



Integrative and Complementary Practices in Speech Therapy: Integrative Literature Review

Práticas Integrativas e Complementares na Fonoaudiologia: revisão integrativa da literatura

Prácticas Integrativas y Complementarias en Fonoaudiología: Revisión Integrativa de la Literatura

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Abstract

Purpose: To investigate in the scientific literature the publications related to the thematic of the Complementary and Alternative Medicines (CAMs) associated with Speech Therapy, through an integrative review of the literature. **Methodology:** This is an integrative review carried out in six scientific databases in which a reading and critical analysis of the studies published between 2014 and 2019 was done, using the descriptors “Complementary Therapies”, “Integrative Medicine”, “Holistic Health”, “Speech Therapy”, “Audiology”, “Stomatognathic System”, “Deglutition Disorders”, “Language” and

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Authors' contributions:

IBS: responsible for the conception and design of the study, collection, analysis and interpretation of the data; carried out the writing or review of the article in an intellectually important way.

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“Voice” in Portuguese, Spanish and English. Selection criteria: articles comprised from 2014 to 2019, whose data collection was carried out by two independent researchers, analyzing descriptors, titles, abstracts and posteriorly full articles. **Results:** We selected 14 publications that were chosen to compose this review. The articles were divided into the following categories: age, location, main pathologies, most used CAMs, study types and year of publication. We observed a predominance of intervention studies performed in hospitals, with emphasis on the adult and elderly population, with acupuncture being the most commonly used CAMs in dysphagic and aphasic patients after stroke. **Conclusion:** CAMs are applied in the rehabilitation of patients with neurological, myofunctional, auditory alterations. The gains do not only cover functionality but also the quality of life of patients undergoing alternative therapies.

Keywords: Complementary Therapies; Speech Language and Hearing Sciences; Integrative Medicine; Public Health; Health Promotion.

Resumo

Objetivo: Investigar na literatura científica as publicações relacionadas à temática das Práticas Integrativas e Complementares em Saúde (PICS) associadas à Fonoaudiologia, por intermédio de uma revisão integrativa da literatura. **Metodologia:** Trata-se de uma revisão integrativa realizada em seis bases de dados, nos quais se fez uma leitura e análise crítica dos estudos publicados entre 2014 e 2019, utilizando-se a combinação dos descritores “Terapias Complementares”, “Medicina Integrativa”, “Saúde Holística”, “Fonoaudiologia”, “Audiologia”, “Sistema Estomatognático”, “Transtornos da Deglutição”, “Linguagem” e “Voz”, nos idiomas português, espanhol e inglês. Critérios de seleção: artigos compreendidos no período de 2014 a 2019, cuja coleta de dados fora realizada por dois pesquisadores independentes, ao analisar descritores, títulos, resumos e posteriormente artigos na íntegra. **Resultados:** Elegeram-se 14 publicações para compor esta revisão, divididas nas categorias: idade, local, principais patologias, PICS mais utilizadas, tipos de estudo e ano de publicação. Observou-se predomínio de estudos de intervenção, realizados em hospitais, com ênfase na população adulta e idosa, sendo a acupuntura a PIC mais utilizada em pacientes disfágicos e afásicos pós Acidente Vascular Encefálico. **Conclusão:** As PICS são aplicadas na reabilitação de pacientes com alterações neurológicas, miofuncionais e auditivas. Os ganhos ponderados não abrangem apenas a funcionalidade, como também, a qualidade de vida dos pacientes submetidos às terapias alternativas.

Palavras-chave: Terapias Complementares; Fonoaudiologia; Medicina Integrativa; Saúde Pública; Promoção da Saúde.

Resumen

Objetivo: Investigar en la literatura científica publicaciones relacionadas con el tema de las Prácticas Integradoras y Complementaria en Salud (PICS) asociadas con la Fonoaudiología, a través de una revisión de literatura integradora. **Metodología:** Esta es una revisión integradora realizada en seis bases de datos, en la que se realizó una lectura crítica y un análisis de los estudios publicados entre 2014 y 2019, utilizando la combinación de los descriptores “Terapias complementarias”, “Medicina integradora”, “Salud holística”, “Terapia del habla”, “Audiología”, “Sistema estomatognático”, “Trastornos de la deglución”, “Lenguaje” y “Voz” en portugués, español e inglés. Criterios de selección: artículos comprendidos entre 2014 y 2019, cuya recopilación de datos fue realizada por dos investigadores independientes, al analizar descriptores, títulos, resúmenes y artículos posteriores en su totalidad. **Resultados:** se eligieron 14 publicaciones para componer esta revisión, divididas en las categorías: edad, ubicación, principales patologías, PICS más utilizados, tipos de estudio y año de publicación. Hubo un predominio de los estudios de intervención realizados en hospitales, con énfasis en la población adulta y anciana, siendo la acupuntura la ICP más utilizada en pacientes con disfagia y afasia después de un accidente cerebrovascular. **Conclusión:** los PICS se aplican en la rehabilitación de pacientes con trastornos neurológicos, miofuncionales y auditivos. Las ganancias ponderadas no solo cubren la funcionalidad, sino también la calidad de vida de los pacientes sometidos a terapias alternativas.

Palabras clave: Terapias Complementares; Fonoaudiología; Medicina Integral; Salud Pública;

Introduction

Integrative and Complementary Health Practices, or *Práticas Integrativas e Complementares em Saúde* (PICS), as they are called in Brazil, are known worldwide as Complementary and Alternative Medicine (CAM) and Integrative Medicine (IM), and are achieving greater visibility and social demand with every day¹. The therapeutic approach based on the holistic system is based on groups and systems of ancient health care practices, whose principles permeate the integrality of the being with regard to the health/disease process, health promotion, and disease prevention².

The contexts and cultural bases perpetuated in history shape health care and its social changes. The biomedical model, prevalent in the western world since the mid-19th century has been losing strength in its relationships and professional practices, reflecting in an increased demand for unconventional therapeutic methods, which focus on the user's relationship with the cure³.

Holistic models of care, through alternative forms of continuous, humanized, and integral care, prioritize the therapist/patient relationship, promoting changes in technical knowledge aimed at simpler therapeutic means and less dependent on hard scientific technology⁴.

PICS comprise Ayurveda medicine, homeopathy, traditional Chinese medicine, anthroposophical medicine, medicinal plants/phytotherapy, art therapy, biodance, circular dance, meditation, music therapy, naturopathy, osteopathy, chiropractic, reflexotherapy, reiki, Shantala, integrative community therapy, social spa/crenotherapy, yoga, apitherapy, aromatherapy, bioenergetics, family constellation, chromotherapy, geotherapy, hypnotherapy, and ozone therapy⁵.

In Brazil, discussions regarding the incorporation of PICS have been promoted and stimulated by the World Health Organization (WHO) through the Traditional Medicine Program since the 1970s⁶. Organized actions led to the standardization and strengthening of public policies for the use of these practices, as well as the preparation of studies aimed at controlling their effectiveness, safety, and quality⁶.

In view of the creation of the Unified Health System (Sistema Único de Saúde, SUS), the institutionalization of PICS in health services took place through the 8th National Health Conference

(Conferência Nacional de Saúde, CNS) of 1986⁷. In 2006, following the WHO's precepts, the creation of the National Policy for Complementary Integrative Practices (Política Nacional de Práticas Integrativas Complementares) enforced the insertion of PICS in primary health care (PHC), proposing social participation, quality, effectiveness, and integrality in the care through prevention and health promotion⁷.

The WHO's Traditional Medicine Strategy statement assesses the institutionalization of PICS, such as investments and worldwide implementation, in addition to designating purposes for expanding PHC. This document contains data on the growth of the use of PICS in the last decade to the detriment of the increase in chronic diseases, dissatisfaction with the current health model, and the search for preventive care and quality of life⁸.

Currently, in Brazil, PICS are being used in 9,350 establishments in 3,173 municipalities, so that 88% of therapies are available in primary care. More than one million individual visits were registered in 2017, and it is estimated that approximately five million people make use of these practices every year⁹.

The application of PICS has welcomed the participation of professionals from different categories. Although the adoption of alternative therapies by different health professionals in their clinical practice, there is a political-deliberative vagueness as to what is each one's part to develop, or not, during their competent exercise¹⁰.

PICS have been widely used for the treatment of chronic diseases of a multicausal nature, as well as for digestive and respiratory illnesses, and palliative care. Its benefits include reduced stress, tranquilizing, analgesic, and anti-inflammatory action, providing the user with physical and emotional well-being¹¹.

A study carried out with 40 speech therapists working in a hospital in the countryside of São Paulo, Brazil, sought to understand those professionals' knowledge and beliefs regarding the use of PICS within the public health sector. Practices such as acupuncture, homeopathy, music therapy, and massages are well accepted, as long as they are used both rationally and conservatively. An expressive number of professionals surveyed actively recommend these practices as a form of treatment¹².

Noguchi (2015) surveyed published scientific articles on meditation, communication disorders,

and their implications regarding Speech Therapy. The articles associated the use of mindfulness meditation as a complementary therapy in the management of aphasia, stuttering, tinnitus, Alzheimer's, and Parkinson's disease¹³. The use of Alternative Therapies associated with Speech Therapy is little described in the national and international scientific literature. Thus, this document seeks to investigate publications related to the subject of PICS associated with Speech Therapy through an integrative literature review.

Material and methods

This study is an integrative literature review that, according to Cooper (1982), can be carried out in five stages: problem formulation, data collection, data evaluation, data analysis, and interpretation and presentation of the results¹⁴.

The following guiding question was listed to conduct the integrative literature review: What is the use of complementary integrative practices in Speech Therapy? The research for the studies was carried out in the National Library of Medicine (PubMed), Scopus, Web of Science, CINAHL, Scientific Electronic Library Online (SciELO), and Latin American and Caribbean Literature in Health Sciences (LILACS) databases.

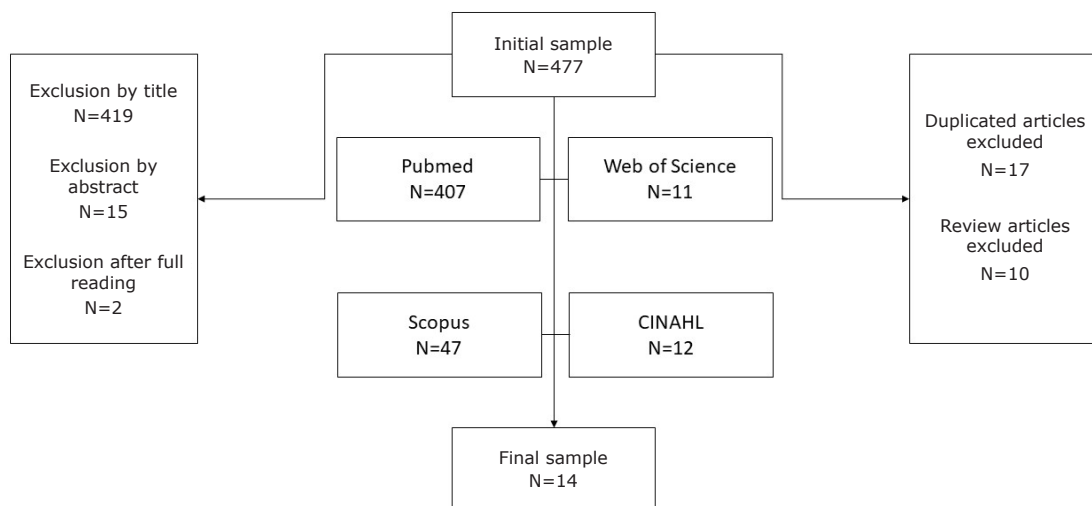
The scientific material search and selection took place in the months of January and February 2019, using the combination of the following

descriptors: “Complementary Therapies”; “Integrative Medicine”; “Holistic Health”; “Speech Therapy”; “Audiology”; “Stomatognathic System”; “Deglutition Disorders”; “Language “and “Voice”; as well as their respective synonyms in Portuguese, English, and Spanish, with the assistance of the Boolean operators “OR” and “AND”.

The inclusion criteria covered scientific articles in all languages listed and available in the databases described, with publication ranging between the years 2014 and 2019 in which speech therapy and PICS were related. Exclusion criteria were review articles, letters to the editor, theses, dissertations, articles published outside the investigated period, as well as duplicated articles.

The initial search returned 477 scientific articles and, after reading the abstracts, the articles were evaluated and those that met the inclusion and exclusion criteria were systematized in tables, with a careful reading of 14 selected articles, nine located within the PubMed base; four, at Scopus; and one, at CINAHL. It should be noted that no articles were identified within the period determined by the research in both SciELO and LILACS databases. No articles were found in the databases searched for the descriptor “voice.”

Data collection was carried out by two independent researchers who started by searching through the descriptors and by titles and abstracts enforceability, complying with the criteria outlined, to analyze and select the publications of interest for further evaluation in full, as shown in Figure 1.



Source: Elaborated by the authors. 2020.

Figure 1. Organization chart for the search and selection of articles.

After the selection, a critical analysis of the studies was carried out to assess the use of complementary integrative practices in Speech Therapy. This step followed the methodological steps¹⁴.

After completing the analysis of the studies, a discussion of the important elements took place to portray the theme and review process. The data interpretation was performed in a critical and impartial way to allow the arising of possible explanations for the results found in the literature.

Results

Chart 1 was elaborated to describe the publications that made up the present study according to the title, year of publication, objective, methodology, and main findings. It should be noted that the definition of the approach and type of study followed the authors' description.

Chart 1. Publications used in the present study according to authorship, year of publication, type of study, objective, method, and main findings (2014-2019).

Author/Year	Objective	Method	Main Findings
Li et al. (2017) ¹⁵	To describe a new treatment for post-stroke dysphagia through the rapid insertion of a needle into pharyngeal acupoints.	Case study. Standardized protocols in the area of dysphagia were applied after treatment to assess efficacy.	All applied protocols presented improvements. Rapid insertion of the needle into pharyngeal acupoints can be an efficient way to treat post-stroke dysphagia.
Ichida et al. (2017) ¹⁶	To evaluate the effect of acupuncture treatment on patients with idiopathic trigeminal neuralgia (ITN).	Panel study. Patients with idiopathic trigeminal neuralgia were split into three groups: Acupuncture, false acupuncture, and carbamazepine. Standardized protocols were applied for evaluation before, immediately after, and six months after treatment.	There was a reduction in secondary myofascial pain and mandibular limitations in the acupuncture and false acupuncture groups, however, only the acupuncture group maintained the changes after six months.
Mahomed e Mahomoodally (2017) ¹⁷	To explore the use of complementary and alternative medicine (CAM) in the management of the autism spectrum disorder (ASD) in Mauritius.	Cross-sectional study. Parents/Legal guardians for ASD patients were surveyed. Efficacy, method of usage, possible side effects, reasons behind the use of CAM, source of recommendation, and beliefs behind what causes ASD were explored.	Only 18 CAM interventions were perceived as commonly used by the ASD sample surveyed in the present study.
Stegemoller et al. (2017) ¹⁸	To evaluate the effects of a group music therapy intervention on swallowing in people with PD without significant dysphagia symptoms.	Intervention study. Electromyography (EMG) was used to assess muscle activity associated with swallowing before and after intervention. Swallow quality of life (SWAL-QOL) and Unified Parkinson's Disease Rating Scale (UPDRS) were also obtained.	The results revealed a significant increase in EMG outcome measures, as well as a significant improvement in UPDRS total and motor scores. No significant changes were observed regarding SWAL-QOL.
Qian et al. (2016) ¹⁹	To use clinical studies to assess the safety and effectiveness of Heart-Gallbladder acupuncture treatment for motor aphasia after stroke.	Intervention study. The treatment group (Heart-Gallbladder acupuncture) and the control group (traditional acupuncture) were tested before and after treatments.	The proposed treatment was better than conventional acupuncture for motor aphasia after stroke, with significant improvement in fluency, repetition, naming, and reading scores.
Mao et al. (2016) ²⁰	To evaluate the therapeutic effect of acupuncture by combining standard deglutition training for patients with dysphagia after stroke.	Panel study. Acupuncture group and control group were separated. Evaluations were performed with standardized protocols, before and after four weeks of treatment.	After four weeks of treatment, the comparison between the groups showed that the scores were significantly better in the group that used acupuncture.

Author/Year	Objective	Method	Main Findings
Xia et al. (2016) ²¹	To evaluate the effect of adding acupuncture to standard deglutition training for patients with dysphagia after stroke.	Intervention study. The acupuncture group and the control group were evaluated before and after treatment using standardized protocols.	Acupuncture combined with standard deglutition training can be beneficial for dysphagic patients after a stroke.
Lu et al. (2016) ²²	To evaluate the feasibility of conducting a preliminary randomized, placebo-controlled study with pre-selected data on the safety and efficacy of acupuncture.	Intervention study. Head and neck cancer patients were randomized for 12 sessions of active acupuncture or fake acupuncture. The quality of life related to swallowing was assessed with a specific protocol.	The total protocol scores improved significantly from baseline to 12 months post chemoradiation in both groups. Treatment intention analyzes suggested that there was no difference between treatment groups.
Chen L et al (2016) ²³	The present study sought to determine whether acupuncture has additional effects on the early rehabilitation of acute ischemic stroke and dysfunctions secondary to the condition.	Two hundred and fifty patients were randomized into two groups: receiving acupuncture treatment and without acupuncture treatment. Swallowing and cognition were assessed using specific protocols.	Acupuncture is safe and has an additional multiple effect in improving neurological deficits, swallowing disorders, and cognitive impairments.
Crundwell e Baguley (2016) ²⁴	To determine the prevalence of the use of complementary and alternative medications and examine attitudes towards complementary and alternative medicine by clinicians working with patients suffering from audiovestibular disorders.	Cross-sectional study. Two questionnaires were used: The Holistic Complementary and Alternative Medicine Questionnaire, as well as the Recent and lifetime use of complementary and alternative medicine.	Attitudes towards complementary and alternative medicine were slightly adverse, but the considerable standard deviation indicates broad attitudes.
Ali et al. (2015) ²⁵	To determine the prevalence, practice, and perception of the use of T&CM in stroke survivors assisted by an outpatient rehabilitation program at a hospital.	Cross-sectional study carried out with post-stroke patients treated in an outpatient rehabilitation program. A self-administered questionnaire was used to acquire the sociodemographic and clinical profile of the patients, as well as the types of therapy used and their perception of the use of T&CM.	Two-thirds of patients admitted to using T&CM together with traditional therapy. The most used being: Acupuncture, massage, and Chinese medicine.
Marshall et al (2015) ²⁶	The present study investigated the use and potential benefit of combining UFNB and conventional speech therapy.	Panel study conducted with patients affected by strokes and aphasia. Speech and language skills were assessed before and after the intervention.	There was a significant increase in the scores achieved by the patients on the tests applied.
Mamidi e Gupta (2014) ²⁷	To assess the role of the stroke treatment, in conjunction with panchakarma, in stroke management.	Panel study. Patients received modern internal medication, physical therapy as well as speech and language therapy, along with panchakarma. Assessment based on the National Institutes of Health Stroke Scale (NIH SS) and Stroke Specific Quality of Life Scale (SS-QOL) scores.	The treatment of stroke with panchakarma provided 63.49% of relief in NIHSS and 77.6% of relief in SSQOL. The treatment of stroke with panchakarma seems to be beneficial for the management of the condition.
Grillo et al. (2014) ²⁸	To evaluate the effects of acupuncture compared to occlusal plaque in patients with myogenic temporomandibular disorders.	Intervention study. Treatment effects on the masseter and temporal muscles were evaluated after four weeks of treatment, as well as the pain pressure threshold and maximum mouth opening.	There was a noticeable difference concerning the pain pressure threshold in the left masseter in the group that used acupuncture. Both groups mentioned a reduction in the intensity of the pain.

Source: Elaborated by the authors. 2020.

50% of the study population in the selected publications was composed of elderly people aged 60 to 69. As for the place where the research was carried out, the majority (57.1%) was conducted inside a hospital environment. It is noteworthy that 50% of the material analyzed refers to the practice performed in patients after a stroke. From the studies, it was observed that the most used PIC was acupuncture (57.1%), with dysphagia as the main highlighted pathology (42.8%).

As for the articles' methodological design, the most frequent type of study was that of intervention (42.8%) – six of the researched studies – in addition to the prevalence of 2016 publications, with a total of five (35.7%) articles published.

Discussion

In the present integrative literature review, three articles received the methodological design of intervention studies. In this type of study, for the effect of the intervention to be observed, it is necessary to know the clinical course of the pathology or symptom, and it may be difficult to imply the effects observed in the treatment performed²⁹.

The predominance of studies carried out in hospitals may be linked to the number of articles described that refer to post-stroke patients rehabilitation, which requires rapid and efficient treatment during the acute period to allow for the recovery of the impaired functions through neural plasticity. It should also be noted that these patients presented comorbidities such as dysphagia and aphasia, which are limiting conditions that require early intervention³⁰.

The high number of elderly people found is also correlated with the number of articles that addressed the comorbidities mentioned. The average age of stroke victims is over 60, with an exponential increase in the frequency of encephalovascular diseases³¹. The incidence of stroke doubles every decade after the age of 55, occupying a prominent position among the elderly population³².

The advancement in PICS applicability portrays changes in health practices of an interdisciplinary nature, as a promoting agent in the comprehensive care of people. The numerous alternative therapeutic resources contribute to disciplinary integration, making them invaluable practices within the realm of public health³³.

Acupuncture is part of Traditional Chinese Medicine and has anti-inflammatory, anxiolytic, muscle relaxant, and immune-activating properties³⁴. The application method is based on the stimulation of the meridians, located in specific points of the skin, and has a direct link with the individual's physiological and mental systems. Stimulation or pressure through needles, electricity, spheres, or seeds affects vital energy and blood flow circulation inside the organism³⁵.

The therapeutic results obtained with acupuncture cover the visceral, immunological, hormonal, and cerebral function levels. Increasing or decreasing the nervous system's excitability modulates its functioning by activating new neural networks or enhancing brain function³⁶.

Scientific studies^{15,20,21,23,25,37-39} have shown the clinical efficacy of acupuncture in post-stroke management of complications such as dysphagia, aphasia, and dysarthria, as well as rehabilitation.

Ali et al. (2015)²⁵, to determine the prevalence, practice, and perception of the use of PICS among post-stroke patients, a structured questionnaire was proposed to patients participating in a rehabilitation program located inside a hospital. Of those, 66% made use of PICS associated with conventional therapeutic methods; with acupuncture (40.4%), and massage (40.4%) being the most frequent.

Chen et al. (2016)²³ performed an intervention study analyzing the additional effects of acupuncture on the early rehabilitation of post-ischemic stroke patients split into an experimental and a control group. The participants were also submitted to motor function, swallowing, and cognition assessment before, during, and after treatment. They concluded that acupuncture helps improving neurological deficits, swallowing disorders, and cognitive impairment.

In the present study, two surveys^{21,23} have found that the use of acupuncture in the rehabilitation of dysphagia in post-stroke patients, in conjunction with traditional speech therapy, is an effective method for the rehabilitation of dysphagic patients. This evidence corroborates Long and Wu's data (2012)³⁷ who, through a meta-analysis of randomized clinical trials, observed that groups treated with acupuncture and traditional therapy were positively affected during dysphagia rehabilitation.

The effectiveness of inserting pharyngeal acupoints in the rehabilitation of post-stroke dysphagia has been verified through a case study. The patient,

who underwent rehabilitation and acupuncture therapy six times a week for six weeks, obtained a significant improvement in intraoral function, with no episodes of aspiration and food stasis in the vallecula after the treatment period³⁷.

A prospective randomized study comparing the use of lingual acupuncture with conventional acupuncture in dysphagic patients after stroke found that the former proved more efficient in the recovery of neurological functions, including swallowing, thus, decreasing the incidence of aspiration pneumonia¹⁵.

Acupuncture is increasingly in demand from patients with head and neck cancer due to the ever-growing interest in non-pharmacological treatments for symptom relief³⁸. The literature³⁹⁻⁴¹ points to the benefits of using acupuncture to decrease pain and increase salivary flow in patients with radiation-induced xerostomia, in addition to its prevention, also described in systematic literature reviews as a method for those receiving palliative care.

In addition to making subjects vulnerable to the development of complications such as malnutrition, dehydration, and tracheal aspiration, dysphagia has psychosomatic implications. The loss of food autonomy, followed by its restrictions, gives rise to feelings of incapacity, frustration, shame, and, in some cases, leads to the individual's social isolation⁴².

Approximately 50% of patients treated with chemoradiation suffer from dysphagia as an adverse effect, with the aggravation of other factors such as prolonged mucositis, diffuse fibrosis, loss of flexibility and contracture of the pharynx constricting muscles, xerostomia, and pain. Non-pharmacological therapies provide health care options for patients who developed dysphagia due to cancer²².

Studies^{22,43} verified the safety and efficacy of the use of acupuncture in dysphagic patients undergoing chemotherapy and radiotherapy and found no statistical differences between the groups, however, all patients benefited from the method. Such findings corroborate articles that signal the relief of symptoms and the improvement of quality of life in dysphagic patients⁴⁴⁻⁴⁶.

Two articles^{16,28} related acupuncture to temporomandibular disorder (TMD) and trigeminal neuralgia. TMD is configured as musculoskeletal and joint disorders that affect the temporomandibular joint (TMJ), causing orofacial pain, stiffness,

joint noise, mandibular deviations, and restricted mouth opening functions⁴⁷. Trigeminal Neuralgia is a neuropathic pain that affects one or more branches of the trigeminal nerve, commonly followed by spontaneous intense myofascial pains and trigger points⁴⁸.

The search for alternative therapies such as massage therapy and acupuncture has been increasingly recommended as a means of non-invasive intervention in the management of patients with TMD and trigeminal neuralgia⁵⁵. Acupuncture's endocrine neurohormonal effects and anti-inflammatory properties have great efficacy and are clinically proved⁴⁹. Grillo et al.'s (2015)²⁸ and Ichida et al.'s articles (2017)¹⁶ identified a decrease in orofacial myofunctional pain, an increase in mouth opening, and an improvement in masticatory function in patients undergoing acupuncture.

A descriptive study of TMD patients treated was intended to describe the results obtained regarding pain control. With a minimum of three weekly acupuncture sessions, it was possible to control pain in patients with TMD regardless of the degree of their initial pain⁵⁰.

To verify the effectiveness of traditional Chinese acupuncture in the treatment of muscular TMD, as well as to identify its main acupoints, a critical review of the literature was carried out and verified the efficiency in the relief and/or total reduction of pain intensity, improvement in jaw movements and oral function, as well as decreased muscle hyperactivity in chewing⁴⁷.

In a case study carried out to verify acupuncture's effectiveness in a patient suffering from drug-resistant trigeminal neuralgia, the patient had not perceived beneficial effects from several therapeutic methods, including medication, nerve blocking, and radiofrequency rhizotomy of the infraorbital branch of the trigeminal nerve. After the 12th acupuncture session, while still making use of medication, the patient reported the absence of orofacial pain⁵¹.

Acupuncture was also used in the rehabilitation of aphasic patients with impaired linguistic competence, either from a functional point of view or concerning the individual's expressiveness or receptivity.

60 patients were divided into two randomized groups (the first was treated with Heart-Gallbladder acupuncture, while the control group received traditional acupuncture) to analyze the effectiveness

of acupuncture using Heart-Gallbladder points in the treatment of post-stroke motor aphasia. Both groups were subjected to pre- and post-treatment tests through the assessment and diagnosis of dysphagia and communication functionality. While both methods were effective, however, Heart-Gallbladder had better efficacy when compared to conventional acupuncture¹⁹.

Other articles⁵²⁻⁵⁴ report the beneficial effects of acupuncture on the rehabilitation of aphasic patients. Li JA (2005)⁵⁵, conducted a study with 70 aphasic patients after acute ischemic stroke, splitting them into two randomized groups: the acupuncture group and the control group (receiving standardized rehabilitation). The group that received acupuncture obtained better post-treatment results than the control group concerning their cognitive assessment.

Two intervention studies^{56,57} used functional magnetic resonance imaging to evaluate the relationship between changes in language function and brain activation in aphasic patients after stroke. Both studies suggest that acupuncture can be beneficial for the treatment of aphasia. Li & Yang (2010)⁵⁷ concluded that stimulation of acupuncture points in patients with language deficits can selectively activate the brain on the side of the lesion^{56,57}.

In addition to acupuncture, two other PICS were related to aphasic patients in the present literature review: unilateral forced nostril breathing (Yoga pranayama technique)²⁶ and Panchakarma²⁷, the two being Ayurveda practices.

Ayurveda is a holistic medicine system developed and widely practiced in India. The word Ayurveda is a Sanskrit term that means 'science of life'. Ayu means 'life' or 'daily lifestyle', while Veda means 'knowledge'. This healing system has been practiced in daily life for over five thousand years in India⁵⁸.

The Pranayama technique of forced one-sided breathing of the nostrils is among the existing types of yogic breathing. Respiratory changes alter physiological and cognitive operations and are also used to control prana or vital energy, as well as for the management of patients suffering from anxiety and depression⁵⁹⁻⁶³.

The use of this technique alters the electroencephalographic amplitudes in the cerebral hemispheres and can improve the altered hemisphere's function post-stroke, with changes in hemispheric

dominance and increase of verbal and cognitive abilities also being described⁶¹.

Pranayama can be used as a complementary technique to speech therapy for aphasic patients after stroke. Marshall et al. (2015)²⁶ studied this relationship. Patients underwent individualized aphasia and communication skills assessments before and after treatment. Their assessments have improved, with the patients benefiting from better language and functional communication.

Panchakarma is one of the most important Ayurvedic treatment methods and means 'five processes'. These processes must be carried out to prevent and/or cure diseases by eliminating toxins, toning tissues, and restoring physical and emotional balance. They are: Vamana (Vomiting), Virechana (Purging), Basti (Enema or colon irrigation), Nasya (Nasal cleaning), and Raktamokshana (Blood purification). This practice requires guidance from a trained Ayurvedic practitioner; therefore, the patient needs to be admitted into special therapy centers⁶⁴.

Through a panel study, Mamidi & Gupta (2014)²⁷ assessed the role of Panchakarma, associated with speech therapy and physiotherapy, in the treatment of stroke. Patients were evaluated before and after treatment with the use of specific protocols to the assessment of functionality and quality of life after stroke. Improvements were verified regarding both aspects.

The second most used PIC as a therapeutic resource is music therapy. The American Music Therapy Association defines it as a means of promoting mental and physical health, enabling individuals to better understand themselves and the world^{65,66}. The literature mentions music therapy as an adjunct in the treatment of cancer patients⁶⁷, patients with Parkinson's disease (PD)^{18,68} and autism spectrum disorder⁶⁹. It has also been used as a care tool for the elderly⁷⁰, increasing their quality of life, especially for those institutionalized. Regarding hospitalized children, the benefits of music can be evidenced for their family members, the health team and, in particular, for the kids themselves⁷¹.

Music therapy was used as an early intervention to swallowing in 24 PD patients who underwent group therapy for eight weeks. Muscle activity and quality of life associated with swallowing were assessed and a PD assessment scale was used. Patients achieved significant improvement in scores, and music therapy resulted in prolonged laryngeal



elevation, protecting the airway for a longer time during swallowing⁶⁸.

Parents and/or legal guardians for patients with autism spectrum disorder (ASD), participated in a cross-sectional study to verify the use of PICS in the management of ASD. 23 patients were recruited, 15.3% of whom mentioned speech therapy as part of their conventional therapy, with music therapy and the use of Omega 3 and vitamins being the most frequently mentioned¹⁷.

PCIs have been increasingly sought after by patients with ASD and health professionals due to their benefits, as well as the dissatisfaction and concern regarding the deleterious effects of drugs usually prescribed to manage the disorder. According to the literature, one-third of the parents of children with ASD have already sought some alternative therapy, and the prevalence of the use of PICS to treat children with ASD is highly prevalent, being used by 52% to 95% of the patients¹⁷.

Audiovestibular disorders compose another field of research involving alternative therapies. Studies^{24,72} point to the use of PICS in patients with tinnitus, imbalances, and hearing loss, however, the findings are still inconclusive to determine any specific therapy²⁴.

Crundwell & Baguley (2016)²⁴ applied questionnaires on holistic and complementary therapies to assess the attitude of Audiology and Otorhinolaryngology professionals towards complementary and alternative medicine. Among the participants, 33% of those who recommend PICS to their patients mentioned mindfulness therapy, osteopathy, relaxation, acupuncture for migraine and facial pain, Pilates, and tai chi.

Conventional and alternative medicine, when in terms with each other, promote the continuity of health care, and provide a foundation for integrality and humanization. The constitution of these practices differs in terms of how they perceive the healing process, since one gives more attention to the disease itself, while the other places the individual and their health under the spotlight; however, the approximation between those areas of knowledge represents changes in health care practices which may reflect on aspects of public health and solidify dialogs and thinking, aiming at caring for the subject who is suffering.

PICS, like PNPIC, still demand further dissemination among health professionals. The low mastery of their resources arises from the lack of

credibility and causes a delay in their incorporation and effective application in health care². Due to the efforts made by the class council, it has been recently made possible for the practice to be performed by speech therapists. It is suggested that PICS should be better debated and outlined starting from the training of health professionals so that they already have basic knowledge of them and can use them later when they start in the job market.

Conclusion

Scientific articles have associated speech therapy with PICS mainly regarding the practice of acupuncture associated with dysphagic and aphasic patients after stroke. Internationally, PICS are applied in the rehabilitation of people with neurological, myofunctional, and hearing disorders, with an emphasis on the adult and elderly population. The most used PICS, besides acupuncture, are music therapy, followed by Ayurvedic medicine.

People submitted to PICS, associated or not with conventional speech therapy, have perceived an improvement in their health status. The gains cover not only functionality but also quality of life. There is a need for the development of further studies and articles about speech therapy involving PICS, contributing to their increased visibility in the face of scientific evidence, fostering data for future legislation in favor of their professional practice.

This study contributes to the context of professional practice, academic training, and scientific area, as it allowed for the identification of a knowledge gap in an emerging area today. It was clear that there is a limitation of studies on the subject concerning the period researched, mainly within SciELO and LILACS databases, and in Primary Health Care, which was still a weak point for this review. Research, therefore, should be definitely expanded.

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