

PRÁTICAS INTEGRATIVAS E COMPLEMENTARES NO CUIDADO EM SAÚDE DE IDOSOS: MAPA DE EVIDÊNCIAS

TERAPIAS COMPLEMENTARIAS EN LA ATENCIÓN DE LA SALUD DEL ANCIANO: MAPA DE EVIDENCIAS

COMPLEMENTARY THERAPIES FOR AGED HEALTH CARE: EVIDENCE MAP

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Resumo

Pessoas com 60 anos ou mais contabilizaram 1 bilhão em 2019 e aumentarão para 1,4 bilhão em 2030 e 2,1 bilhões em 2050. A estratégia global da OMS sobre envelhecimento e saúde instiga os países a agirem para garantir que todos os indivíduos tenham a oportunidade de viver uma vida longa e saudável. As medicinas tradicionais, complementares e integrativas incluem terapias de baixo custo, intensidade moderada, baixa tecnologia e baixo impacto e a possibilidade de prática por idosos com doenças crônicas. Este mapa de evidências identificou 54 revisões sistemáticas

relacionadas à população idosa referentes ao Tai Chi, Tai Chi Chuan, Qi Gong, Exercícios Tradicionais Chineses, Acupuntura, Meditação e Yoga para os cuidados com a saúde dos idosos. Essas terapias foram avaliadas em diferentes condições de saúde, incluindo: equilíbrio, qualidade de vida, função física, risco de queda, depressão, ansiedade, desempenho cognitivo, estresse, capacidade aeróbica, força muscular, qualidade do sono, cifose, colesterol, dispneia, índice de massa corporal, mobilidade, densidade óssea e insônia. Acupuntura, Tai Chi, Tai Chi Chuan, Qi Gong, Exercícios da Medicina Tradicional Chinesa, Meditação e Yoga têm sido aplicadas em diferentes áreas e este mapa indica mais de 100 efeitos positivos e promissores para o cuidado da população idosa.

PALAVRAS-CHAVE: Idoso, Práticas Integrativas, Tai Chi, Qi Gong, Yoga.

Resumen

Personas de 60 años o más fue de 1000 millones en 2019 y ese número aumentará a 1400 millones en 2030 y 2100 millones en 2050. La Estrategia mundial de la OMS sobre el envejecimiento y salud anima a los países a actuar para garantizar que todas las personas tengan la oportunidad de vivir una vida larga y saludable. Medicinas tradicionales, complementarias e integradoras incluyen terapias de bajo costo, intensidad moderada, baja tecnología y bajo impacto y la posibilidad de ser practicadas por ancianos con enfermedades crónicas. Este mapa de evidencia identificó 54 revisiones sistemáticas con la población anciana referente con el Tai Chi, Tai Chi Chuan, Qi Gong, Ejercicios Tradicionales Chinos, Acupuntura, Meditación y Yoga para el cuidado de los ancianos. Estas terapias fueron evaluadas en diferentes condiciones de salud, incluyendo efectos para el equilibrio, calidad de vida, función física, riesgo de caídas, depresión, ansiedad, desempeño cognitivo, estrés, capacidad aeróbica, fuerza muscular, calidad del sueño, cifosis, colesterol, disnea, índice de masa corporal, movilidad, densidad ósea y insomnio. Terapias de la Medicina Tradicional Chino, Meditación y Yoga se han aplicado en diferentes áreas y este mapa indica más de 100 efectos positivos y prometedores para la población anciana.

PALABRAS CLAVE: Ancianos, Medicina Complementaria, Tai Chi, Qi Gong, Yoga.

Abstract

People aged 60 years and older was 1 billion in 2019 and this number will increase to 1.4 billion by 2030 and 2.1 billion by 2050. WHO's global strategy on ageing and health urges countries to take action to ensure that all individuals could live a long and healthy life. Traditional, complementary and integrative medicines include therapies of low cost, moderate intensity, low technology and low impact and possibility of practice by aged people with chronic diseases. This evidence map identified 54 systematic reviews focused on aged population related to tai chi, tai chi chuan, qi gong, traditional Chinese exercise, acupuncture, meditation and yoga interventions. These therapies have been evaluated on different health conditions, including positive effects to balance, quality of life, physical function, risk of falling, depression, anxiety, cognitive performance, stress, aerobic capacity, muscle strength, sleep quality, depression, kyphosis, cholesterol, dyspnea, body mass index, bone density mobility, insomnia. Acupuncture, Tai Chi, Tai Chi Chuan, Qi Gong,

Traditional Chinese Medicine Exercises, Meditation and Yoga have been applied on different areas and this map indicates more than 100 positive and promising effects for the aged population.

KEYWORDS: Aged, Complementary Therapies, Tai Chi, Yoga, Qi Gong.

1. Background

People worldwide are living longer. The number of people aged 60 years and older was 1 billion in 2019 and this number will increase to 1.4 billion by 2030 and 2.1 billion by 2050. Furthermore, 80% of all older people will live in low and middle-income countries (WHO, 2018).

The World Health Organization proposed the global strategy on ageing and health and endorsed by the 73rd World Health Assembly 2020. The strategy describes the plan for a Decade of Healthy Ageing 2020–2030, which will consist of 10 years of sustained collaboration. WHO's global strategy on ageing and health urges countries to take action to ensure that all individuals could live a long and healthy life (WHO, 2021a).

Global Aged Watch report (2014) indicates data that, in the item quality of life for an elderly person, Norway occupies the first place, followed by Sweden, Switzerland, Canada and Germany. Brazil appears in the 58th place in the ranking. This report considered factors such as: income; health; life expectancy and psychological well-being; transport; job or education possibilities; and security (CÔRTE e BRANDÃO, 2019, p. 23-47).

In general, there is a direct association between old age and illness; old age and death; old age and losses; old age and limitations, which corroborates the cultural look that almost immediately associates old age to fragility (AZEVEDO e CONCONE, 2019, p. 51-68).

However, aging and longevity are timely and complex issues, as they enter factors of a different order: sociocultural, identity, psychological, bioenergetic, medical, environmental, among many others. Aging is diverse according to the conditions of life, it depends on the way of living or working and on the conditions of the environment, it can lead to different rhythms and qualities of aging. Sociocultural diversity indicates the existence of a plurality of experiencing life, thus being a plurality in the quality of long living (LODOVICI e CONCONE, 2019, p. 69-113).

The Brazilian Federal Constitution and the approval of the national policy for the elderly established fundamental socio-legal frameworks in the consolidation and guarantee of social rights for the elderly in the perspective of promoting their autonomy, integration and effective participation in society. Also, with the approval of the statute for the elderly, Brazil regulates and materializes the principles of comprehensive protection, ensuring that the elderly person is given absolute priority in the realization of their rights (FAZION *et al.*, 2019, p. 177-220).

The World Health Organization (WHO) has been encouraging and strengthening the insertion, recognition and use of traditional, complementary and integrative medicines (MTCI), products and their practitioners in national health systems at all levels of activity: Primary Care, Specialized Care and Hospital Care, through the recommendations of the WHO Strategy on Traditional Medicine (WHO, 2021b).

Since 2006, MTCI has been included in the Brazilian National Health System. The Brazilian National Policy of Complementary Therapies includes 29 therapies, such as acupuncture, auriculotherapy, Mind Body Therapies from Traditional Chinese Medicine (MBTTCM) (e.g., tai chi, tai chi chuan, qi gong,

Traditional Chinese exercise), meditation, ozone therapy, reflexology, yoga (BRAZIL, 2006, 2021a, 2021b).

In 2019, the Brazilian Ministry of Health partnered up with the Latin American and Caribbean Center on Health Sciences Information (BIREME - PAHO – WHO) and with the Brazilian Academic Consortium of Integrative Health (CABSIn) to develop complementary therapies evidence maps. The objective of this Evidence Map is to describe complementary therapies interventions and report related health outcomes of the aged population.

2 Method

This Evidence Map is based on more than 800 systematic reviews and summarizes MTCI interventions and health care outcomes related to aged population (SCHVEITZER *et al.*, 2021). Systematic reviews provide a reliable process that summarizes the best available evidence. This evidence map was supported by a technical expert panel of librarians, practitioners, policymaker and researcher content experts.

2.1 Data sources

Our search was conducted in several databases (BVS, PUBMED, EMBASE, PEDro, ScienceDirect, Web of Sciences and PschyInfo), from database inception to November 2019, looking for systematic reviews in English, Spanish and Portuguese. We consulted topic experts and developed the search strategy together with BIREME.

2.2 Inclusion criteria

Systematic reviews about MTCI interventions and adequate description of health care outcomes related to the aged population were eligible for inclusion. We defined systematic reviews studies that self-identified as such. All participants of ≥ 60 age or studies that indicate aged population, regardless of health status, were eligible for inclusion in the review. We excluded systematic reviews that did not focus on MTCI health outcomes and aged population. We included the following interventions: acupuncture, auriculotherapy, medicinal plants and phytotherapy, meditation, mind body therapies from Traditional Chinese Medicine (e.g., tai chi, tai chi chuan, qi gong, traditional Chinese exercise), oral ozone therapy, reflexology and yoga of any duration and follow up.

2.3 Procedure

Two blinded independent literature reviewers screened the systematic review search output through Rayyan software. Citations deemed potentially relevant by at least one reviewer and unclear citations were obtained as full text. The full-text publications were screened against the specified inclusion criteria by two independent reviewers; disagreements were resolved through discussion.

AMSTAR 2 (*Assessing the Methodological Quality of Systematic Review*) was applied in the included systematic reviews to analyze the quality (high, moderate, low and critically low) (SHEA, 2017). From each included systematic review, the interventions were extracted, along with the main health outcomes (e.g., balance, risk of falls, cognitive performance, depression, quality of life, mobility and physical function) that were summarized across the included studies. Data about treatment effect (positive, potential

positive, no effect and mixed/inconclusive), estimates for aged health care outcomes and systematic review characteristics were retrieved.

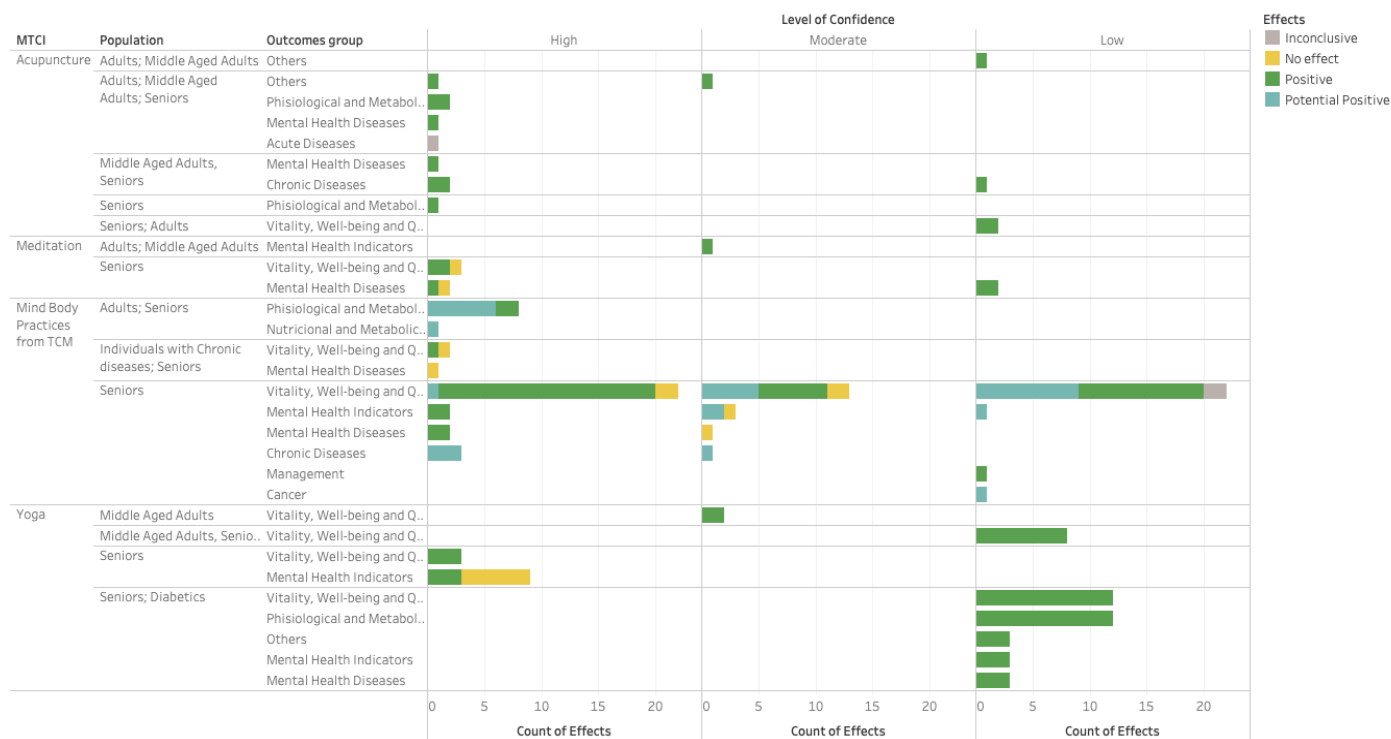
2.4 Data synthesis

We developed a characterization matrix at Excel to synthesize the findings. This matrix included: Full Text Citation; Interventions; Outcomes Group (e.g., vitality, well-being and quality of life; mental disorders; mental indicators; chronic diseases; physiological and metabolic indicators); Outcomes (e.g., balance, risk of falls, depression); Effect; Population; Database ID; Focus Country; Publication Country; Publication Year; Type of Review; Review Design; Study Design; Confidence Level. Systematic reviews outcomes were drafted by one reviewer and discussed by the review team, and the matrix was discussed in two workshops organized by BIREME. We organized the Evidence Map considering outcomes, effects and confidence level of the included systematic reviews. We used Tableau to graphically display all this information.

3 Results

Between 2005 and 2019 we identified 54 systematic reviews related to the aged population, from these 34 were related to MBTCM (27 tai chi, 3 tai chi chuan, 2 qi gong, 2 traditional Chinese exercise), 11 acupuncture, 4 meditation and 4 yoga interventions. The most common group outcomes were vitality, well-being and quality of life; mental disorders; mental indicators; chronic diseases; physiological and metabolic indicators. The reviews spanned a wide diversity of outcomes, effects and populations (Fig. 1).

Figure 1. MTCI interventions and health outcomes effects related to the aged population.



Interventions

The following interventions were identified: tai chi, tai chi chuan, qi gong, traditional Chinese exercise, meditation, yoga and acupuncture. The Chinese bodily exercise form tai chi was the most found in the reviews followed by acupuncture, meditation, yoga, tai chi chuan and qi gong.

Population

The systematic reviews included analyzed data from the aged population, including people with dysfunctions of functional capacity related to autonomy and people with functional independence compromising cognition, mood/behavior, mobility and communication.

Countries

The systematic reviews included analyzed data from the following countries: United States of America, China, Canada, Brazil, Germany, Australia, India, Spain, Poland, Cuba, Thailand, United Kingdom, Sweden, South Korea, Denmark, Malaysia, Israel and New Zealand. However, the majority were in the United States of America and China.

Outcomes and Effects

Every outcome effect was classified: 105 as positive, 30 as potentially positive; 12 as no effect; 4 as mixed/inconclusive and some reviews had more than one effect. Tai chi and acupuncture were evaluated as interventions for several health outcomes. The results found in the systematic reviews were divided into nine major outcomes groups: vitality, well-being and quality of life, mental disorders, mental indicators, chronic diseases, physiological and metabolic indicators, acute diseases, nutritional and metabolic diseases, management (e.g., patient safety) and others.

Tai Chi

Tai Chi was included in 4 outcome groups: vitality, well-being and quality of life; mental indicators; chronic diseases and management. Being balanced, risk of falls and cognitive performance were the most significant outcomes. Among the effects were found 17 studies that reported 32 positive effects related to balance, risk of falls, postural control, cognitive performance, memory, physical function, mobility, muscle strength, exercise capacity, weight reduction, Parkinson's disease, patient safety, visuospatial capacity and feeling of well-being (HARLING & SIMPSON, 2008; HU et al., 2016; MAZZARIN et al., 2017; WU et al., 2014; LIU et al., 2016; NI et al., 2014; RAND et al., 2011; GILLESPIE, et al., 2012; HUANG et al., 2017; LIU & FRANK, 2010; YANG et al., 2014; LOMAS-VEGA et al., 2017; DEL-PINO-CASADO et al., 2019; TAYLOR-PILIAE & FROELICHER, 2004; LIM et al., 2019; PAN et al., 2018; CŹWIĘKAŁA-LEWIS et al., 2016). Moreover, 9 studies described 17 potential positive effects that were related to sleep quality, agility and aerobic capacity (LOW et al., 2008; WAYNE et al., 2014; MILLER & TAYLOR-PILIAE, 2014; WU, 2002; KEDZIOR & KAPLAN, 2019; DU et al., 2014; KOMAGATA & NEWTON, 2003; WU et al., 2013; MACIASZEK & OSIŃSKI, 2010). Only one study related mixed/inconclusive effect to balance and risk of falls (WU et al., 2016).

Tai Chi Chuan

Tai chi chuan has been classified into 3 outcome groups: vitality, well-being and quality of life; metabolic and physiological indicators; nutritional and metabolic diseases. Three studies described 6 outcomes with positive effects related to balance, quality of life, physical function, risk of falling, blood glucose and body mass index (HUANG & LIU, 2014; ZHENG et al., 2015; VERHAGEN et al., 2004). Furthermore, 7 potential positive effects were found for cholesterol, HDL (High Density Lipoproteins), LDL (Low Density Lipoproteins), triglycerides, vagal activity, urological manifestations and obesity. Negative effects, no effects or mixed/inconclusive effects were not reported in the three studies about tai chi chuan.

Qi Gong

Two outcome groups involved qi gong: vitality, well-being and quality of life; mental disorders. The two studies described 5 positive effects related to quality of life, balance, physical function, depression and anxiety (GOUW et al., 2019; CHANG et al., 2019). In 2 outcomes such as self-care and depression were assessed as no effect. Potential positive effects and mixed/inconclusive effects have not been described.

Traditional Chinese Exercise

The two Traditional Chinese Exercise studies were associated with 4 outcome groups: vitality, well-being and quality of life; mental indicators; mental disorders and chronic diseases (ZHANG et al., 2019; GUO et al., 2016). One positive effect was related to visuospatial capacity. However, 6 outcomes such as humor, mobility, sleep quality, health in general, hypertension and cognitive performance were related to potential positive effects. Both articles demonstrated no effects on physical function, verbal ability (fluency), memory and depression. No mixed/inconclusive effects have been reported.

Meditation

The 4 meditation studies were classified in the outcomes group as vitality, well-being and quality of life; mental disorders; mental indicators. Positive effects were related to depression, anxiety, cognitive performance and stress (KISHITA et al., 2016; CHAN et al., 2019; GHIELEN et al., 2019; LI & BRESSINGTON, 2019). Being that one of the studies related no effect to stress. None of the 4 studies reported no effects or mixed/inconclusive effects.

Yoga

Yoga was included in 6 outcome groups: vitality, well-being and quality of life; mental disorders; mental indicators; physiological and metabolic indicators; mental indicators; others. The 4 yoga studies listed 15 positive effects related to aerobic capacity, muscle strength, sleep quality, depression, kyphosis, cognitive performance, cholesterol, dyspnea, body mass index, bone density, balance, mobility, quality of life and mental health (SIVARAMAKRISHNAN et al., 2019; PATEL et al., 2012; YOUKHANA et al., 2015; TULLOCH et al., 2018). However, one of the yoga studies' outcomes related to psychological well-being and physical well-being had no effects. Mixed/inconclusive effects and potential positive effects were not found.

Acupuncture

The 11 acupuncture studies were classified into vitality, well-being and quality of life; acute diseases; mental disorders; physiological and metabolic indicators; chronic diseases and others (e.g., sequels of stroke) (SHERGIS et al., 2016; XU et al., 2018; LEE & LIM, 2016; KIM et al., 2018; QIUPING et al., 2017; ZHANG et al., 2019; LEE & LIM, 2017; HUANG et al., 2019; BAI et al., 2015; THOMAS et al. 2019; ZHOU et al., 2015). There were 8 positive effects related to sleep quality, insomnia, gastrointestinal disorder, sequels of stroke, rehabilitation after stroke, Parkinson's disease, dementia and Alzheimer's disease. A mixed/inconclusive effect has been described for the treatment of acute stroke. Potential positive effects and no effect were not reported.

Confidence level

The 54 systematic reviews included were analyzed based on AMSTAR 2, resulting in the following confidence levels: 27 High, 10 Moderate, 18 Low and critically low. The systematic review authors indicated some methodological flaws, highlighting population heterogeneity in the practice groups and time of intervention.

Research gaps

The included systematic reviews lack clearly presentation of aged population characteristics and adequate report time of practices, frequency and duration of interventions.

Discussion

Aging is a natural process, an individual and non-transferable experience, it belongs to the subject in its uniqueness, as well as the stage of the life cycle, aging brings biological transformations, in family and social relationships and others, which can influence the way the elderly person perceives itself and the meanings it attributes to this stage of life. Everyone grows in a unique way from their history built during their life trajectory, and these factors must be considered when thinking about improving the quality of life of the elderly (ARAÚJO & VERDI, 2019, p. 139-158).

This evidence map is based on 54 published systematic reviews and provides an available evidence overview of tai chi, tai chi chuan, qi gong, traditional Chinese exercise, meditation, yoga and acupuncture interventions, related health outcomes and effects to the aged population. It shows the volume of available research and highlights areas where the interventions showed positive and potential positive effects.

Tai Chi and Tai Chi Chuan combine martial art movement with the body's vital energy flow (Qi) using gentle body movements with breathings performed while standing. Qigong exercise consists of breath practices with body movement and meditation to attain deep focus and relaxed state, in order to balance and harmonize vital energy flow (Qi) in the human body (WANG et al, 2017). Yoga involves a combination of muscular activity and an internally directed mindful focus on awareness of the self, breath and energy (BRINSLEY et al, 2020).

Although Meditation practices derive from traditions in both Eastern and Western cultures. Very similar types of meditation exercises are found in most of the world's different religions and cultures. Probably

the most popular techniques of meditation in the Western world are the Buddhist and Indian forms. These practices involve activities to attain deep focus and conscious breathing movements (ARIAS et al, 2006). Acupuncture involves stimulation of meridian points of the body used to activate the body's vital energy flow (Qi), contributing to the restoration of its internal balance according to Traditional Chinese Medicine (LI et al., 2020).

The characteristics of MBTTCM as tai chi, tai chi chuan, qi gong and Traditional Chinese Exercise, meditation and yoga include low cost, moderate intensity, low technology and low impact and possibility of practice by adults and aged people with chronic diseases (LI et al., 2012; YEH et al., 2011).

Therapies included in this Evidence Map have been evaluated in different health conditions, including balance, quality of life, physical function, risk of falling, depression, anxiety, cognitive performance, stress, aerobic capacity, muscle strength, sleep quality, depression, kyphosis, cholesterol, dyspnea, body mass index, bone density, mobility, insomnia, gastrointestinal disorder and for sequels of stroke. Therefore, the general population was composed of aged people with Parkinson's disease, dementia, Alzheimer's disease, in post stroke rehabilitation, balance disorders, stress, insomnia, depression and cognitive disorders.

Recent study showed that more than seven million adult Brazilian individuals reported the use of complementary therapies in 2013, which represents a prevalence of 4.5%. Authors observed a great heterogeneity regarding the types of therapies used between the Brazilian regions, socioeconomic strata and personal characteristics. In general, women and older individuals residents in the South and North regions of Brazil had higher chances of using MTCI, with the richest population with more chances to use homeopathy and acupuncture, and the poorest using medicinal plants and herbal medicines (DE MORAES, BOCCOLINI, 2020).

Brazilian regions also present different experiences of complementary therapies use, for example, acupuncture at Florianópolis (FAQUETI, TESSER 2018), acupuncture and yoga at Mato Grosso (PINTO et al, 2020), yoga in Fortaleza (OLIVEIRA, 2020), acupuncture and yoga at Rio Grande do Sul (TONIOL, 2015). In common these experiences discussed the possibilities of these therapies' implementation in the Primary Health Care, considered by participants as a life-enhancing experience, contributing to health promotion and a possibility to promote satisfactory aging.

Regarding Traditional Chinese Exercise (e.g., tai chi, tai chi chuan, qi gong) the city of São Paulo has implemented these therapies since 2002 (TELESI JÚNIOR, 2016) and since 2016 it promotes the Multiprofessional Residency in Integrative and Complementary Practices, a modality of professional specialization whose internship scenarios are units in the six major health regions in the municipality, including Ermelino Matarazzo, Jardim Angela and São Mateus, which are regions of high social vulnerability with access to MTCI (CARDOZO et al, 2018).

Although evidence gap maps can only provide a broad research overview, the findings showed more positive effects and potential positive effects than no effects, including reviews of high, moderate, low and critically low confidence level. Mixed effects justify further research and can help to guide different institution's funding calls.

The creation and publication of evidence maps consist in graphically representing the best evidence found, analyzed and categorized, in addition to linking with the bibliographic records and full texts (when available) of the studies in order to facilitate access to information for all those interested. Complementary Therapies Evidence maps, and all its effects are available in the MTCI BVS Library.

Even though Evidence Maps have several limitations, like the fact that we used only published reviews included in the already published MTCI Evidence maps to provide an overview on the research about Complementary Therapies to the Aged population, more evidence, including qualitative studies, were not included. We did not calculate effect sizes in a meta-analysis, nor provide risk of bias assessments, but we tried to overcome these limitations by applying AMSTAR 2 in evaluating the quality of the included systematic reviews.

In addition, the grouping of outcomes was review-content driven. Even though individual primary research studies would have more contributions to add in the analysis, this was not the focus of the Map. Also, we were unable to avoid overlapping the included studies across reviews, but we did not repeat results from update reviews. Furthermore, we relied on the review author's skills in conducting systematic reviews, evaluation of primary studies quality, choice of outcomes, analysis of effects and susceptibility to publication and outcome reporting bias.

This Evidence Map will also not be able to answer more refined questions, such as the most adequate method of Mind-Body Therapies from Traditional Chinese Medicine, Meditation and Yoga application, difference between health services, adequate training for practitioners, access of patients and self-application effects. Future research, including qualitative research and case studies, are necessary to answer these questions.

Outcomes and effects focused on the Aged population shown in these Map will further advance our evidence-based knowledge of Complementary Therapies, such as proposed by the Complementary Therapies Policy in Brazil and promoted by the WHO MTCI 2014-2024 agenda.

Conclusions

Acupuncture, Mind-Body Therapies from Traditional Chinese Medicine, Meditation and Yoga have been applied in different areas and this map indicates more than 100 positive and promising outcomes for the Aged population that need further research. Brazilian Health System includes the complementary therapies identified in this Evidence Map and different experiences present its benefits across regions. Despite the outlined limitations, this evidence map provides an easy visualization of valuable information for patients, health practitioners and policy makers, in order to promote evidence-based complementary therapies for the Aged population.

Ethics approval and consent to participate

Not applicable.

Consent for publication

Not applicable.

Availability of data and materials

All included systematic reviews are in the public domain; see the “Reference” section for full citation details. Study flow was tracked in citation management software and data were extracted in online systematic review programs – Mendeley, Rayyan and Excel; all files can be obtained from the authors. The Evidence Map is available at the Virtual Health Library - <https://mtci.bvsalud.org/en/evidence-map/>

Competing interests

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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Authors' contributions

LZF, MPR and MCS drafted the manuscript. LZF, MCS, RG, VA and CFSP designed the study. VA, MCS and LZF, RG and CFSP designed and executed the search strategy. LZF, MCS, RG, VA and CFSP were involved in data acquisition and analysis. All authors were involved in the interpretation of the data and contributed to the final manuscript. All authors read and approved the final manuscript.

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