

Integrative and complementary practices used for pain management in the elderly: an integrative review

Práticas integradoras y complementarias utilizadas para el manejo del dolor en los ancianos: una revisión integradora

Práticas integrativas e complementares utilizadas para manejo da dor em idosos: revisão integrativa

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Submission: 06-01-2021**Approval:** 06-25-2021**Abstract**

The aim was to identify alternative and complementary practices used in the elderly for pain management in the literature. This is an integrative literature review. Five studies published from 2017 to 2020 were included. As a result, alternative interventions applied to the elderly for pain management were: acupuncture, lian gong, shiatsu, massage, reiki and chiropractic care. Studies have shown significant pain relief after the interventions. The population had a chronic health condition, a predominance of females and the mean age ranged from 50 years to 71.6 years. It is concluded that research indicates few publications on the use of alternative therapies, given the variety provided and these interventions reflect positively on the pain management of the elderly.

Descriptors: Aged; Pain Management; Complementary Therapies; Unified Health System; Medicine, Chinese Traditional.

Resumen

El objetivo fue identificar prácticas alternativas y complementarias utilizadas en el anciano para el manejo del dolor en la literatura. Ésta es una revisión integradora de la literatura. Se incluyeron cinco estudios publicados entre 2017 y 2020. Como resultado, las intervenciones alternativas aplicadas a los ancianos para el manejo del dolor fueron: acupuntura, lian gong, shiatsu, masajes, reiki y atención quiropráctica. Los estudios han demostrado un alivio significativo del dolor después de las intervenciones. La población presentaba una condición de salud crónica, predominio del sexo femenino y la edad media osciló entre 50 años y 71,6 años. Se concluye que las investigaciones señalan pocas publicaciones sobre el uso de terapias alternativas, dada la variedad que brindan y estas intervenciones reflejan positivamente en el manejo del dolor de las personas mayores.

Descriptores: Anciano; Manejo del Dolor; Terapias Complementarias; Sistema Único de Salud; Medicina China Tradicional.

Resumo

Objetivou-se identificar na literatura as práticas alternativas e complementares utilizadas nos idosos para manejo da dor. Trata-se de uma revisão integrativa da literatura. Incluídos 5 estudos publicados no período de 2017 a 2020. Como resultado, as intervenções alternativas aplicadas nos idosos para manejo algico foram: acupuntura, lian gong, shiatsu, massagem, reiki e quiropraxia. Os estudos apontaram alívio significativo da dor após as intervenções. A população apresentava condição crônica de saúde, predominância do sexo feminino e a média de idade variou entre 50 anos e 71,6 anos. Conclui-se que as pesquisas indicam poucas publicações quanto ao uso de terapias alternativas, diante da variedade fornecida e essas intervenções refletem de maneira positiva no manejo algico do idoso.

Descritores: Idoso; Manejo da Dor; Terapias Complementares; Sistema Único de Saúde; Medicina Tradicional Chinesa.



Introduction

Population aging is a worldwide phenomenon that has been occurring increasingly in recent years. This transition is due to the drop in the fertility rate and the increase in life expectancy, which intrinsically causes age-specific morbidities, such as chronic non-communicable conditions and their complications, such as pain¹.

Acute pain is characterized by bodily injury that aims to alert and defend the body to preserve life. Chronic pain, on the other hand, is identified as pain prolonged for more than six months or that exceeds the usual period of recovery expected for the cause of the pain. This can negatively affect the individual's life and may be linked to chronic pathologies².

In the elderly population, the prevalence of pain is quite high, ranging from 20 to 80% among community and institutionalized elderly. The most common causes of pain reported by the elderly are osteoarticular etiology, followed by peripheral vascular diseases, peripheral neuropathy, painful syndrome after stroke, cancer pain, among others³.

Elderly people with chronic pain have impaired quality of life due to functional decline, which generates increased demand for health services, increased risk for polypharmacy and iatrogenics, increased physical deconditioning, cognitive dysfunction, greater risk of institutionalization and even increased mortality³.

The presence of polypharmacy is common mainly among the elderly population, due to the prevalence of chronic conditions, increased life expectancy, greater availability of drugs and health recommendations for the use of various medications to control symptoms and treat chronic diseases⁴.

Associations between prescribed drugs can cure, minimize damage, increase longevity, and improve quality of life. However, some therapies may be inadequate and generate drug interactions, adverse events, iatrogenic events, hospitalizations or even lead to death^{4,5}.

In the case of elderly people, drugs undergo changes in pharmacokinetics and pharmacodynamics, which contributes to an increase in adverse reactions. As an alternative method for such a situation, there is Traditional and Complementary/Alternative Medicine (TM/MCA) or Integrative and Complementary Practices (PIC) recognized and used throughout the world, named respectively by the World Health Organization (WHO) and in Brazil⁶.

In Brazil, the National Policy on Integrative and Complementary Practices (PNPIC) was instituted in 2006 with the objective of preventing health problems, promoting, and restoring health with an emphasis on primary care. In addition, it provides increased system resolvability and access to these practices, ensuring quality, effectiveness, efficiency, and safety in use associated with low cost⁶.

The Unified Health System (SUS) offers a total of 29 PIC, including: Art therapy, apitherapy, aromatherapy, ayurveda, biodanza, bioenergetics, family constellation, color therapy, circular dance, phytotherapy and medicinal plants, geotherapy, hypnotherapy, homeopathy, imposition of hands, meditation, anthroposophical medicine applied to

health, Traditional Chinese Medicine (TCM) (acupuncture, Lian Gong, chi gong, tuina, tai chi chuan, shiatsu), music therapy, naturopathy, osteopathy, ozone therapy, chiropractic, reflexology, reiki, shantala, integrative community therapy, flower therapy, hydrotherapy/crenotherapy and yoga⁶⁻⁸.

According to some contributors^{9,10}, these therapies are effective in relieving psychological and physical symptoms, such as anxiety, stress, and body pain, providing a better quality of life for the individual, reducing drug consumption and a greater sense of well-being.

This is a relevant approach, due to the increase in the study population, multimorbidities, the use of multiple drugs for pain management and the lack of studies in Brazil, which highlights a gap in knowledge, as well as an opportunity to search for alternative methods that collaborate with the quality of life of the elderly according to scientific evidence.

Given the above, the aim of this integrative review was to identify alternative and complementary practices used in the elderly for pain management in the literature.

Methodology

This is an integrative literature review, which synthesizes the available content in a meaningful way to be applied in clinical practice. To prepare this review, the six steps were followed: Elaboration of the guiding question; literature search or sampling; data collect; critical analysis of included studies; discussion of results and presentation of the integrative review^{11,12}.

To elaborate the guiding question, the PICO¹³ strategy was based, with "P" being the study population (elderly); "I" the intervention (use of integrative and complementary practices); "Co" of context (pain management). Given the above, the guiding question for this review was: "What integrative and complementary practices are used in the care of the elderly for pain management?"

The search for primary studies was performed in the Medline and Latin American and Caribbean Literature in Health Sciences (LILACS) databases via the Portal of the Virtual Health Library (VHL) and PubMed of the National Library of Medicine and took place on November 12th, 2020, by one of the authors of this review. The following controlled descriptors (DeCS/MeSH) were used, their combinations with Boolean operators, in Portuguese and English: "Elderly", "Complementary Therapies", "Pain Management", "Aged", "Pain Management"; "Complementary Therapies".

For the survey of studies in the VHL, the following combinations were used: ("Complementary Therapies") OR ("Complementary Therapies") AND ("Elderly") OR ("Aged") AND ("Pain Management") OR ("Pain Management"). In PubMed, the MeSH was used: ("Complementary Therapies") AND ("Aged") AND ("Pain Management").

Primary studies available in full and online were included in this investigation, which contemplated the integrative and complementary practices regulated by the PNPICs in the management of pain in the elderly, in Spanish, English and Portuguese and published from 2017. It is noteworthy that the delimitation of period of time was due



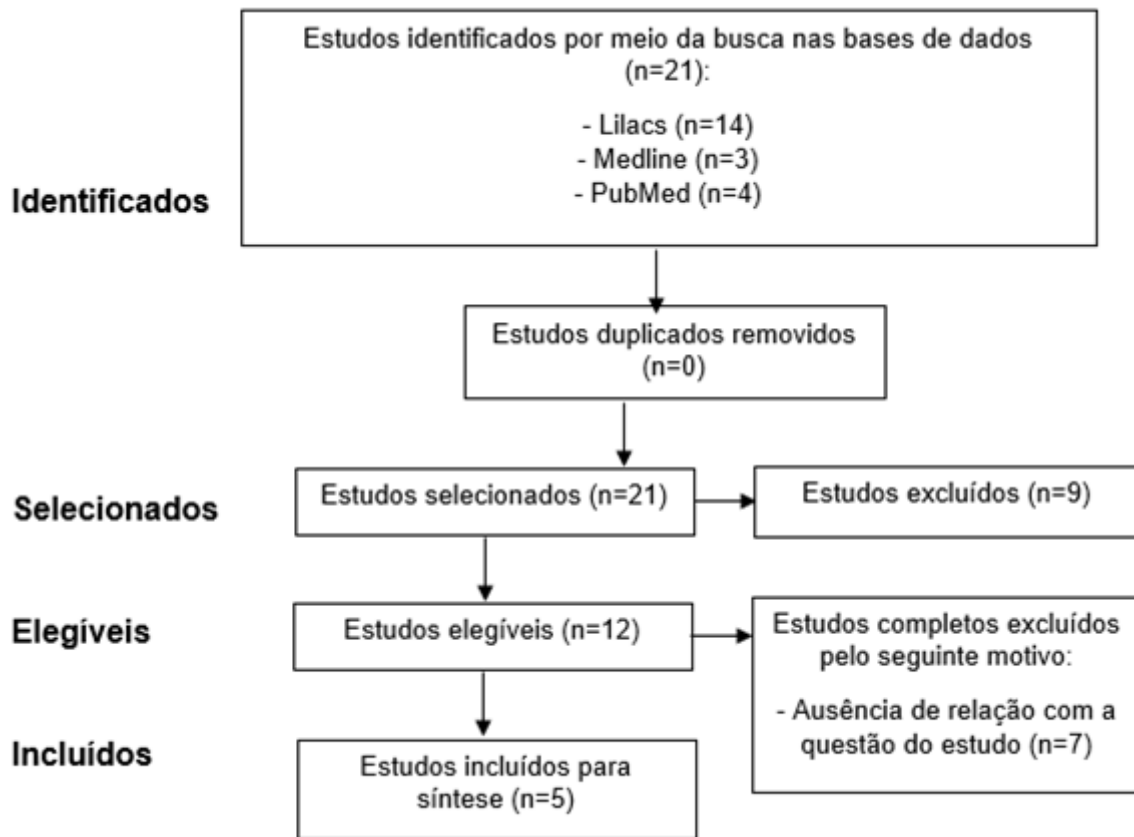
to the publication of Ordinance No. 849, of March 27, 2017, which included new alternative therapies to PNPIC.

Studies that did not cover the selected period, guides, theses, dissertations and monographs, editorials, reviews, letter to the editor or reply letter, languages other than those mentioned above, articles that did not address the PIC regulated in the PNPIC and duplicate articles.

F21 studies were identified, which were selected by reading the title and abstract, leaving only 5 studies that

were included in this review, according to the guiding question and eligibility criteria. Of these, 2 were selected from the PubMed database, 1 from MedLine and 2 from LILACS. The search strategies used in the respective databases and the reasons for exclusion were presented in the flowchart (Figure 1), as recommended by the PRISMA group¹⁴.

Figure 1. Flowchart, according to PRISMA, for selecting the studies found. Santos, SP, Brazil, 2020



After selection, they were read in full and synthesized in a form for data extraction adapted for the present review. This instrument was covered with the following items: (1) study characteristics; (2) population characteristics; (3) characteristics of the intervention; (4) characteristics of the results and (5) recommendations and limitations of the authors. And the sub-items: (1.1) author, (1.2) year of publication, (1.3) journal, (1.4) objective, (1.5) study design, (1.6) inclusion and exclusion criteria, (1.7) measurement instrument, (1.8) statistical analysis; (2.1) mean age, (2.2) sample size; (3.1) PIC used; (3.2) effect of PIC on pain management; (3.3) data collection period; (4.1) main results.

To minimize possible bias in the measurement of the studies, the two researchers independently read the articles and filled out the data extraction form, which were later compared to perform the synthesis.

Results

Chart 1 represents the specifications of each of the articles, including the origin, authors, year, method used, study objective and main results.

Chart 1. Articles included in the integrative review according to origin, author, year, method, objective, and main results. Santos, SP, Brazil, 2020

Origin, title and year	Method	Objective	Main results
LILACS. Efetividade da acupuntura auricular no tratamento da dor	Randomized clinical trial. Inclusion criteria: being in chemotherapy treatment and mentally oriented; having pain \geq four on the Numerical Pain Scale (EN); be accompanied by the High Complexity	To evaluate the effectiveness of auricular acupuncture (AA) in the pain of cancer patients undergoing chemotherapy and possible changes in	The mean age of the experimental group was 58.27 and that of the placebo group was 52.08 years. The sample size consisted of 23 participants (11 experimental group and 12 placebo group) with a predominance of females. The PIC used in this study was AA.



<p>oncológica: ensaio clínico randomizado. 2018.</p>	<p>Assistance Unit; accept the needle treatment and be 18 years of age or older. Exclusion criteria: Presence of lesions and/or edema in the ear, absence of the pinna or alterations that would contraindicate the insertion of needles; micropore allergy; patients in the terminal stage and/or with head and neck cancer, due to possible alterations in the route of conduction of AA stimuli; in addition to anticoagulant users. Measurement instrument: The characterization of the participants took place in the first meeting through an instrument developed by the researchers and the EN was used to measure the pain.</p>	<p>analgesic consumption after application of the intervention.</p>	<p>AA showed reduced pain (moderate to mild intensity) and reduced use of analgesics (quantity and dose). The pathology presented was cancer and the complaint treated was cancer pain.</p>
<p>LILACS. Evolution of healing ulcers in the lower limbs of patients using Unna boot associated with shiatsu. 2020.</p>	<p>Case study with patients with Systemic Arterial Hypertension, Diabetes Mellitus and under treatment of ulcers in the lower limbs. Inclusion criteria: Age 18 years or older; not having used the Unna boot in the last 30 days before starting treatment. Exclusion criteria: Individuals showing signs of mental confusion, unavailability for 180 days of follow-up, osteomyelitis, septic arthritis, with clinical signs of septicemia and being under current treatment with an Unna boot. Measuring instrument: Pressure Ulcer Scale for Healing (PUSH) to assess ulcer and Visual Numerical Scale from zero to ten to assess pain.</p>	<p>To evaluate the evolution of ulcer healing in the lower limbs of patients using Unna's boot associated with shiatsu.</p>	<p>The mean age of participants was 61.5 years. The sample size consisted of 7 participants (4 men and 3 women). The PIC used in this study was shiatsu. The interventions showed that there was a reduction in pain intensity, in the size of the lesions, as well as an improvement in the local conditions of the ulcers with conventional treatment associated with shiatsu. The chronic conditions presented were: Chronic venous insufficiency, cancer, Systemic Arterial Hypertension, Diabetes Mellitus. And the pain evaluated was in the lower limbs.</p>
<p>MedLine. Saúde, dor e atividades de vida diária entre idosos praticantes de Lian Gong e sedentários. 2018.</p>	<p>Comparative cross-sectional study. Inclusion criteria: individuals aged over 60 years, of both sexes, who speak Portuguese and understand the questions of the instruments applied. Sample 1: Lian Gong practitioners regularly for more than 6 months in the study ESF. Sample 2: sedentary patients, seen in the study FHS with or without prior appointment. Measurement instrument: instrument for the characterization of the elderly person adapted from the elderly person's health booklet; Nordic musculoskeletal symptom questionnaire for pain characterization.</p>	<p>Assess the presence of chronic pain in elderly people in a primary care unit, comparing Lian Gong practitioners and sedentary elderly people.</p>	<p>The average age of sedentary people was 70.2 years and that of active people was 71.6 years. The sample size was 60 participants (30 sedentary and 30 practitioners) with a predominance of females. The PIC used in this study was the Lian Gong. Both active and sedentary elderly people presented reports of pain that were matched in quantity. However, active elderly people had a more positive perception of their health in a holistic way; consumed less medication; had less difficulty in performing physical activities and activities of daily living. Being alone and living alone had an important relationship with musculoskeletal pain. Morbidities presented by the elderly were of cardiovascular, metabolic and osteoarticular etiology. And the pain presented was musculoskeletal.</p>
<p>PubMed. Complementarity and Alternative Medicine in an Integrated Health Care Delivery System: Users of</p>	<p>Cross-sectional study Inclusion criteria: Patients who, on their first visit to the medical center, look for one of the modalities between May 8, 2007, and December 31, 2014. Measurement instrument: Brief Pain Inventory (BPI) to assess the sensory dimension of pain and its</p>	<p>Describe the use of acupuntura, chiropractic, and massage by a group for 7 years at a private health center.</p>	<p>The average age of participants was 50 years (ranging between 25 and 75 years). The sample size consisted of 27,225 participants with a predominance of females. The PICs used in this study were: Acupuncture, massage, and chiropractic care. Most patients sought chiropractic care, followed by acupuncture and massage. Those patients who had traditional medical treatment</p>



Chiropractic, Acupuncture, and Massage Services. 2017.	interference in the patient's life.		even with clinically significant pain relief still sought complementary medicine. The main complaint presented was back pain.
PubMed. Immediate Symptom Relief After a First Session of Massage Therapy or Reiki in Hospitalized Patients: A 5-Year Clinical Experience from a Rural Academic Medical Center. 2018.	Cross-sectional retrospective analysis study. Inclusion Criteria: Patient who reported "none" for previous sessions to minimize bias to include participants who received multiple treatments during hospitalization, patient who received reiki or massage therapy between June 1, 2010, and December 8, 2015, and patients completed the pre and post therapy questionnaire in one session. Exclusion criteria: Patients who did not have reiki or massage therapy listed in the database (ie, absent), those who had reiki and combined massage therapy during the first session. Measurement instrument: 11-point Likert scale for pain, nausea, fatigue, anxiety, depression, and well-being.	To examine the immediate relief of symptoms in a single session of reiki or massage in a population hospitalized at a rural academic medical center.	The mean age of participants was 53 years (ranging from 3 to 92 years). The sample size was 1585 participants (separated by cancer and non-cancer diagnoses) with a predominance of males. The PICs used were Reiki and massage. Reiki and massage clinically provide similar improvements in pain, nausea, fatigue, anxiety, depression, and general well-being, yet reiki improved fatigue and anxiety more than therapeutic massage in hospitalized patients.

Regarding the type of integrative and complementary practice used, 80% of the studies indicated therapies that cover Traditional Chinese Medicine, such as acupuncture, Lian Gong and shiatsu; followed by massage mentioned in 40% of the studies; reiki and chiropractic, cited in 20% of studies, distinctly.

As for the use of PICs for pain treatment, 100% of the studies indicated that individuals had pain due to pre-existing chronic health conditions and obtained significant relief. And in relation to drug consumption, 40% of the studies showed a reduction in drug consumption.

As for the population profile, 100% of the studies showed that the individuals had some chronic health condition (Systemic Arterial Hypertension, Diabetes Mellitus, cancer, depression, anxiety or osteoarticular disease); predominance of females in the studies (60% women and 40% men) and mean age varying between 50 years and 71.6 years.

Based on these themes, discussion categories were created, namely: Approach to PICs and their effect on pain management; population profile and study limitations.

Discussion

The approach to PIC and its effect on pain management

There is an expansion of the supply of new integrative and complementary practices in the SUS in the years 2017 and 2018, after the publications of ordinances No. 849, of March 27, 2017, and No. 702 of March 21, 2018, for compose the existing practices in the 2006 PNPIC, totaling 29 alternative therapies. In this way, actions to promote, protect, recover, and maintain the health of users, especially that of the elderly population, are reinforced.

Given the PIC options encouraged by the policy, the results of this study show that many of these interventions

were not addressed by the authors. Only 6 alternative interventions for pain management were cited, as well as the treatment of other complaints, namely, acupuncture, Lian Gong, shiatsu, reiki, massage, and chiropractic¹⁵⁻¹⁹, which corroborates the premise of this study.

There was a predominance of interventions contained in the field of Traditional Chinese Medicine¹⁵⁻¹⁸, in this case, acupuncture, shiatsu and Lian Gong. Such evidence is justified for being an ancient approach, already addressed since 1988 in Brazil with the resolutions of the Interministerial Commission for Planning and Coordination (Ciplan) - nº 4, nº 5, nº 6, nº 7 and nº 8, of 8 of March 1988, and implemented only in 2006 through the PNPIC⁶.

According to Patil and collaborators²⁰, point out that acupuncture has the purpose of therapy and symptom cure by applying stimuli (needling, pressure, pressure change and others) through the skin at specific points, which agrees with other authors who applied needling as a stimulus¹⁸ and in another it is not mentioned which technique was used¹⁶, but in both they obtained the expected result of the intervention.

In addition to all the benefits mentioned, the effect of acupuncture for pain treatment is evidenced a priori, whether in cancer pain¹⁸ or in vertebral pain¹⁶ through pain reduction (moderate to mild intensity), reduction in the use of analgesics (quantity and dose)¹⁸ and voluntary search for complementary treatment even with significant pain relief in conventional treatment¹⁶.

Another TCM practice raised was shiatsu, which consists of the application of hand pressure and manipulative techniques to rebalance the body, preventing diseases and promoting physical and mental well-being, in addition to relaxation, improved blood flow and lymphatic, pain relief and tension relief²¹.



This is proven in the study by Aguiar collaborators and collaborators¹⁵, where he applies the technique together with the Unna boot to improve the evolution of healing of injuries in the lower limbs. Furthermore, it helped to reduce pain and contributed to a better quality of life.

As the third PIC of MTC mentioned in the studies, there is Lian Gong. It is based on performing exercises that encourage the persistence of training and exercising the body to minimize and eliminate muscle tension, stretch ligaments and tendons, correct physical posture, stimulate perception and integration of the senses, optimize motor coordination, balance, and body awareness, and promote body and mind harmony, reducing symptoms of pain, anxiety and depression²².

Therefore, according to study¹⁷, it is proven that this practice promotes significant results for health, as well as develops the empowerment and well-being of practitioners, especially the elderly. In terms of pain, they point out that reports of pain are similar in quantity in groups of sedentary people and Lian Gong practitioners. However, active elderly people had a more positive perception of their health; consumed less medication and had less difficulty in performing physical activities and activities of daily living.

In addition to these PIC, studies show that reiki, chiropractic care and massage are also regulated by the policy and offered in the SUS. Massage is highlighted in two studies in this review^{16,19} which had a significant effect on pain with massage in participants. This technique is based on applying pressure to the body to promote relaxation, the sensation of pleasure, release emotional blocks, alleviate pain, among others²³.

Reiki is pointed out by some contributors^{19,24} as a spiritual practice based on the laying on of hands to stimulate the healing process, restore balance, promote relaxation, reduce stress, pain relief, among other benefits through the energy fields of the body. This alternative therapy has clinically demonstrated improvements in pain, nausea, fatigue, anxiety, depression and general well-being¹⁹.

And finally, chiropractic care is an alternative method aimed at treating musculoskeletal conditions based on chiropractic adjustment techniques, reducing the neural compression responsible for pain, and restoring range of motion²⁵. It is recognized as the first choice of insured clients in a complementary and alternative medicine center¹⁶. This choice may be associated with the complaint most frequently mentioned by the participants, which was back pain.

It is evident that the use of integrative and complementary practices in conjunction with traditional medicine or not, causes a reduction in the elderly's pain complaint¹⁵⁻¹⁹, as well as reduces the consumption of analgesics^{17,18}. This significantly contributes to the reduction or even non-existence of drug interactions or adverse reactions due to multiple morbidities and polypharmacy.

Population profile

It is known that with the increase in life expectancy, the prevalence of healthy elderly and many with the

presence of chronic health conditions is a global fact, especially in Brazil, which has had a rapid growth in recent decades.

Although the present review kept its focus on the elderly population, some studies worked with the general public, including the elderly^{15,16,18,19}, and only one study worked only with the elderly public¹⁷.

The non-elderly participants had an average age between 50 and 61.5 years, which indicates the participation of two audiences: the middle-aged and the elderly. Although the exact definition of "middle age" is not known, it is customary to label individuals in the 50s age group in this way²⁶.

In addition to age, there is a predominance of females in investigations¹⁶⁻¹⁸, which may be related to the higher frequency of these in health centers, as they demonstrate greater willingness to develop social and collective activities and have longer years free from illness when compared to men¹⁷.

It should be noted that, in Latin America, there is a considerable difference between men and women in terms of life expectancy and years free from illness: men fall ill and die earlier, especially in more vulnerable populations. Between 1990 and 2010, the average age of death increased from 60.4 to 70.2 years for women, while for men it increased from 53.8 to 62.8 years²⁷.

Resulting from this change in the design of the age pyramid, the epidemiological profile of the population changes, generating the appearance or increase of non-communicable chronic health conditions, which may be directly or indirectly related²⁸. It is noted that in this same perspective, the collaborators^{15,17,19} point to the presence of several chronic conditions in the collaborators of the studies.

Chronic diseases go beyond the usual chronic conditions such as Diabetes Mellitus, cardiovascular diseases, cancers, chronic respiratory diseases, etc., by involving: persistent infectious diseases, conditions related to motherhood and the perinatal period, conditions related to health maintenance through cycles of life, long-term mental disorders, continuous physical and structural deficiencies, metabolic diseases, oral diseases, health conditions characterized as diseases in which there is suffering, but are not diseases that fall within biomedical standards²⁹.

Conclusion

The application of acupuncture, Lian Gong, massage, chiropractic, reiki, and shiatsu in the elderly for pain management was identified in the literature. Although a low number of studies was obtained, it is considered that the integrative and complementary practices used in the care of the elderly for this purpose, manifested a positive reflex in pain attenuation, in reducing analgesic consumption, in maintaining the same alternative treatment. in conjunction with conventional medical treatment, improving quality of life, promoting health and physical and mental well-being.

Based on this integrative review, further randomized studies in the area are suggested, since there was a shortage of publications, even after the creation and expansion of



specific policies for integrative and complementary practices and for the health of the elderly.

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