

Traditional Remedies for Cardiovascular Diseases in Asia: A Scoping Review of Mind-Body and Herbal Interventions

Raini Diah Susanti¹, Eli Halimah², Maria Komariah¹, Intan Timur Maisyarah²,
Via Eliadora Togatorop³, Noviani Megatami¹

¹Faculty of Nursing Universitas Padjadjaran, Sumedang, Indonesia; ²Faculty of Pharmacy Universitas Padjadjaran, Sumedang, Indonesia; ³College of Health Sciences Panca Bhakti, Bandar Lampung, Indonesia

Correspondence: Raini Diah Susanti, Department of Community Health Nursing, Faculty of Nursing, Universitas Padjadjaran, Jl. Ir. Soekarno KM.21, Jatinangor, Sumedang, West Java, 45363, Indonesia, Email raini.diah.susanti@unpad.ac.id

Abstract: Cardiovascular disease (CVDs) has emerged as a major public health challenge, serving as a leading cause of mortality and morbidity worldwide. Traditional remedies, some of the oldest forms of medicine, are used for the prevention and treatment of various diseases, particularly CVDs. These remedies are widely practiced in several regions of Asia and are increasingly recognized for their role in improving overall health outcomes. This study aims to identify the indigenous knowledge of Asian remedies to prevent and treat cardiovascular disease. Following the PRISMA-ScR checklist, we conducted a systematic search in PubMed, Web of Science, Scopus, and CINAHL for articles published between 2019 and 2023. Keywords used included “herbal medicine”, “traditional medicine”, “complementary therapies”, and “cardiovascular disease.” Fifteen studies were included: 7 focused on mind-body therapies and 8 on herbal medicine. All studies investigating the traditional remedies for cardiovascular outcomes in patients aged ≥ 18 years were included. The study highlights the role of these remedies as preventive and therapeutic options alongside conventional medications. These remedies can be classified into mind-body therapies and herbal medicine, demonstrating effectiveness in lowering blood pressure and reducing CVD risk, while also helping to regulate stress and emotions. Traditional remedies offer significant benefits in preventing and managing CVD with minimal side effects. It can be utilized independently as traditional treatments or in conjunction with conventional medication. However, high heterogeneity and lack of safety data remain limitations. Further high-quality research is warranted to understand any potential interactions and support clinical integration of traditional remedies.

Keywords: indigenous knowledge, herbal medicine, traditional remedies, traditional therapy, cardiovascular disease, Asia

Introduction

The World Health Organization (WHO) defines cardiovascular disease (CVD) as a group of disorders affecting the heart and blood vessels. WHO estimated 17.9 million people died from CVD in 2019, accounting for 32% of all global deaths. It is predicted to rise to 22.2 million by 2030. Over recent decades, CVD has become one of the most significant public health challenges, a leading cause of both mortality and morbidity worldwide.¹ Studies highlight the importance of early detection of cardiovascular disease, allowing for timely preventive measures and appropriate medication management.

There has been a growing interest in alternative treatments, particularly traditional medicine, which is usually seen as more effective and affordable to treat CVD. Recent studies indicate that several natural compounds have the potential to prevent, control, or mitigate key factors associated with cardiovascular disease, such as oxidative stress and inflammation.² CVD primarily develops as a result of oxidative stress, making antioxidants potentially beneficial in treating this condition. Traditional remedies commonly contain varieties of antioxidant components, which could help alleviate CVD by improving the quality and function of mitochondria.³ In addition, traditional remedies such as acupuncture contribute to CVD management by stimulating the release of neurotransmitters and hormones to regulate cardiovascular function,⁴ while medicinal herbs

such as tea that contains antioxidative effects of polyphenols will suppress inflammation and oxidative damage to tissues by using the antiplatelet effects and the increase high-density lipoprotein (HDL) level.⁵

Traditional remedies refer to health practices, approaches, knowledge and beliefs incorporating plant, animal, and mineral based medicines, spiritual therapies, and manual techniques applied individually or in combination to treat, diagnose, and prevent illnesses or maintain wellbeing. Traditional remedies can be considered to three main categories, such as codified medical systems, folk medicine, and allied forms of health knowledge.⁶ Traditional remedies have been renowned as the oldest form of medicine that is used in the prevention and treatment of various diseases, making it have a long history of use. Despite the availability of modern medicine, herbal treatments remain popular due to deeply rooted historical and cultural influences.⁷ This underscores the global interest in alternative and complementary medicine as a means of health-seeking behaviors. Traditional remedies as disease prevention are increasingly used to support overall health outcomes.⁸ One effective approach is to enhance immune function through natural supplements. The immune system, primarily influenced by T-cell mediated and adaptive antibody responses, plays a crucial role in fighting infections. Therefore, a strengthened immune system is better equipped to combat viral respiratory infections effectively.⁹

Traditional medicine (TM) encompasses a comprehensive body of knowledge, skills, and practices rooted in the theories, beliefs, and experiences that are indigenous to various cultures. It is used to maintain health and includes practices in several countries across Asia. Besides TM, complementary, alternative, or non-conventional medicine (CAM) refers to a broad range of health-care practices that are not part of a country's established traditions and are not integrated into the dominant healthcare system.¹⁰ Traditional remedies include the use of herbal medicine and mind-body therapies (MBT). Although many studies have examined the use of traditional remedies, few have specifically focused on the types of these remedies that may benefit cardiovascular health.

Despite the growing body of research on traditional remedies for cardiovascular disease (CVD), there remains a notable gap in the synthesis of this knowledge specific to the Asian region. To date, only a few scoping or systematic reviews have comprehensively examined the breadth and diversity of traditional interventions, such as mind-body therapies and herbal medicine, across Asia to manage or prevent CVD.¹¹ Moreover, the nature of traditional practices varies significantly across Asian subregions, ranging from Chinese herbal formulas and acupuncture in East Asia to Ayurvedic practices in South Asia and indigenous plant-based remedies in Southeast Asia. This heterogeneity in modalities, philosophies, and cultural integration not only complicates the evidence landscape but also highlights the need for a review that maps these diverse approaches within a coherent framework. Our review seeks to fill this gap by systematically charting traditional CVD interventions within the Asian context, providing a foundation for future comparative effectiveness research and culturally informed clinical practice. This scoping review aims to identify various traditional remedies that can help prevent and manage cardiovascular diseases in Asia.

Materials and Methods

Study Design

This scoping review conducted by following the Preferred Reporting Items for Systematic Review and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) checklist.¹² The PCC (population/concept/context) framework was used to determine the eligibility criteria for the required studies (Table 1). We focused on studies involving patients aged ≥ 18 years who received traditional medicine to prevent, treat, and/or rehabilitate cardiovascular disorders in Asia regions. We

Table 1 Eligibility Criteria Based on PCC Framework

PCC Framework	Eligibility Criteria
Population	Adult patients, aged ≥ 18 years with Cardiovascular disease, Cardiac events
Concept	Herbal medicine, Traditional medicine, Complementary Therapies, Ethnomedicine, Health Knowledge, Attitudes, and/or Practice for any cardiovascular disease
Context	Asia

Abbreviations: PCC, population, concept, context.

considered all original articles published in English without restriction to study designs. However, we only included articles that were published within five years of the search date, to provide more up-to-date information.

Search Strategy

All articles included in this study were searched in four international databases from January to 14 February 2024. The databases were PubMed, Web of Science, Scopus, and Cumulative Index to Nursing and Allied Health Literature (CINAHL) Plus with Full Text via EBSCOhost. We employed Medical Subject Heading (MeSH) terminology and keyword such as “herbal medicine” OR “traditional medicine” OR “complementary therapies” OR “ethnomedicine” OR “health knowledge, attitudes, practice” AND “cardiovascular disease” OR “cardiac events” AND “asia” (Table 1).

Study Selection

All identified articles were collated and uploaded into the Rayyan website application for article review.¹³ The second (E.H), third (M.K), and fourth authors (I.T.M) began the article selection stage by removing duplicates and screening titles and abstracts. The first author (R.D.S), fifth (V.E.T), and sixth author (N.M) independently reviewed and confirmed potentially relevant articles. These articles were retrieved in full text and assessed in detail by all authors based on the eligibility criteria. The article selection process was documented in the PRISMA 2020 flow diagram.¹⁴ Any disagreements during the selection process were resolved through discussion and consensus.

Data Extraction and Synthesis

The second and third authors extracted data from the identified articles using the data extraction instrument designed for this review’s purpose. The extracted data covered article characteristics, sample details, intervention specifics, and outcomes. Data on authors, publication year, country, and study design were collected as article characteristics. For sample details, we extracted the main criteria and numbers. Intervention specifics included the protocol or procedure, the purpose, and adverse effects, if any. Outcome data comprises details of cardiovascular-related primary and secondary outcomes, including risk of events, and physiological and laboratory examinations. The first (R.D.S) and fifth authors (V.E.T) independently confirmed the extracted data, and any disagreements were resolved through discussion and consensus.

All extracted data were presented in a table, as shown in Table 2, which were approved by all authors. We also included a narrative summary of the findings of the reviewed articles, focusing on the characteristics of traditional remedies and their cardiovascular outcomes in patients.

Results

Of 3642 records identified, we retrieved 15 full-text articles and ultimately included 15 studies. The details of our study selection process were recorded in the PRISMA 2020 diagram at Figure 1.

Description of Study Selections

The year publication of the included studies ranged from 2019 to 2023. Most of these studies (12/15 studies) were conducted in single-center settings, with China and Taiwan being the most frequently represented study locations. The study designs varied, consisting of 7 RCTs, 3 cohort studies, 3 cross-sectional studies, 1 case control study, and 1 quasi-experimental study. Detailed characteristics of each study are available in Table 2.

In this review, the sample varied between undiagnosed and diagnosed cardiovascular disorders. For the undiagnosed, the participants consisted of monks,¹⁵ women who were overweight,²⁶ and rheumatoid arthritis patients.¹⁷ Meanwhile, those who were diagnosed included participants with arrhythmia,^{18,19,21} hypertension,^{16,20,22,23,25} coronary artery disease,²⁴ myocardial infarction,^{27–29} and heart failure.³⁰

Traditional Remedies Used

As seen in Table 2, we reviewed two types of traditional remedies that support the prevention, management, and rehabilitation of cardiovascular disorders in adults. These are mind-body and herbal remedies. For herbal remedies, the majority are used orally by extracting from a particular root or leaf, or are readily available in solid oral medicinal preparations. For mind-body

Table 2 Detail of Included Studies

Authors	Study Design	Population	Traditional Remedies used				Outcomes
			Types	Characteristics	Purpose	Adverse Effects	
Hu & Lin (2022) ¹⁴	Cohort	1,779 AF patients without anticoagulant therapy from 2000–2012	Mind-body	Acupuncture is given after the patient is diagnosed with AF, and is given until stroke, death, or 31 December 2013.	To prevent stroke	NR	- Decrease risk of stroke ($p < 0.001$, aHR: 0.46, CI: 0.38–0.54). - Decrease risk of ischemic stroke ($p < 0.001$, aHR 0.47, CI 0.39–0.56). - Decrease risk of hemorrhagic stroke ($p < 0.001$, aHR 0.35, CI 0.19–0.67).
Xiang et al (2019) ¹⁵	Case Control	539 patients without arrhythmias and cardiomyopathy - Case group: 267 CAD - Control group: 272 nonCAD patients.	Herbal	- Green tea consumption, the most widely drunk is “Longjin Tea”. - Green tea consumption was measured by quantity (none, ≤ 1, or > 1 cup/day), frequency (none, 1–2, 3–5, or > 5 days/week), and duration (none, 0–10, 10–20, or > 20 years).	To prevent CAD	NR	- Small amount of high-frequency green tea consumption was associated with a reduce risk of CAD in female populations (aOR 0.13, CI 0.07–0.23, $p < 0.01$). - Male populations did not have a reduced risk of CAD (aOR 1.58, CI 0.96–2.59, $p > 0.05$).
K. Liu et al (2019) ¹¹	Cross-sectional	594 Tibetan monks	Mind-body	Daily sedentary behavior, consisted of meditation, chanting and Buddhist teaching.	To prevent hypertension	NR	- Sedentary behavior for 10–11 hours/day (aOR 0.22, CI 0.07–0.71) and ≥ 11 hours/day (aOR 0.11, CI 0.03–0.40) was associated with decrease in the risk of hypertension. - In hypertension subgroup, sedentary behavior decreased systolic ($\beta = -0.355$, $p = 0.004$) and diastolic pressure ($\beta = -0.345$, $p = 0.013$).
Liang et al (2019) ¹⁶	RCT	112 stable CAD patients - Control group: 39 patients - TCMT group: 37 patients - ART group: 36 patients.	Mind-body	- TCMT: Qigong exercise for 12 weeks (five times per week). - TCMT performed for 60 min/session (45 min of exercise plus a 15-min warm up and cool down) with 3–6 practice sets/session, guided by a fitness teacher and music.	To rehabilitate CAD patients	NR	- Resting HR after 12 weeks was lower in TCMT group compared to the control group ($p < 0.05$). - Peak cardiovascular response (VO_2/HR and SV) after 12 weeks was higher in TCMT group compared to the control group ($p < 0.05$). - Peak metabolic response (VO_2) after 12 weeks was higher in TCMT group compared to the control group ($p < 0.05$). - Peak gas exchange (VE/VO_2) after 12 weeks was higher in TCMT group compared to the control group ($p < 0.05$). - BMI and body fat mass after 12 weeks were lower in TCMT group compared to control group ($p < 0.05$).

C.-T. Liu et al (2022) ¹⁷	Cohort	17,824 hypertension patients, treated with antihypertensive drugs for at least 30 days, from 2000–2017	Herbal	CHM with antihypertensive drugs (diuretics, α -blockers, β -blockers, ARB, CCB, ACEI, hydralazine, clonidine, nitroprusside, methyldopa, minoxidil, and diazoxide) for at least 30 days.	To prevent heart failure	NR	• The most common multi-herb and single-herb CHM used were Tian-Ma-Gou-Teng-Yin and Dan Shen, respectively. • Patient with CHM: Ge Gen, Huang Qi, Du Zhong, Huang Qin, Chuan Xiong, or Jia-Wei-Xiao-Yao-San had a lower risk of HF ($p < 0.05$). • CHM lower the risk of HF (aHR 0.85, CI 0.74–0.98, $p = 0.02$). • The use of CHM for >180 days lowers the risk of HF up to 35% (aHR 0.65, CI 0.53–0.79, $p < 0.0001$). • In CHM group, female patients had a lower risk of HF (aHR 0.75, CI 0.61–0.91). • The use of β-blockers with CHM could reduce the risk of HF (aHR 0.84, CI 0.72–0.98).
Jung et al (2021) ¹⁸	Cohort	59,370 hypertension patients without MI or stroke, treated with antihypertensive drugs, from 2003–2006	Mind-body	Acupuncture, either for one or multiple parts of the body, performed for a minimum of two sessions since the diagnosis of hypertension.	Complementary therapy for hypertension patients	NR	Acupuncture lower the incidence of • major adverse cardiovascular events (HR 0.83, CI: 0.80–0.86, $p < 0.001$) • all-cause mortality (HR 0.73, CI 0.70–0.76, $p < 0.001$) • MI (HR 0.85, CI 0.79–0.92, $p < 0.001$) • Stroke-related mortality (HR 0.74, CI 0.65–0.84, $p < 0.001$) • Hemorrhage stroke-related mortality (HR 0.68, CI 0.53–0.88, $p = 0.003$) • Ischemic stroke-related mortality (HR 0.70, CI 0.55–0.89, $p = 0.003$) • IHD-related mortality (HR 0.72, CI 0.60–0.87, $p < 0.001$) • Circulatory system diseases-related mortality (HR 0.70, CI 0.64–0.77, $p < 0.001$)
Palileo-Villanueva et al (2022) ¹⁹	Cross-sectional	946 adults with hypertension from low-income rural and urban communities	Herbal and mind-body	• Natural and biologically based products (mostly in Philippines is soursop leaves, and in Malaysia is akar kayu drinks) • Manipulative and body-based system (massage, hilot (traditional Filipino massage), physical therapy, reflexology, cupping, CeregramTM thermal massage) • Energy therapies (acupuncture) • Other non-medical, non-herbal	Complementary therapy for hypertension patients	NR	• Traditional therapies used higher in Philippines than Malaysia (18.8% vs 8.8%, $p < 0.001$). • 82.4% of Philippines and 71.6% of Malaysia patients use traditional therapies concurrently with antihypertensive drugs. • In both countries, belief in the efficacy of traditional therapies was identified as a determinant of traditional therapy use (aOR 3.19, CI 1.78–5.72 for Philippines, and aOR 6.79, CI 3.12–14.77 for Malaysia). • The use of traditional therapies was not associated with decreased or increased use and adherence of antihypertensive drugs

(Continued)

Table 2 (Continued).

Authors	Study Design	Population	Traditional Remedies used				Outcomes
			Types	Characteristics	Purpose	Adverse Effects	
Rambod et al (2020) ²⁰	RCT	100 acute MI patients without asthma or respiratory allergy, sensitivity to plant extracts, and olfactory problems.	Mind-body	Lemon inhalation aromatherapy - Five drops of lemon essential oil were poured on a cotton pad, and put in an open box 20 cm from the patients. - The oil distributed odor for at least 2 hours, and was used at 8.30, 10.30, 12.30, 14.30, 16.30, 18.30, and 20.30 in four days. - The blood pressure, heart rate and ECG changes (ST-segment and T wave) evaluated 30 minutes before the intervention, every day from the second to the fourth day after intervention at 7 am.	Complementary therapy for acute MI patients	None	- The systolic BP on the third and fourth days after intervention was lower in lemon inhalation aromatherapy group compared to control group ($p < 0.05$). - Heart rate on the fourth day after intervention was lower in lemon inhalation aromatherapy group compared to control group ($p = 0.01$). - The two groups had no significant difference in the occurrence of arrhythmia on the second, third, and fourth days after the intervention. - The ST segment and T wave changes of the intervention group on the third and fourth days after the intervention were better than those of the control group ($p < 0.05$). - The state and trait of anxiety of the intervention group after the intervention was lower than that of the control group ($p < 0.001$).
Zhang et al (2020) ²¹	RCT	251 masked hypertension patients, who were never treated for hypertension or discontinued antihypertensive drugs for at least two weeks.	Herbal	- Chinese herbs: Gastrodia-uncaria granules (GUG) for a 4-week run in period. - GUG orally given 5–10 gram (100mg/kg/day) twice daily at 6 to 8 am and 6 to 8 pm.	Complementary therapy for masked hypertension patients	None	- The mean 24 hour and daytime systolic/diastolic BP in GUG group after 2-week treatment was reduced significantly from baseline value ($p < 0.001$). - The mean 24 hour, daytime, and nighttime systolic/diastolic BP in GUG group after 4-week treatment was reduced significantly from baseline value ($p < 0.05$). - The GUG and control group had significant differences in systolic/diastolic BP at 24 hours and daytime ($p < 0.05$). - No significant difference in the change of plasma glucose, serum lipids, and liver and renal function, urine routine test, or ECG was observed ($p \geq 0.058$).
Razmpoosh et al (2021) ¹²	RCT	39 adults females with BMI 25–35 kg/m ²	Herbal	<i>Nigella Sativa</i> oil supplementation was given orally with iso-caloric diet for four weeks at a dose of 2000 mg/day. - Each capsule contains a 1000 mg dose, taken before lunch and dinner.	To prevent cardiovascular diseases	Heavy menstrual bleeding	- Patient's lipid profile (HDL-C, $p = 0.009$ and LDL-C levels, $p = 0.03$) improved significantly in <i>Nigella sativa</i> group compared to control group. - SGOT level improved significantly in <i>Nigella sativa</i> group compared to control group ($p = 0.03$). - While the diastolic BP ($p = 0.96$) and HR ($p = 0.41$) did not improve significantly, the systolic BP ($p < 0.001$) improved compared to the control group. - The ratio of TC/HDL-C as atherogenic index was significantly improved compared to control group ($p < 0.001$).

Lu et al (2019) ²²	Cross-sectional	1,235 patient with a first hospital admission for acute MI (418 patients from 2000–2001, and 817 patients from 2010–2011)	Herbal	CHM used within one year after hospital discharge	Complementary therapy for acute MI patients	NR	- CHM users accounted for 20.3% and 20.7% of all patients in the 2000–2001 and 2010–2011 cohorts. - CHM users in 2000–2001 and 2010–2011 were mostly male with a lower prevalence of hyperlipidemia and more likely to have previous hemorrhagic stroke compared to nonCHM users. - The most common multi-herb and single-herb CHMs prescribed in 2000–2001 were Xue-Fu-Zhu-Yu-Tang and Dan-Shen, respectively. - The most common multi-herb and single-herb CHMs prescribed in 2010–2011 were Zhi-Gan-Cao-Tang and Dan-Shen, respectively.
Al-Anbaki et al (2019) ²³	Quasi-experimental	38 uncontrolled hypertension adults without hypertensive crisis requiring urgent medication, overt kidney failure, pregnant or lactating, and had adverse reaction to karkade	Herbal	- Dried <i>Hibiscus sabdariffa</i> (karkade) calyces from Nigerian produce, steeped in water and boiled for 20 minutes, starting with a dose of 10g karkade in 0.5 liter of water. - After a week, if the BP target of 140/90 were not achieved, the dose is increased to 15 g in 1 liter of water. - After two weeks, if the BP was still too high, the dose is increased to 20 g in 1 liter of water. - The karkade tea is taken daily, either in the morning or evening due to its diuretic effects, for a month.	Complementary therapy to lower BP	Stomach pain (10%)	72% of respondents were taking antihypertensive drugs. - After four weeks, 38% of respondents reached the target BP and 76% respondents had lower systolic BP by at least 5 mm Hg - Treatment adherence was satisfactory as all the respondents consumed the karkade tea regularly as advised
Ezaki et al (2019) ²⁴	RCT	40 ADHF patients	Herbal	- Dried extract of Mokubito granules (TSUMURA) with of dose of 7.5 g is given orally with luke-warm water before every meal - Each 7.5 g contain 1.5 g of dried extract of mixed crude drugs: JP Gypsum 10 g, JP Sinomenium Stem 4 g, JP Cinnamon Bark 3 g, JP Ginseng 3 g.	Complementary therapy to treat ADHF symptoms	None	- There was a significant improvement in ADHF-related symptoms in the Mokubito group compared to the control group ($p < 0.01$). - There was an improvement in total bilirubin level ($p < 0.01$) and LVD diameter ($p = 0.04$) in the Mokubito group patients compared to the control group.

(Continued)

Table 2 (Continued).

Authors	Study Design	Population	Traditional Remedies used				Outcomes
			Types	Characteristics	Purpose	Adverse Effects	
Yang et al (2023) ²⁵	RCT	3,797 patients who presented within 24 hours of the onset of symptoms of acute MI	Herbal	• Tongxinluo is composed of powders and extracts from multiple plant and insect products. • Tongxinluo is given orally with loading dose of 2.08 g (8 capsules). • The maintenance dose of 4 capsules (1.04 g), 3 times a day for 12 months.	Complementary therapy to improve clinical outcomes of acute MI patients	Mostly stomach discomfort and nausea.	• Among acute MI patients, Tongxinluo significantly improved both 30-day and 1-year clinical outcomes. • Tongxinluo group had lower 30-days (RR 0.64, CI 0.47–0.88, $p = 0.006$) and 1-year major adverse cardiac and cerebrovascular events (HR 0.64, CI 0.49–0.82, $p < 0.0001$) compared to control group • Tongxinluo group had lower 30-days severe STEMI complications compared to control group (RR 0.80, CI 0.68–0.94, $p = 0.008$) • Tongxinluo group had lower 1-year rehospitalization due to HF compared to control group (HR 0.48, CI 0.26–0.87, $p = 0.02$)
Yin et al (2019) ²⁶	RCT	85 patients with persistent AF and received an initial radiofrequency ablation therapy.	Mind-body	• Neiguan point acupuncture is given for 20 minutes per day, lasting 7 days, and performed by acupuncturist. • Before acupuncture, patients rested for 5 mins on their back, then took Neiguan point on both sides, disinfected the local skin with 75% ethanol, selected 0.30 × 40 mm filiform needle, straight needle on both sides of Neiguan 0.5 to 1.0 inches, then applied twisting reinforcing and reducing method, frequency was 2–3 Hz. • The occurrence of nonanatomically distributed feeling of heaviness, numbness, and/or tightness over the whole hand signified that the needle was correctly positioned at the Neiguan point.	Complementary therapy to suppress the early recurrences of AF	NR	• Acupuncture group had lower AF recurrence than control group at three months period ($p = 0.03$). • While hypertension (aOR 3.80, CI 1.05–13.81) and left atrial diameter (aOR 1.18, CI 1.03–1.35) increased the early recurrences of AF at 3-months after operation, acupuncture reduced the early recurrences of AF (aOR 0.16, CI 0.05–0.63). • Compared to control group, the levels of TNF-α, IL-6, TGF-β, and MMP2 were lower in the acupuncture group at 7-day and 3-months after ablation ($p < 0.05$).

Abbreviations: RCT, randomized controlled trial; NR, not reported; AF, atrial fibrillation; aHR, adjusted hazard ratio; aOR, adjusted odds ratio; CI, confidence interval; CAD, coronary artery disease; HR, heart rate; ART, aerobic resistance training; TCMT, Traditional Chinese medicine exercise training; BMI, body mass index; CHM, Chinese herbal medicines; ARB, angiotensin receptor blockers; CCB, calcium channel blocker; ACE, angiotensin-converting enzyme inhibitor; RA, rheumatoid arthritis; NSAIDs, non-steroidal anti-inflammatory drugs; DMARDs, disease-modifying antirheumatic drugs; TNF, tumor necrosis factor; MI, myocardial infarct; IHD, ischemic heart diseases; ECG, electrocardiogram; HDL-C, high density lipoprotein cholesterol; LDL-C, low density lipoprotein cholesterol; TC, total cholesterol; BP, blood pressure; SGOT, serum glutamic-oxaloacetic transaminase; ADHF, acute decompensated heart failure; JP, the Japanese Pharmacopoeia; LVD, left ventricular end-diastolic; IL-6, interleukin-6; TGF- β , transforming growth factor- β ; MMP2, matrix metalloproteinases 2.

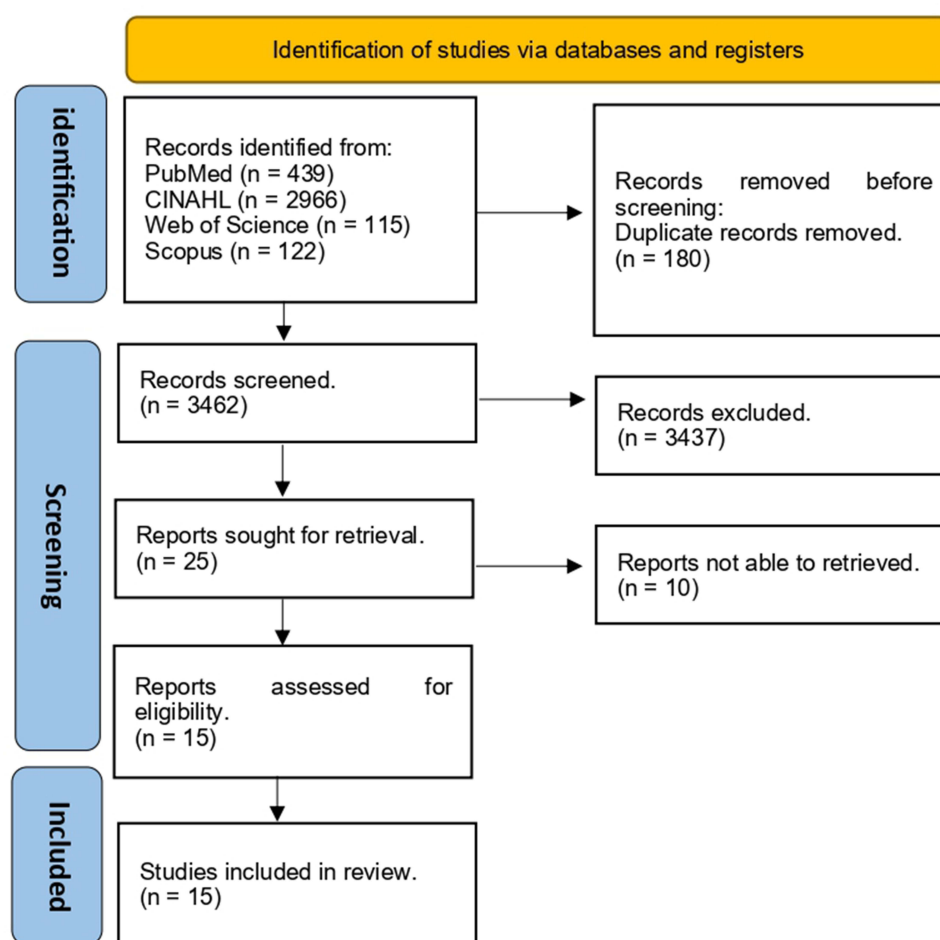


Figure 1 Process of Study Selection. Adapted from Page MJ, McKenzie JE, Bossuyt PM et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021;372:n71. Creative Commons.¹⁴

remedies, the remedies are given in the form of inhalation (aromatherapy) and physical therapies, namely acupuncture, exercise, meditation, and massage. Although not all studies evaluated the side effects of using traditional remedies, some studies reported that the use of traditional remedies is safe or does not cause harmful side effects.

Discussion

This scoping review highlights the effectiveness of traditional remedies in preventing and treating cardiovascular diseases in Asia, based on 15 articles published between 2019 and 2023. Traditional remedies, including herbal treatments and mind-body approaches such as acupuncture, meditation, Qigong have gained popularity despite advancements in modern medicine. This reflecting trust in traditional approaches, despite significant advances in modern medicine as a strong public belief in its role, particularly in cardiovascular disease (CVD) prevention.³¹ East Asia leads in the utilization of these therapies, which serve both preventive, treatment, and complementary roles alongside conventional medical interventions. **Figure 2** illustrates a proposed classification framework based on the purpose of traditional interventions: (a) preventive, (b) therapeutic, and (c) complementary use, which can guide future categorization and comparative effectiveness studies.

Preventive Purpose

Mind-body therapies (MBT), such as meditation, acupuncture, and relaxation techniques, have shown potential benefits on physiological and health-related outcomes, enhancing quality of life. These benefits include improved metabolic

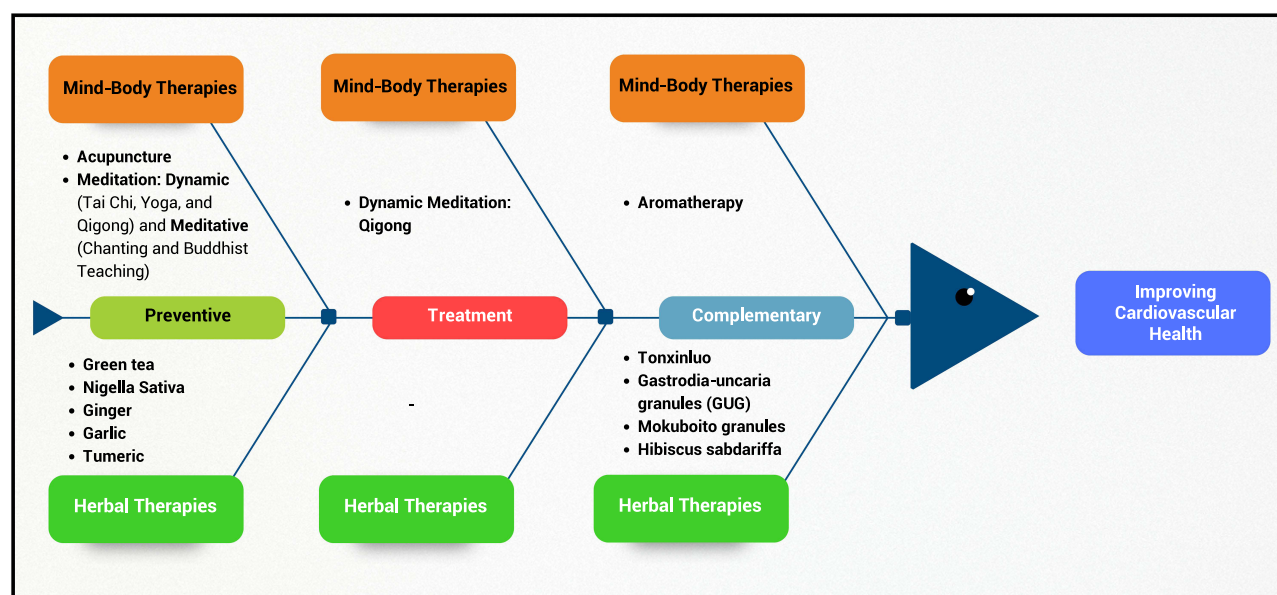


Figure 2 Classification Framework based on type of Interventions.

indicators, pain relief, vitality, and overall well-being.³² A review of two studies on MBT in CVD prevention revealed therapies focused on acupuncture and meditation. Acupuncture, the key to Traditional Chinese Medicine (TCM), is believed to positively impact cardiovascular health by lowering blood pressure and affecting the neuroendocrine system, vascular endothelium, renin-angiotensin-aldosterone system, and oxidative stress.⁴ Studies indicate that atrial fibrillation (AF) patients receiving acupuncture may reduce the risk of stroke.⁷ For optimal benefits, acupuncture should be combined with lifestyle changes and appropriate medications to mitigate the potential side effects.³³

Meditation, a form of mind-body therapy from TCM (MBTTCM), involves controlled breathing, body posture, and harmonious movements while focusing the mind, which also plays a vital role in preventing CVD.³² It can be categorized into two types: dynamic (external) and meditative (internal). Dynamic meditation involves whole-body or limb movements, whereas meditative practices focus on breathing and mental concentration. Dynamic meditation practices could be in many forms, such as Tai Chi, yoga, and Qigong. These practices help lower stress, blood pressure, and heart rates,³⁴ with some studies suggesting benefits for hypertension prevention and recovery from coronary artery disease (CAD). Another type of meditation like chanting and Buddhist teaching that is integrated with a sedentary lifestyle could also help to prevent the increasing blood pressure in hypertension patients.⁴

Apart from MBT, CVD can also be prevented with the use of herbal medicine. Herbal medicine, particularly Chinese herbal medicine (CHM), is increasingly recognized for its potential in preventing CVD. It is often considered safer and more affordable than modern treatments³¹ and is frequently used alongside standard medications. Green tea is a notable herb that may help prevent CVD. It contains various antioxidant components, including amino acids, caffeine, and polyphenols that would benefit cardiovascular health.³⁵ Studies indicate that a small amount of high-frequency green tea consumption could reduce the risk of CAD in female populations due to the CAD-related biomarkers in it¹⁹ and individuals who drink green tea have a lower risk of CVD compared to non-drinkers, with 19% on the higher risk.³⁶ Nigella sativa (N.S) or black seed oil could also be given as a supplement that showed beneficial effects among adults with obesity to prevent possible CVD.²⁶ Ginseng, known for its vasorelaxant properties, may enhance endothelial function and reduce blood pressure. Garlic (*Allium sativum*), widely consumed across Asia, has been shown to reduce total cholesterol and systolic blood pressure. Turmeric (*Curcuma longa*) contains curcumin, which exhibits anti-inflammatory and antioxidant effects, potentially reducing atherosclerosis progression.

Treatment Purpose

Traditional remedies could also treat affected patients. Qigong, a dynamic meditation practice included in MBT, if performed for at least 60 minutes/session in 12 weeks, could rehabilitate CAD patients. This practice has been associated

with reduced resting heart rate, body mass index (BMI), and body fat after the intervention.²⁴ This review shows that MBT CHM could be influential in treating CVD, particularly by lowering blood pressure and controlling hypertension and improving treatment outcomes in high-risk patients.

Comparative studies suggest that these interventions may not replace but rather complement conventional medical treatments. Unlike most antihypertensive medications that focus on short-term blood pressure reduction, traditional approaches offer holistic benefits, such as reducing inflammation and enhancing autonomic balance, which may result in more comprehensive cardiovascular protection.

Traditional Remedies for Complementary Therapy

In addition, traditional remedies could also act as complementary therapy for conventional medicine. The use of acupuncture alongside anti-hypertensive and anti-arrhythmic could lower the incidence of major adverse cardiovascular events, such as stroke-related mortality and circulatory system disease-related mortality.¹⁶ Besides, it also has the effect of reducing the early recurrences of patients with persistent AF after PVI and decreasing inflammation factors.²¹ Therefore, integrating MBT with conventional therapy could provide significant benefits for cardiovascular patients, especially in preventing recurrences in the future.³⁷ Moreover, aromatherapy, the meditation technique that focuses on breathing and mental engagement, such as inhaling lemon scents, has been shown to reduce anxiety and influence cardiovascular health by regulating stress and emotions,²⁷ ultimately affecting blood pressure and heart rate.³⁸

CHM, which serves as a complementary medication alongside antihypertensive drugs, could potentially prevent heart failure and coronary artery disease.¹⁰ The herb Tonxinluo, as adjunctive therapy in addition to STEMI guideline treatments, has also improved the clinical outcomes in patients with ST-segment elevation myocardial infarction (STEMI).²⁹ CHM could cure diseases by simultaneously regulating many targets within cells due to the multiple effective ingredients. Thus, it could balance the physiological regulatory networks of patients. Another herbal medicine, such as *gastrodia-uncaria granules* (GUG), is also effective in reducing blood pressure in patients with masked hypertension.²² *Mokuboitto granules*, a Japanese Kampo Medicine, may alleviate acute decompensated heart failure (ADHF)-related symptoms.³⁰ Additionally, another type of tea, dried *Hibiscus sabdariffa* (karkade), has demonstrated significant effects on lowering blood pressure.²⁵ Since the tea originally tastes bitter, consuming it twice per day may reduce CVD risk due to its flavonoids.³⁹

CHM is effective in individuals who previously experienced the CVD condition, especially in men who experienced hemorrhagic stroke by slowly lowering their blood pressure.²⁸ In Malaysia and the Philippines, the use of traditional, complementary, and alternative medicine (TCAM) mainly used as a complement, rather than an alternative to conventional treatment. The populations have a strong belief in TCM and use it to manage hypertension alongside conventional medication. However, studies have found no correlation between the use of herbal medicine and changes in adherence to antihypertensive medication.²⁰ It is believed that CHM has the potential to cure diseases by simultaneously regulating multiple targets within cells due to its various effective ingredients, enabling the balance of patients' physiological regulatory networks.

While most conventional drug therapies focus primarily on lowering blood pressure in the short term, which may not adequately protect target organs from damage. In contrast, TCM emphasizes a holistic approach that includes self-regulation and actively protects the target organs of hypertensive patients. Additionally, CHM can be customized utilizing different herbal medicines to address specific syndromes. Therefore, combining TCM with conventional drug therapy may significantly improve blood pressure control and help regulate circadian rhythms.⁴⁰ Despite the side effects that commonly occur, such as stomach discomfort, nausea, and heavy menstrual bleeding in women,²⁶ the use of traditional remedies not only acts as a placebo effect. The belief in the effective ingredients within them is already deeply ingrained in their cultural roots, which can provide a sense of comfort and familiarity. Thus, this review suggests that traditional medicine is crucial in protecting public health and is trustworthy by the communities.

Strengths and Limitations

There is a need for further research on the potential interactions involved in integrating traditional remedies with conventional medications. This would emphasize careful consideration in clinical practice. Additionally, the relationship between culture and health is complex, as many people are drawn to traditional medicines due to their cultural origins.

Although the efficacy of these remedies can be questioned, their cultural significance must also be acknowledged. Engaging with individuals on this topic requires sensitivity and an understanding of the connection between health beliefs and cultural identity. Ultimately, the aim should be to find a balance where both traditional and scientific approaches can coexist and benefit individuals' health.

Cultural beliefs significantly influence the use of traditional remedies. In regions like Malaysia and the Philippines, Traditional, Complementary, and Alternative Medicine (TCAM) is often used alongside conventional treatments due to its cultural familiarity and accessibility. However, effective integration into health-care systems remains a challenge. Skepticism from health-care providers, lack of standardized dosing, and limited regulatory oversight often hinder acceptance and utilization. To bridge this gap, culturally sensitive health communication and evidence-based education programs are essential. Health-care providers should be trained to engage patients in conversations that respect traditional beliefs while offering scientifically sound guidance.

While our scoping review highlights numerous studies reporting the potential benefits of traditional remedies in cardiovascular care, we acknowledge the need for a more balanced interpretation of the evidence. Several included studies presented neutral or limited efficacy findings, particularly in cases where traditional therapies were used as adjuncts rather than standalone treatments. For example, some herbal interventions showed no statistically significant impact on cardiovascular biomarkers when used in low dosages or short durations, and mind-body therapies such as meditation and aromatherapy exhibited modest or inconsistent effects on blood pressure or anxiety in certain subpopulations. These nuances were underemphasized in the initial discussion and have now been more explicitly incorporated to mitigate the risk of positive bias. Additionally, while our review primarily draws upon studies conducted in East Asia, we recognize the importance of including perspectives from broader global research efforts. We must expand our synthesis by incorporating recent systematic reviews and meta-analyses from other regions, particularly those exploring the safety, efficacy, and integration of traditional medicine within conventional cardiovascular care frameworks. This addition enhances the generalizability and depth of our findings while providing a more comprehensive landscape of current evidence.

Conclusion

This research reviews 15 articles that investigate a diverse range of studies on traditional remedies and their functional compounds for the prevention and management of cardiovascular disease (CVD), particularly in Asia. The findings indicate that various traditional remedies, including mind-body therapies (MBT) such as acupuncture, Buddhist chanting, and meditation, can help prevent and manage CVD by lowering blood pressure. Additionally, several herbal medicines have been shown to effectively prevent CVD by reducing blood pressure, preventing future recurrences, and regulating stress and emotions. Ultimately, these practices influence blood pressure and heart rate, decreasing the risk of CVD. The benefits of traditional remedies not only demonstrate their effectiveness but also help to build trust among individuals who utilize them. Given their cultural significance and therapeutic advantages, these remedies underscore the wide variety of options available for managing CVD.

However, the reviewed studies suggest potential benefits of traditional interventions in reducing major adverse cardiovascular events, yet limitations such as small sample sizes, inconsistent endpoints, and unclear safety profiles highlight the need for more rigorous randomized controlled trials. Future research should adopt standardized outcome measures and explore pharmacological interactions between herbal compounds and conventional medications to ensure safe integrative cardiovascular care. Regional patterns in practice and patient beliefs merit deeper ethnographic and clinical investigation.

The findings of this review carry important implications across several domains. For clinical practice, they suggest that traditional remedies, particularly those that are culturally rooted and supported by preliminary evidence, may offer viable complementary strategies for managing cardiovascular disease (CVD), especially in populations with limited access to conventional healthcare or high levels of treatment skepticism. These interventions, when used alongside standard therapies under professional guidance, may enhance patient-centered care by aligning with individuals' cultural values and health beliefs. For public health policy, the growing use of traditional medicine in Asia underscores the need to develop regulatory frameworks that ensure the quality, safety, and standardized application of these therapies.

Policymakers should consider incorporating evidence-based traditional practices into national health promotion strategies, especially in settings where such approaches are already widely accepted and practiced. In terms of research, the review highlights the urgent need for robust, high-quality randomized controlled trials and implementation science studies to evaluate both effectiveness and integration models. Multidisciplinary collaboration will be essential to build an evidence base that can inform clinical guidelines, health service delivery, and cross-cultural care innovations. By acknowledging these broader implications, this review contributes not only to academic understanding but also to shaping practical, policy-oriented solutions in global cardiovascular health.

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Disclosure

The authors declare no conflicts of interest in this work.

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