it's six days, semi-permanent needle twelve days, needles 35 minutes. This protocol needs validation to verify its effectiveness.

## 7 CONCLUSION

AA, an integrative and complementary technique in health, belonging to TCM, is promising for the treatment of cancer pain, as it has shown positive effects in analgesic



conditions. In addition, there were secondary results, such as decreased drug use, joint stiffness and improved taste function.

### **FINANCIAL SUPORT**

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