

Systematic Review

Effects of Buddhist Walking Meditation, Walking Meditation or Mindful Walking on the Health of Adults and Older Adults: A Systematic Review

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Abstract

Background: Physical activity is essential for good health and human well-being, yet one-third of adults worldwide fail to achieve the recommended weekly physical activity. Buddhist Walking Meditation (BWM), Walking Meditation (WM), or Mindful Walking (MW) is a mindfulness practice characterized by mind–body interaction, seeking to promote people's well-being. Therefore, this systematic review aimed to examine the effect of Buddhist Walking Meditation, Walking Meditation, or Mindful Walking on health in adults and older adults. **Methods:** This systematic review (PROSPERO: CRD42024581286) followed PRISMA guidelines. A literature search was conducted in PubMed, SciELO, Web of Science, and Scopus to identify studies that used BWM, WM, or MW as interventions in adults and older adults. The methodological quality was assessed using the PEDro scale, and the risk of bias was evaluated using the Cochrane RoB 2 tool. **Results:** Ten studies met the inclusion criteria, with intervention durations ranging from 4 to 24 weeks. Most were rated as “good” quality. Positive effects were reported in ankle proprioception, balance, functional fitness, psychological outcomes (e.g., reductions in stress, anxiety, or depression), and selected cardiometabolic markers (HbA1c, blood pressure, and arterial stiffness) in specific subgroups. However, several studies showed a moderate-to-high risk of bias. **Conclusions:** BWM, WM, and MW are safe and potentially effective PA strategies to enhance physical and mental health in adults and older adults. Their simplicity, low impact, and high adherence rates make them suitable for sedentary or clinically vulnerable populations.

Keywords: Buddhist walking meditation; walking meditation; mindful walking; adult; older adult; elderly



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1. Introduction

Currently, physical activity has a holistic definition that invites people to keep moving, assigning it a recreational, productive, therapeutic, value among others, which are related to the motivations, interests, emotions, ideas and relationships of people, which allow them to participate in interventions that promote physical activity through exercise, sport or other manifestation [1]. Likewise, and following this logic, physical activity (PA) plays a fundamental role in promoting health, supporting human development, and enhancing overall well-being [2,3]. Scientific evidence has consistently shown that regular physical activity reduces fatigue, improves mood, enhances joint mobility, and provides numerous physical and psychological benefits [4–8].

In addition to its physical and emotional benefits, PA contributes to improving lung function, mental health, and overall quality of life [9]. It has also been associated with a reduced risk of cardiovascular disease, depression, stress, and improved cognitive performance [10]. Even regular PA practice prevents the risks of premature morbidity, stroke, coronary heart disease, and diseases of any cause [11]. Despite the above, low adherence to PA programs has been evidenced in the adult population due to multiple biopsychosocial factors [12].

International organizations have developed proposals for meeting PA recommendations; in adults, at least 150 min of aerobic physical activity are necessary to generate positive changes in health [2], where walking at a pace of 4.8 to 5.5 km/h is a viable option due to the energy expenditure it produces [13]. Despite these clear guidelines, approximately one-third of adults worldwide do not achieve the recommended weekly level of aerobic PA [14]. Nevertheless, scientific evidence has shown that low-cost interventions such as walking programs can produce significant benefits in mental and cognitive health, particularly among older adults [15,16].

Walking is an action performed by people, which allows the whole body to move rhythmically through the movement of their feet and at a varied intensity [17]. The development of this action allows the possibility that it decreases resting heart rate [18], improves postural stability [19], improves mental health [20], and delays the onset of aging in healthy older people [21–23]. This corroborates the importance of walking in daily life. Several studies have highlighted the benefits of walking-based programs, considering factors such as the number of participants (individual or group-based formats), intervention duration, target population characteristics, and other contextual variables [24–28].

Under this logic, Buddhist Walking Meditation, also referred to as Walking Meditation or Mindful Walking, is a form of mindfulness practice traditionally used by Buddhist monks, which is characterized as an activity focused on the mind–body interaction that seeks to promote general well-being and health in people [29]. These three concepts were considered similar due to the points they have in common: being a mindfulness practice, considering full attention, awareness, and the mind–body connection. This practice involves conscious attention to body movements, particularly the coordination of leg and arm movements with the rhythm of breathing, with the intention of achieving a deeper state of relaxation and meditative awareness [30]. Mindfulness-based practices have been shown to produce benefits in the central nervous system [31,32], and their non-invasive and low-risk nature makes them particularly appealing for broad application. Given the ongoing need for innovative and accessible strategies to promote regular PA in adults and older adults, walking-based mindfulness practices represent a promising avenue for future research and intervention.

Although Buddhist Walking Meditation, Walking Meditation, and Mindful Walking differ in their origins and structure, they share core elements such as intentional movement, breath control, and focused attention. Buddhist Walking Meditation is rooted in Buddhist tradition and includes verbal mantras; Walking Meditation refers to a structured meditative walking practice, and Mindful Walking is often applied in secular or therapeutic contexts.

Given these shared features, the three practices were considered together in this review. Therefore, the present systematic review aims to examine the effect of Buddhist Walking Meditation, Walking Meditation or Mindful Walking on health in adults and older adults.

2. Materials and Methods

2.1. Protocol and Registration

This systematic review was performed based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines [33] (The PRISMA checklist is available in Supplementary Table S1). The review protocol was prospectively registered and published in the PROSPERO database (registration number: CRD42024581286).

2.2. Search Strategy

Four databases were used for the search: Scopus (n = 20), WoS (n = 47), PubMed (n = 10), and SciELO (n = 0). The search strategy was based on the PICO framework (population: adults or older adults; intervention: mindful walking, Walking Meditation or Buddhism walking meditation; comparator: control group; outcome: some health parameter) [34]. This allowed us to arrive at the following keywords and connectors: “Adult” OR “Older adult” OR “Elderly” AND “Buddhist walking meditation” OR “Buddhist walking” OR “Buddhism meditation” OR “mindful walking” OR “Walking meditation” (see Supplementary Table S2: Search strategy used for the systematic review). All studies published until December 2024 were included. Articles in English and Spanish were considered (Figure 1. PRISMA flow diagram).

2.3. Selection Criteria

For this systematic review, the inclusion criteria were the following: (i) randomized controlled trials (RCTs) or quasi-experimental clinical trials or pre-experimental trials that considered adults or older adults as participants, both men and women; (ii) older than 18 years; (iii) that used “Buddhist Walking Meditation”, “Walking Meditation” or “Mindful Walking” as the experimental condition, with specific information on the intervention protocol; (iv) that investigated the specific effects of this treatment in relation to some health parameter.

Exclusion criteria were: (i) studies involving young people under 18 years of age, athletes or athletes; (ii) cross-sectional, retrospective, or prospective studies, letters to the editor, book chapters, case studies, conference proceedings, literature reviews, narratives, systematic reviews with and without meta-analysis.

2.4. Selection of Studies

Two researchers (F.M.-V.; A.C.-P.) independently reviewed the database records and, after eliminating duplicates, selected the articles by title and abstract. Subsequently, they both applied the inclusion and exclusion criteria to evaluate the full text of the selected articles. In case of discrepancy between the investigators, a third author (E.G.-M.) determined the final decision by applying the same criteria.

2.5. Data Collection

The same researchers (F.M.-V.; A.C.-P.) independently extracted data from the selected studies. In cases of disagreement, a third researcher independently compared the data and acted as an intermediary in making the final decision (E.G.-M.). The data collected were synthesized in a summary table, which includes the following: Author, Design, Participants, Age, Objective, Intervention, Duration, Evaluation, Results, and Conclusion (Table 1).

2.6. Evaluation of the Quality of the Selected Articles

Two authors (F.M.-V.; A.C.-P.) independently assessed the methodological quality of the studies included in this review using two scales (PEDro; RoB-2). In case of disagreement, a third investigator independently reviewed the results and made the final decision (E.G.-M.).

The Physiotherapy Evidence Database Scale (PEDro) [35,36] presents 11 criteria on internal validity and presentation of statistical analyses, awarding one point of methodological quality to the study if it meets the explained criterion and zero points if it is not met [37]. The first criterion does not add points. The study quality was categorized as excellent for 9–10 points, good for 6–8 points, fair for 4–5 points, and poor for less than 4 points (Table 2).

We also used the Cochrane Risk of Bias (RoB-2) tool [38] for randomized clinical trials to assess the risk of bias of included articles. Each domain (randomization process, deviations from intended interventions, missing outcome data, outcome measurement, selection of reported and overall outcome) was rated as having “low,” “some problems,” or “high” risk of bias (Figure 2). The “-” sign indicates high risk of bias, the “!” sign indicates some concerns, and the “+” sign indicates low risk of bias. Similarly, the color red is associated with a high risk of bias, yellow with some concerns, and green with a low risk of bias. The letter D refers to the domain, with five domains plus an overall rating. Figure 3 shows the percentage obtained by judgment in each evaluated item (low risk, some concerns, high risk).

3. Results

A total of 77 articles were found, leaving 56 after elimination of duplicates. Finally, a total of 10 articles were selected based on the criteria established above. The process is detailed in the flow diagram (Figure 1), which was carried out according to the recommendations of the PRISMA guide.

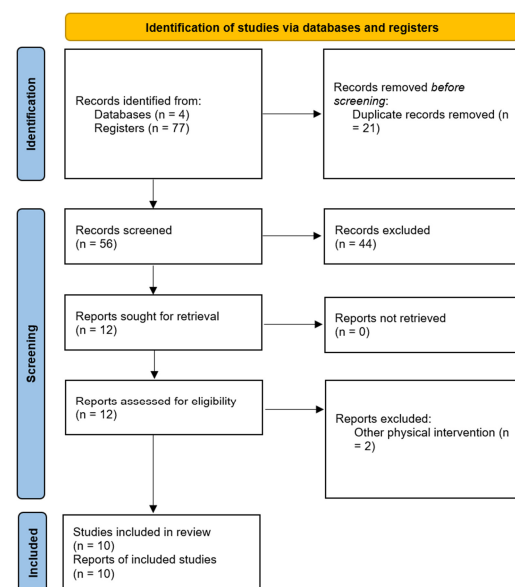


Figure 1. PRISMA flow diagram.

3.1. Characteristics of the Articles Included in the Review

Table 1 provides a comprehensive summary of the main characteristics of the ten studies included in this systematic review. For each article, the following information is presented: study design, sample size and distribution across groups, percentage of female participants, mean age, study objective, intervention protocol, duration of the intervention, evaluation instruments, key results, and authors’ conclusions.

Table 1. Summary of Included Studies: Design, Sample Characteristics, Intervention, and Outcomes.

Author	Study Design	Groups (n) Sample Size Female (%)	Mean Age (Year)	Objective	Intervention	Duration	Data Collection Instruments	Results	Conclusions
Chatutain et al. [39]	RCT	58 EG: 29 CG: 29 100% Female	70.2 68.23	Walking Meditation can improve ankle proprioception and balance performance among elderly women	30 min/session–3 days/week	8 weeks	AAE; BBS; FRT; TUG.	AAE: $p = 0.001$ BBS: $p = 0.001$ FRT: $p < 0.01$ TUG: $p < 0.01$	Walking meditation improved ankle proprioception and balance performance.
Gainey et al. [40]	RCT	23 EG (WM): 12 CG (TW): 11 83% Female	58.0 63.0	To investigate and compare the effects of Buddhist walking meditation and traditional walking on glycemic control and vascular function in patients with type 2 diabetes mellitus.	30 min/session–3 days/week	12 weeks	BMI; VO ₂ max; Isometric leg dynamometry; FMD; PWV; ABL; Glucose, insulin, HbA1c, lipid profile, cortisol; HOMA-IR.	FMD (TW: $p < 0.05$; WM: $p < 0.05$). Glucose: TW and WM: $p < 0.05$ HbA1c: WM: $p < 0.05$ Cortisol: WM: $p < 0.05$	Walking meditation was more effective than traditional walking in reducing HbA1c (glycated hemoglobin test), blood pressure, arterial stiffness, and stress.
Lapanantasin et al. [41]	RCT	32 EG (WM): 10 EG (RE): 11 CG: 11 69% Female	19.5 19.9 19.6	To investigate the effects of walking meditation, a mind–body practice, and compare it with resistance band exercise on ankle proprioception and balance among individuals with chronic ankle instability.	30 min/session–3 days/week	4 weeks	AAE; SEBT.	WM: PF5° ($p = 0.007$); PF10° ($p = 0.040$).	Increased ankle stability for the walking meditation group.
Prakhinkit et al. [42]	RCT	40 EG (WM): 14 EG (TW): 13 CG (SC): 13 100% Female	74.0 74.8 81.0	To determine the effects of novel Buddhist-based walking meditation (BWM) and traditional walking exercise (TWE) on depression, functional fitness, and vascular reactivity.	20 min/session–3 days/week (weeks 1–6); 30 min/session–3 days/week (weeks 7–12)	12 weeks	Geriatric Depression Scale–Thai; HR; physical fitness (strength; flexibility; aerobic capacity); Blood analyses; FMD.	TW: BMI and blood pressure ($p < 0.05$). BWM: BMI, body fat, and blood pressure ($p < 0.05$). TW: Lowered cholesterol, triglycerides, C-reactive protein, and increased nitric oxide ($p < 0.05$). BWM: Lowered cholesterol, LDL cholesterol, triglycerides, C-reactive protein, and cortisol; increased nitric oxide ($p < 0.05$). TW: Strength, flexibility, and aerobic capacity ($p < 0.05$). BWM: Strength, flexibility, and aerobic capacity ($p < 0.05$). BWM: Improved depression levels ($p < 0.05$).	Buddhist walking meditation reduced depression, improved functional fitness and vascular reactivity, and appears to confer greater overall improvements than traditional walking.

Table 1. Cont.

Author	Study Design	Groups (n) Sample Size Female (%)	Mean Age (Year)	Objective	Intervention	Duration	Data Collection Instruments	Results	Conclusions
Shi et al. [43]	RCT	38 EG: 17 CG: 21 86.8% Female	52.7 46.5	To examine whether a 4-week mindful walking intervention increases physical activity and improves mental health outcomes.	60 min/session–1 day/week	4 weeks	Perceived Stress Scale; Mental Health Inventory-5 items; Brief Edinburgh Depression Scale; Freiburg Mindfulness Inventory; PSQI.	EG: improvement in stress ($p = 0.025$), improvement in depression, but not significant.	The intervention group improved in perceived stress, physical activity and depression.
Srisoongnern et al. [44]	RCT	48 EG (WM): 24 CG (AE): 24 45.8% Female	65.0 65.0	To determine the effects of a six-week Buddhist walking meditation program on exercise capacity, quality of life, and hemodynamic response in patients with chronic heart failure.	30–40 min/session–3 days/week	6 weeks	Six-minute Walk test; Minnesota Living with Heart Failure Questionnaire; Hemodynamic response.	The aerobic exercise group significantly reduced their systolic pressure ($p < 0.05$), and the difference between groups was significant ($p = 0.043$).	Six weeks of walking meditation has not been shown to be effective in improving functional capacity in patients with heart failure, compared to aerobic exercise.
Yang et al. [45]	Preexperimental	25 EG: 25 NO CG 84% Female	72.4	To establish a proof of concept for using this mindful walking program to improve short- and long-term cognition among community-dwelling older adults.	30 min/session–2 days/week	4 weeks	Trail Making Test; Porteus Maze Test; Stroop test; Symbol Search test; Dot Memory test; sleep test.	Significant improvement in: Trail A ($p < 0.05$) Trail B ($p < 0.05$) Maze I and II solution time ($p < 0.05$) Stroop test ($p < 0.05$). Memory and divided attention remained unchanged.	Long-term, within-person improvements in processing speed and executive function.
Edwards et al. [46]	RCT	110 Walking: 22 Meditating: 22 Walking + Meditation: 22 Meditation + Walking: 22 Control: 22 73% Female	21.5 22.6 21.2 20.7 20.9	Examine the usefulness of a shorter walk (10 min) with meditation.	10 min/session	1 session	STAI-Form Y	Walk then meditation: ($p < 0.05$). Meditation then walk: ($p < 0.05$). Meditation only: ($p < 0.05$) CG and walking only: no significant changes.	A 10 min meditation, as well as a combination of a 10-min meditation and a 10-min brisk walk, resulted in significant reductions in state anxiety among a sample of young adults.

Table 1. Cont.

Author	Study Design	Groups (n) Sample Size Female (%)	Mean Age (Year)	Objective	Intervention	Duration	Data Collection Instruments	Results	Conclusions
Mitarnun et al. [47]	RCT	33 EG: 17 CG: 16 57.6% Female	61.3 61.3	To determine the effects of walking meditation on functional performance, disease severity, and anxiety in Parkinson's disease.	30 min/session–3 days/week	12 weeks	TUG; 10 m Walk Test; Five Times Sit to Stand; UPDRS; HADS-A; Adverse event registry.	EG: improved walking speed ($p < 0.01$); improved UPDRS ($p = 0.030$); UPDRS part II ($p = 0.020$); improved HADS-A anxiety ($p < 0.05$).	Walking meditation can promote high rates of exercise adherence, reduce disease severity, and reduce the percentage of participants with anxiety.
Phoobangkerdphol et al. [48]	RCT	68 EG: 35 CG: 33 85.3% Female	68.9 68.9	To investigate the improvement in balance skills compared to walking meditation and balance training among older adults with a history of falls.	20–30 min/session–5–7 days/week	24 weeks	TUG; FRT; SLST; EQ-5D-5L; TGMHA-15	Both groups improved significantly ($p < 0.05$), but no significant differences were found between them.	Walking meditation is comparable to balance training in improving balance in older adults with a history of falls.

Note: RCT: randomized controlled trial; EG: experimental group; CG: control group; NO CG: no control group; WM: walking meditation; RE: rubber band exercise; TW: traditional walking; SC: sedentary control; AE: aerobic exercise; AAE: Absolute angular error of ankle reposition test; BBS: Berg balance scale; FRT: Functional Reach Test; TUG: Timed Up and Go test; BMI: body mass index; VO₂ max: maximum oxygen consumption; FMD: Flow-mediated dilatation; PWV: Pulse wave velocity; ABI: Ankle-Brachial Index; SEBT: Star Excursion Balance Test; HR: heart rate; PSQI: Pittsburgh Sleep Quality Index; UPDRS: Unified Parkinson's Disease Rating Scale; HADS-A: Hospital Anxiety and Depression Scale; SLST: Single Leg Stance Test; TGMHA-15: Thai Geriatric Mental Health Assessment Tool-15; PF5°: plantarflexion-5°; PF10°: plantarflexion-10.

3.2. Methodological Scale PEDro

Table 2 presents the methodological quality assessment of the included studies using the PEDro scale. According to this evaluation, nine studies were rated as having “good” methodological quality, while one study was classified as “fair.”

Table 2. Methodological Quality Assessment of Included Studies Based on the PEDro Scale.

Authors	Criteria											Total
	1	2	3	4	5	6	7	8	9	10	11	
Chatutain et al. [39]	Y	Y	N	Y	N	N	Y	Y	Y	Y	Y	7
Gainey et al. [40]	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	6
Lapanantasin et al. [41]	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	8
Prakhinkit et al. [42]	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	6
Shi et al. [43]	Y	Y	N	Y	N	N	N	Y	Y	Y	Y	6
Srisoongnern et al. [44]	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	8
Yang et al. [45]	Y	N	N	N	N	N	N	Y	Y	Y	Y	4
Edwards et al. [46]	N	Y	N	Y	N	N	N	Y	Y	Y	Y	6
Mitarnun et al. [47]	Y	Y	N	Y	N	N	Y	Y	Y	Y	Y	7
Phoobangkerdphol et al. [48]	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	8

Note: Y = Yes; N = No. The following are the criteria for the PEDro scale: 1: The selection criteria were specified (not included in the total score). 2: The distribution of participants to the groups was random. 3: Allocation was concealed. 4: The groups were similar in terms of the most relevant predictive factors. 5: All participants were blinded. 6: The therapists involved in the intervention were all blinded. 7: Assessors who measured at least one significant outcome were blinded. 8: At least 85% of the key results were achieved. 9: All outcomes for participants who underwent the intervention were reported, for at least one main result. 10: A statistically significant difference was found between the groups for at least one primary outcome. 11: The intervention showed point measures and variability for at least one main outcome. The study quality was categorized as excellent for 9–10 points, good for 6–8 points, fair for 4–5 points, and poor for less than 4 points.

3.3. Risk of Bias

Figures 2 and 3 provide a detailed overview of the risk of bias assessments using the Cochrane Risk of Bias 2.0 (RoB 2) tool across the included studies. As shown in Figure 2, the most frequently compromised domains were the blinding of participants and personnel, as well as deviations from intended interventions. These weaknesses are inherent to behavioral interventions like walking meditation, where participant blinding is rarely feasible.

Additionally, several studies presented concerns related to the randomization process and outcome measurement, which may introduce bias and affect the internal validity of the results. Figure 3 illustrates that no study achieved an overall low risk of bias; 40% were classified with some concerns, while 60% were rated as high risk.

3.4. Main Results by Intervention

3.4.1. Walking Meditation

In the intervention by Chatutain et al. [39], 8 weeks of Walking Meditation, 3 days a week, were performed for 30 min. The training was guided by a Buddhist monk, who possessed more than 5 years of experience in Walking Meditation. The experimental group, aided by constant thought (or attention), focused on the movements of their legs and feet with each step, from left to right, alternating between them, while walking slowly 8 to 12 steps repeatedly for 30 min daily, while the control group carried out their daily activities as usual. The main results showed improvements in ankle proprioception and balance performance in the older women ($p < 0.001$). In addition, they improved their neuromuscular control.

	D1	D2	D3	D4	D5	Overall	
Chatutain et al. 2019	!	!	+	+	!	!	+
Gainey et al. 2016	!	-	-	-	!	-	!
Lapanantasin et al. 2022	+	!	+	+	+	!	-
Prakhinkit et al. 2014	!	!	-	-	!	-	
Shi et al. 2019	!	!	+	-	+	-	D1 Randomisation process
Srisoongnern et al. 2021	+	!	+	+	+	!	D2 Deviations from the intended interventions
Yang et al. 2021	!	-	+	-	!	-	D3 Missing outcome data
Edwards et al. 2018	!	!	+	-	!	-	D4 Measurement of the outcome
Mitarnun et al. 2022	!	!	+	+	+	!	D5 Selection of the reported result
Phoobangkerdphol et al. 2022	+	!	-	+	+	-	

Figure 2. Risk of Bias by Domain in Included Studies (RoB 2 Tool) [39–48].

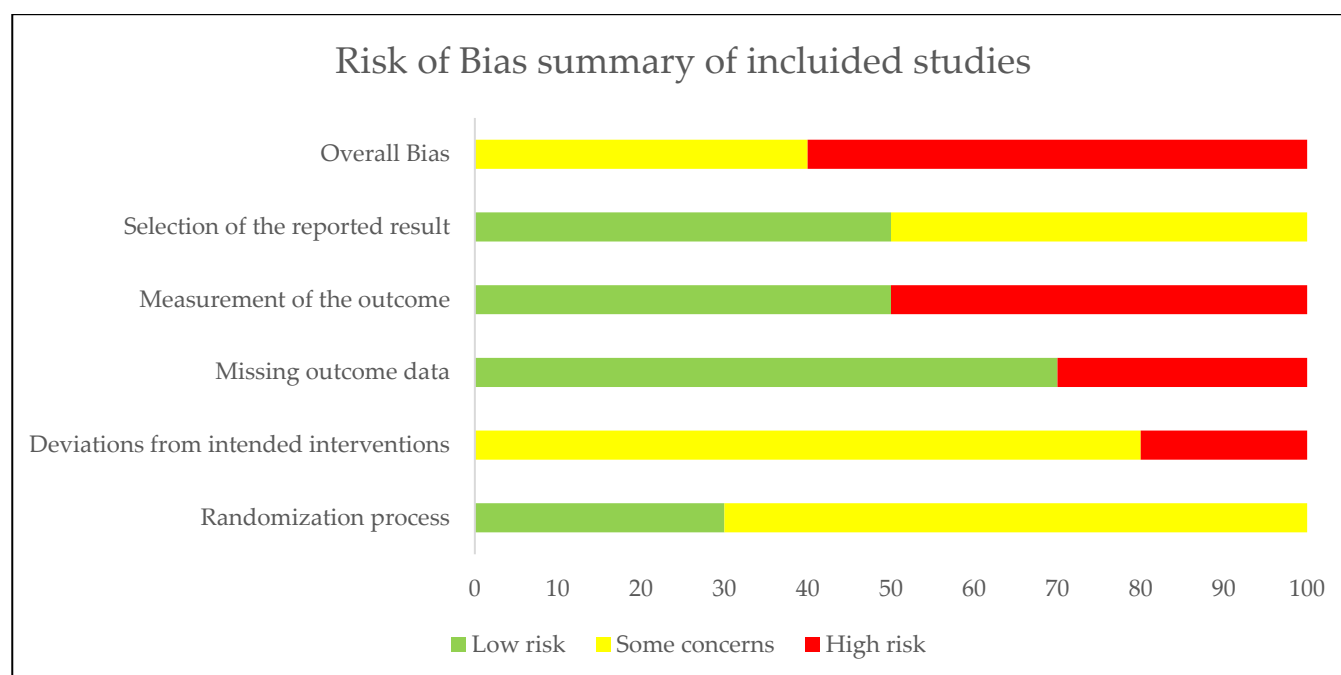


Figure 3. Risk of Bias Summary of Included Studies.

In the article by Lapanantasin et al. [41], participants attended a 30 min session, 3 days a week, for 4 weeks. The Walking Meditation protocol in this study was from Wat Borom Sathon Sri Sutthi Sophon Rangsan (Wat Don), Bangkok, Thailand. The intervention was divided into distinct stages. In stage one, the focus was “step with the right leg” and “step with the left leg”. In stage two, the focus was on details such as “lift the foot” and “place the foot down” of each step. In stage three, the focus was much more specific: “lift the foot”, “step forward”, and “place the foot down” on each step to the left and right alternately during the walk. In the 4th stage, details were added, such as: “lift the heel”, “lift the foot”, “step forward”, and “place the foot down”. In stage 5, the details were: “lift

the heel", "lift the foot", "step forward", "place the foot down", and "weight on the foot". In the final phase, "lift heel", "lift foot", "step forward", "place foot down", "touch foot down", and "weight on foot". The control group received active movements of the ankle in sitting position (non-weight bearing) as a home exercise program. Post-intervention, it is mentioned that participants with chronic ankle instability obtained greater ankle stability when performing various activities ($p = 0.010$) and significantly improved their proprioception and ankle balance compared to baseline.

Edwards et al. [46] conducted a short 10 min Walking Meditation session, in which participants were asked to focus on moment awareness, breathing, and a full body scan, to improve mindfulness. The walk was completed on a treadmill. A Yoga Alliance 200 h registered yoga teacher conducted the meditation sessions. The control group were asked to sit in a computer chair within the laboratory for 10 min. They conclude significant improvements in anxiety status in young adults. In addition, they mention that a 10 min meditation, as well as a combination of a 10 min meditation and a 10 min brisk walk, produces such an effect.

In the study by Mitarnun et al. [47], 12 weeks of Walking Meditation, 3 days a week, were performed. The protocol began with the instructor explaining how to perform a 30 min meditative walk, followed by a 10 min break before beginning the main part of the session. After this, the participants walked for 30 min, where they were instructed to place both hands in front of the body and to consciously concentrate on the movement of the body, emphasizing the importance of breathing. At the end of the session, time was given to exchange opinions and sensations. They conclude that Walking Meditation can generate high rates of adherence to exercise, reduce the severity of Parkinson's, and reduce anxiety in participants.

Phoobangkerdphol et al. [48] performed 24 weeks of Walking Meditation, between 5 and 7 sessions of 20 or 30 min per week. In this study, Walking Meditation consisted of 4 different foot positions. It begins by lifting one foot, moving it forward as comfortably as possible, placing that same foot on the floor, and then shifting the body weight to that leg, and then performing the same action with the other foot. The control group received balance training consisting of the following exercises: marching, reaching, chair standing, sideways walking, backward walking, and tandem walking for a total of 25–30 min per day, 5–7 days/week for 24 weeks. Before beginning the program, all study patients attended a practice session taught by a therapist (for walking meditation and balance training). They conclude that walking meditation is comparable to balance training for improving balance skills in older adults with a history of falls.

3.4.2. Buddhist Walking Meditation

In Gainey et al.'s [40] 12-week Buddhist Walking Meditation study, participants performed Buddhist walking on a treadmill, focusing on their steps. Subjects were required to say "Budd" and "Dha" in a coordinated manner while the foot touched the ground. While the control group only performed traditional walking, both walks were divided into two phases: Phase 1, from weeks 1 to 6, was performed at an intensity between 50 and 60% of maximum heart rate. In phase 2, from weeks 7 to 12, the intensity increased, reaching an average of between 60 and 70% of maximum heart rate. Sessions consisted of a 10 min warm-up, a 30 min workout, and a 10 min stretch and cool-down. The results showed that Buddhist Walking Meditation was more effective than traditional walking in relation to lowering HbA1c, blood pressure and arterial stiffness. In addition to reducing stress, as determined by blood cortisol level.

Prakhinkit et al. [42] conducted a proprietary Buddhist Walking Meditation program for 12 weeks, 3 days per week. From week 1 to 7, 20 min per session, from week

7 to 12, 30 min per session. In phase one, training was performed at a light intensity (20–39% of individual heart rate reserve) and in phase 2 (weeks 7–12), training intensity was increased to moderate intensity (40–50% of heart rate reserve). Participants performed walking while pronouncing “Budd” with upward arm swing and “Dha” with downward arm swing. In stage 2, the workload was increased by holding a 500 mL water bottle in each hand. This practice was necessary to increase the heart rate during exercise without increasing the step rate. The control group remained only with traditional walking. By way of conclusion, Buddhist Walking Meditation improved impaired functional fitness and vascular dysfunction. In addition, it was able to decrease depression, plasma cortisol concentrations, and inflammatory markers that traditional walking failed to modify.

In the work of Srisoongnern et al. [44], a proprietary Buddhist Walking Meditation program was performed 3 days a week for 6 weeks. For the first two weeks, the experimental group received training from two experienced professionals; they were then provided with instruction sheets on how to continue at home. The control group performed aerobic exercise in the hospital under supervision for the first two weeks, then at home for the remainder of the program. Participants were instructed to perform aerobic exercise, such as walking on a treadmill or on the floor, or riding a stationary bike or exercise bicycle, at a light to moderate intensity, determined by achieving a rate of perceived exertion (RPE) of 9 to 14 (30–70% of maximum heart rate). Participants in the Buddhist Walking Meditation were asked to rhythmically swing their arms during the walk and used a left “mental label” for upward movements of the left leg and a right “mental label” for upward movements of the right leg. While performing this gesture, the participants brought their hands together in front of them with their eyes half closed. In phase 1 (weeks 1 and 2) both groups completed 30 min sessions at a light to moderate intensity. In phase 2 (weeks 3 and 4), sessions were extended to 35 min of light to moderate intensity, at least three times per week. In phase 3 (weeks 5 and 6), sessions were increased to 40 min of light to moderate intensity, at least three times per week. In conclusion, it is mentioned that there were no significant differences between the Buddhist Walking Meditation group and the aerobic exercise group. Furthermore, they comment that Buddhist Walking Meditation is not efficient in improving the functional capacity of patients with heart failure.

3.4.3. Mindful Walking

In the work of Shi et al. [43], participants performed a weekly 60 min session for 4 weeks. The session was divided into 10 min of general warm-up and 10 min of group instruction on mindful walking, and in the middle part of the session (30 min), participants were asked to mindfully observe their body sensations during a light, slow walk while concentrating on breaths, steps, and their experiences. While the control group continued with their normal routine, this was followed by 10 min to discuss experiences. The experimental group obtained improvements in perceived stress, physical activity levels, and depression levels.

In the study by Yang et al. [45], 8 sessions of 30 min, 2 times per week, participants performed slow walking on a flat route. The research team met with participants at the walk location to provide instruction on mindfulness techniques, and they were asked to walk more slowly than usual to increase their awareness and mindfulness. Progressively, concepts were added to the walk: rhythm of their breathing (i.e., inhalation and exhalation), reviewing the movement of each of their steps, mentally scanning the body to identify and accept sensations and/or feelings that arise during the walk. In the last two mindful walking sessions (7th and 8th), participants practiced all three mindfulness skills in sequence throughout their 30 min walk.

4. Discussion

The present review aimed to examine the effect of Buddhist Walking Meditation, Walking Meditation, or Mindful Walking on the health of adults and older adults. The findings demonstrate that these practices are not only safe and feasible, but they also produce significant improvements in physiological, psychological, and functional domains across diverse populations and contexts. Given the heterogeneity of the included studies, a meta-analysis was not feasible. Therefore, results were synthesized using a narrative synthesis approach.

As people age, there is a progressive decline in physical activity levels, with a substantial proportion of older adults failing to meet minimum physical activity recommendations [49], and it becomes increasingly difficult to get them to meet them [50]. Therefore, meditative, mindful, or Buddhist Walking Meditation is a viable and innovative approach to improve health and promote physical activity in adults and older adults.

One of the key findings is the versatility of Walking Meditation interventions. Although there is conceptual variability in how BWM, WM, or MW are defined and operationalized across studies, all approaches share an intentional focus on body awareness, rhythm of movement, and breath control. This structured attention to interoception and proprioception may partially explain the improvements observed in neuromuscular control, particularly ankle proprioception and postural balance [39,41]. These outcomes are of critical relevance in aging populations, where proprioceptive decline and balance impairment are major contributors to fall risk and loss of autonomy.

Regarding intervention dosage, there is general agreement that engaging in Walking meditation 2 to 3 times per week, for sessions lasting approximately 30 min, over a minimum of 4 weeks, is sufficient to elicit both physical and psychological benefits. These parameters are consistent with established physical activity guidelines, which recommend brisk walking for at least 30 min per day on 5 days per week to improve outcomes such as pain reduction, musculoskeletal function, mental health, and psychological resilience [51]. Additionally, although Walking Meditation itself provides significant benefits, engaging in this practice within natural environments may further enhance outcomes related to mood regulation and mindfulness, as exposure to nature has been associated with greater emotional well-being and cognitive restoration [52].

Beyond neuromuscular outcomes, Walking Meditation has demonstrated significant impacts on cardiovascular and metabolic health. Gainey et al. [40] found that Buddhist Walking Meditation improved glycemic control (HbA1c), blood pressure, and vascular stiffness in individuals with type 2 diabetes, surpassing the effects of traditional walking. These findings suggest that the mind-body synergy in Buddhist Walking Meditation may enhance autonomic regulation and stress-related metabolic processes. Given the global burden of diabetes and hypertension, integrating mindful movement into chronic disease management could offer a culturally acceptable and resource-efficient alternative to conventional exercise protocols.

Mental health benefits were consistently reported across several studies, particularly reductions in perceived stress [40,43], depression [42,43] and anxiety [46,47]. The psychological mechanisms underlying these effects may involve enhanced emotional regulation, attentional control, and vagal tone through mindfulness-based practices. Notably, these benefits were not restricted to clinical populations; improvements were observed even in healthy adults and older adults, underscoring the preventive potential of these interventions. Moreover, cognitive improvements—particularly in executive functions such as attention, planning, and processing speed—have been reported following short-term MW interventions [45]. These results align with neuroimaging evidence suggesting that mindfulness practices promote neuroplasticity in prefrontal and cingulate regions. In aging

populations, where cognitive decline is a major concern, these findings warrant further exploration, particularly in individuals with mild cognitive impairment or early-stage neurodegenerative diseases. Although neuroplasticity is a plausible mechanism underlying some of the cognitive benefits observed, current evidence from the included studies does not directly confirm such adaptations. Therefore, this explanation should be interpreted cautiously and supported by future research involving neurophysiological measurements.

Walking meditation also appears to be beneficial for individuals with chronic neurological disorders, with improvements observed in functional capacity, anxiety, and disease severity among people living with Parkinson's disease [47]. It is even a good tool for preventing falls in older adults [48] and promoting exercise adherence [47]. Given the coexistence of motor and non-motor symptoms in such conditions, interventions that combine physical movement with attentional focus may provide synergistic therapeutic benefits and complement pharmacological treatments.

A particularly relevant practical feature of these interventions is their high rate of adherence. The simplicity, low physical demand, and intrinsic motivational appeal of mindfulness-based walking may help reduce common psychological barriers to participation—such as fear of falling or low self-efficacy—especially in sedentary or vulnerable populations. This stands in contrast to traditional exercise programs, where older adults often exhibit high dropout rates due to physical limitations or lack of perceived competence [12].

However, not all studies reported positive outcomes. No significant improvements in functional capacity were found in patients with chronic heart failure following Buddhist Walking Meditation when compared to conventional aerobic exercise [44]. This finding may reflect a limitation of Buddhist Walking Meditation in populations that require higher cardiovascular demands for adaptation. Therefore, although Buddhist Walking Meditation may offer neuromotor, metabolic, and psychological benefits, it may not serve as a substitute for moderate- or high-intensity aerobic training when improvements in cardiorespiratory fitness are the primary goal.

While Buddhist Walking Meditation, Walking Meditation, and Mindful Walking share foundational principles such as attentional focus and rhythmic movement, some nuanced differences were observed. Buddhist Walking Meditation appeared to incorporate a deeper meditative framework, potentially enhancing mindfulness-related outcomes, whereas Walking Meditation and Mindful Walking interventions were more accessible and varied in duration and intensity. Despite these distinctions, all three modalities were associated with improvements in physical function and psychological well-being, suggesting a shared therapeutic potential.

4.1. Limitations and Strengths

This systematic review has several strengths. It followed PRISMA guidelines, was prospectively registered in PROSPERO, and included a comprehensive search in four databases using a defined PICO strategy. The methodological quality and risk of bias were independently assessed using the PEDro scale and the Cochrane RoB 2 tool, which provided a structured evaluation of the internal validity of the included studies.

However, several methodological limitations were observed across the studies. A major concern was the lack of blinding of participants, therapists, and assessors, which is common in physical activity interventions and increases the risk of performance and detection bias. None of the studies achieved full blinding, and many did not report allocation concealment. Additionally, small sample sizes were frequent, limiting statistical power and the generalizability of findings. The short duration of several interventions (4 to 12 weeks) may not have been sufficient to detect long-term effects. Other limitations

included heterogeneity in protocols, outcome measures, and instructor experience, which complicates comparison across studies.

Limitations specific to this review include the absence of a meta-analysis, which prevents estimation of pooled effect sizes. This was due to the heterogeneity of the included studies in terms of design, populations, and outcome measures. Consequently, a narrative synthesis approach was used to systematically summarize and interpret the findings. The search was limited to studies in English and Spanish, which may have introduced language bias, and gray literature was not included. Despite these limitations, this review highlights promising findings and provides a valuable synthesis of the effects of Buddhist Walking Meditation, Walking Meditation, and Mindful Walking in adult and older adult populations. It also identifies clear methodological areas that future research should aim to strengthen.

4.2. Future Lines of Investigation

Some future work options would be to expand Buddhist Walking Meditation, Walking Meditation, or Mindful Walking to younger populations, including adolescents and young adults, in order to evaluate potential developmental and preventive effects. Moreover, there is a need to investigate cardiovascular responses more specifically, including objective markers such as heart rate variability, blood pressure dynamics, and inflammatory biomarkers.

It is also recommended to examine the effects of these interventions in individuals with other chronic health conditions beyond those already studied—such as cancer, hypertension, or dyslipidemia—to assess their safety, feasibility, and therapeutic impact in more clinically diverse populations. Additionally, comparative studies between Walking meditation and other low-impact mind–body practices (e.g., yoga, tai chi, or Pilates) would provide valuable insights into the relative effectiveness and mechanisms of these approaches and help inform personalized physical activity prescriptions.

Finally, a meta-analysis is needed to quantify the actual effect size of the interventions.

4.3. Practical Recommendations

Buddhist Walking Meditation, Walking Meditation or Mindful Walking can be a good intervention strategy to promote physical activity and improve health in adults and older adults. Even in diseases such as Parkinson's disease and type II diabetes. Their low physical impact, simplicity, and meditative nature contribute to high adherence rates, making them particularly suitable for sedentary, aging, or clinically vulnerable populations. Therefore, these interventions could be effectively incorporated into public health programs, rehabilitation protocols, or community-based initiatives aimed at improving physical and mental well-being.

5. Conclusions

The evidence synthesized in this systematic review suggests that Buddhist Walking Meditation, Walking Meditation, and Mindful Walking are safe and potentially beneficial interventions for promoting physical and mental health in adults and older adults. Improvements were reported in several domains, including ankle proprioception, balance, functional fitness, selected cardiometabolic markers (such as HbA1c and blood pressure), and psychological well-being (stress, depression, and anxiety). However, due to the moderate-to-high risk of bias observed in most studies and methodological limitations such as small sample sizes and short intervention durations, these findings should be interpreted with caution. The current evidence base is promising but not yet sufficient to draw definitive conclusions about efficacy.

Future high-quality randomized controlled trials with larger samples, longer follow-up periods, and improved methodological rigor are needed to better determine the clinical relevance and sustainability of these practices. Additionally, comparative studies exploring the effectiveness of these interventions against other mind–body or conventional physical activity programs may provide further insight into their potential role in health promotion and rehabilitation contexts.

Supplementary Materials: The following supporting information can be downloaded at <https://www.mdpi.com/article/10.3390/psychiatryint6040122/s1>, Table S1: The PRISMA Checklist; Table S2: Search Strategies used in Each Database.

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References

1. Piggin, J. What is physical activity? A holistic definition for teachers, researchers and policy makers. *Front. Sports Act. Living* **2020**, *2*, 72. [CrossRef]
2. Piercy, K.L.; Troiano, R.P.; Ballard, R.M.; Carlson, S.A.; Fulton, J.E.; Galuska, D.A.; George, S.M.; Olson, R.D. The Physical Activity Guidelines for Americans. *J. Am. Med. Assoc.* **2018**, *320*, 2020–2028. [CrossRef]
3. Díaz Fuenzalida, C.; Mendoza Morales, A.; Rodríguez Campos, H.; Valdivia Moreno, J.; Herrera-Valenzuela, T.; Guzmán-Muñoz, E.; Magnani Branco, B.; Valdés-Badilla, P. Relationship between physical activity and quality of life in youth during the COVID-19 pandemic. *Rev. Cub. Med. Mil.* **2021**, *50*, e02101557. Available online: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S0138-65572021000400008 (accessed on 1 December 2024).
4. Montalva-Valenzuela, F.; Castillo-Paredes, A.; Farias-Valenzuela, C.; Andrades-Ramirez, O.; Concha-Cisternas, Y.; Guzmán-Muñoz, E. Effects of exercise, physical activity, and sports on physical fitness in adults with Down syndrome: A systematic review. *AIMS Public Health* **2024**, *11*, 577–600. [CrossRef]
5. Sharif, K.; Watad, A.; Bragazzi, N.L.; Lichtbroun, M.; Amital, H.; Shoenfeld, Y. Physical activity and autoimmune diseases: Get moving and manage the disease. *Autoimmun. Rev.* **2018**, *17*, 53–72. [CrossRef]
6. Warburton, D.E.R.; Bredin, S.S.D. Health benefits of physical activity: A systematic review of current systematic reviews. *Curr. Opin. Cardiol.* **2017**, *32*, 541–556. [CrossRef] [PubMed]
7. An, H.Y.; Chen, W.; Wang, C.W.; Yang, H.F.; Huang, W.T.; Fan, S.Y. The Relationships between Physical Activity and Life Satisfaction and Happiness among Young, Middle-Aged, and Older Adults. *Int. J. Environ. Res. Public Health* **2020**, *17*, 4817. [CrossRef] [PubMed]
8. Galloza, J.; Castillo, B.; Micheo, W. Benefits of Exercise in the Older Population. *Phys. Med. Rehab Clin. N. Am.* **2017**, *28*, 659–669. [CrossRef] [PubMed]
9. Latorre-Román, P.Á.; Martínez, A.V.N.; García-Pinillos, F. Effect of a physical activity program on sport enjoyment, physical activity participation, physical self-concept and quality of life in children with asthma. *Mot. Rev. De Educ. Física* **2015**, *21*, 386–392. [CrossRef]
10. Roe, J.; Mondschein, A.; Neale, C.; Barnes, L.; Boukhechba, M.; Lopez, S. The Urban Built Environment, Walking and Mental Health Outcomes Among Older Adults: A Pilot Study. *Front. Public Health* **2020**, *8*, 575946. [CrossRef]
11. Kraus, W.E.; Powell, K.E.; Haskell, W.L.; Janz, K.F.; Campbell, W.W.; Jakicic, J.M.; Troiano, R.P.; Sprow, K.; Torres, A.; Piercy, K.L.; et al. Physical Activity, All-Cause and Cardiovascular Mortality, and Cardiovascular Disease. *Med. Sci. Sports Exerc.* **2019**, *51*, 1270–1281. [CrossRef]

12. Rivera-Torres, S.; Fahey, T.D.; Rivera, M.A. Adherence to Exercise Programs in Older Adults: Informative Report. *Gerontol. Geriatr. Med.* **2019**, *5*, 2333721418823604. [\[CrossRef\]](#)
13. Franklin, B.A.; Eijssvogels, T.M.H.; Pandey, A.; Quindry, J.; Toth, P.P. Physical activity, cardiorespiratory fitness, and cardiovascular health: A clinical practice statement of the American Society for Preventive Cardiology Part II: Physical activity, cardiorespiratory fitness, minimum and goal intensities for exercise training, prescriptive methods, and special patient populations. *Am. J. Prev. Cardiol.* **2022**, *12*, 100425. [\[CrossRef\]](#)
14. Guthold, R.; Stevens, G.A.; Riley, L.M.; Bull, F.C. Worldwide trends in insufficient physical activity from 2001 to 2016: A pooled analysis of 358 population-based surveys with 1.9 million participants. *Lancet Glob. Health* **2018**, *6*, e1077–e1086. [\[CrossRef\]](#)
15. Mahindru, A.; Patil, P.; Agrawal, V. Role of Physical Activity on Mental Health and Well-Being: A Review. *Cureus.* **2023**, *15*, e33475. [\[CrossRef\]](#) [\[PubMed\]](#)
16. Lee, J.; West, D.; Pellegrini, C.; Wei, J.; Wilcox, S.; Neils-Strunjas, J.; Rudisil, C.; Friedman, D.; Marquez, D.; Dzwierzynski, J.; et al. Walking Interventions and Cognitive Health in Older Adults: A Systematic Review of Randomized Controlled Trials. *Am. J. Health Promot.* **2025**, *39*, 08901171251328858. [\[CrossRef\]](#) [\[PubMed\]](#)
17. NIH. National Library of Medicine. National Center for Biotechnology Information. MeSH. Walking. Available online: <https://www.ncbi.nlm.nih.gov/mesh/68016138> (accessed on 20 December 2024).
18. Donath, L.; Faude, O.; Roth, R.; Zahner, L. Effects of stair-climbing on balance, gait, strength, resting heart rate, and submaximal endurance in healthy seniors. *Scand. J. Med. Sci. Sports* **2014**, *24*, e93–e101. [\[CrossRef\]](#)
19. Battaglia, G.; Giustino, V.; Messina, G.; Faraone, M.; Brusa, J.; Bordonali, A.; Barbagallo, M.; Palma, A.; Dominguez, L.J. Walking in natural environments as geriatrician’s recommendation for fall prevention: Preliminary outcomes from the “passiata day” model. *Sustainability* **2020**, *12*, 2684. [\[CrossRef\]](#)
20. Li, Q.; Otsuka, T.; Kobayashi, M.; Wakayama, Y.; Inagaki, H.; Katsumata, M.; Hirata, Y.; Li, Y.; Hirata, K.; Shimizu, T.; et al. Acute effects of walking in forest environments on cardiovascular and metabolic parameters. *Eur. J. Appl. Physiol.* **2011**, *111*, 2845–2853. [\[CrossRef\]](#) [\[PubMed\]](#)
21. Sun, W.; Ma, X.; Wang, L.; Zhang, C.; Song, Q.; Gu, H.; Mao, D. Effects of Tai Chi Chuan and Brisk Walking Exercise on Balance Ability in Elderly Women: A Randomized Controlled Trial. *Mot. Control* **2019**, *23*, 100–114. [\[CrossRef\]](#) [\[PubMed\]](#)
22. Gomeñuka, N.A.; Oliveira, H.B.; Silva, E.S.; Costa, R.R.; Kanitz, A.C.; Liedtke, G.V.; Schuch, F.B.; Peyré-Tartaruga, L.A. Effects of Nordic walking training on quality of life, balance and functional mobility in elderly: A randomized clinical trial. *PLoS ONE* **2019**, *14*, e0211472. [\[CrossRef\]](#)
23. Branco, J.C.; Jansen, K.; Sobrinho, J.T.; Carrapatoso, S.; Spessato, B.; Carvalho, J.; Mota, J.; da Silva, R.A. Physical benefits and reduction of depressive symptoms among the elderly: Results from the Portuguese “National Walking Program”. *Cienc. Saude Coletiva* **2015**, *20*, 789–795. [\[CrossRef\]](#)
24. Ogilvie, D.; Foster, C.E.; Rothnie, H.; Cavill, N.; Hamilton, V.; Fitzsimons, C.F.; Mutrie, N.; Scottish Physical Activity Research Collaboration. Interventions to promote walking: Systematic review. *Br. Med. J.* **2007**, *334*, 1204. [\[CrossRef\]](#)
25. Kassavou, A.; Turner, A.; French, D.P. Do interventions to promote walking in groups increase physical activity? A meta-analysis. *Int. J. Behav. Nutr. Phys. Act.* **2013**, *10*, 18. [\[CrossRef\]](#)
26. Williams, D.M.; Matthews, C.E.; Rutt, C.; Napolitano, M.A.; Marcus, B.H. Interventions to increase walking behavior. *Med. Sci. Sports Exerc.* **2008**, *40*, S567–S573. [\[CrossRef\]](#)
27. Irvine, K.N.; Marselle, M.R.; Melrose, A.; Warber, S.L. Group Outdoor Health Walks Using Activity Trackers: Measurement and Implementation Insight from a Mixed Methods Feasibility Study. *Int. J. Environ. Res. Public Health* **2020**, *17*, 2515. [\[CrossRef\]](#)
28. Quintiliani, L.M.; Dedier, J.; Amezcua, M.; Sierra-Ruiz, M.; Romero, D.; Murillo, J.; Mahar, S.; Goodman, M.; Kane, J.; Cummings, D.; et al. Community Walks: A cluster randomized controlled trial of a multilevel physical activity intervention for low income public housing residents. *BMC Public Health* **2023**, *23*, 1676. [\[CrossRef\]](#)
29. Verma, G.; Araya, R. The effect of meditation on psychological distress among Buddhist Monks and Nuns. *Int. J. Psychiatry Med.* **2010**, *40*, 461–468. [\[CrossRef\]](#) [\[PubMed\]](#)
30. Kabat-Zinn, J. Walking Meditations. *Mindfulness* **2017**, *8*, 249–250. [\[CrossRef\]](#)
31. Van Lutterveld, R.; van Dellen, E.; Pal, P.; Yang, H.; Stam, C.J.; Brewer, J. Meditation is associated with increased brain network integration. *NeuroImage* **2017**, *158*, 18–25. [\[CrossRef\]](#) [\[PubMed\]](#)
32. Pickut, B.; Vanneste, S.; Hirsch, M.A.; Van Hecke, W.; Kerckhofs, E.; Mariën, P.; Parizel, P.M.; Crosiers, D.; Cras, P. Mindfulness Training among Individuals with Parkinson’s Disease: Neurobehavioral Effects. *Park. Dis.* **2015**, *2015*, 816404. [\[CrossRef\]](#)
33. Page, M.; McKenzie, J.; Bossuyt, P.; Boutron, I.; Hoffmann, T.; Mulrow, T.; Shamseer, L.; Tetzlaff, J.; Akl, E.; Brennan, S.; et al. The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *Br. Med. J.* **2021**, *372*, n71. [\[CrossRef\]](#)
34. Santos, C.M.D.C.; Pimenta, C.A.D.M.; Nobre, M.R.C. La estrategia PICO para la construcción de la pregunta de investigación y la búsqueda de evidencias. *Rev. Lat. Am. De Enferm.* **2007**, *15*, 508–511. [\[CrossRef\]](#)

35. Cascaes da Silva, F.; Valdivia Arancibia, B.; da Rosa Iop, R.; Barbosa Gutierrez Filho, P.; da Silva, R. Escalas y listas de evaluación de la calidad de estudios científicos. *Rev. Cuba. Inf. Cienc. Salud* **2013**, *24*, 295–312. Available online: http://scielo.sld.cu/scielo.php?script=sci_arttext&pid=S2307-21132013000300007&lng=es&tlng=es (accessed on 1 December 2024).
36. de Morton, N.A. The PEDro scale is a valid measure of the methodological quality of clinical trials: A demographic study. *Aust. J. Physiother.* **2009**, *55*, 129–133. [CrossRef]
37. Herbert, R.; Moseley, A.; Sherrington, C.; Maher, C. Escala PEDro-Español. *Cent. Evid. Based Physiother. (CEBP)* **2000**, *86*, 55. [CrossRef]
38. Jørgensen, L.; Paludan-Müller, A.S.; Laursen, D.R.; Savović, J.; Boutron, I.; Sterne, J.A.; Higgins, J.P.; Hróbjartsson, A. Evaluation of the Cochrane tool for assessing risk of bias in randomized clinical trials: Overview of published comments and analysis of user practice in Cochrane and non-Cochrane reviews. *Syst. Rev.* **2016**, *5*, 80. [CrossRef] [PubMed]
39. Chatutain, A.; Pattana, J.; Parinsarum, T.; Lapanantasin, S. Walking meditation promotes ankle proprioception and balance performance among elderly women. *J. Bodyw. Mov. Ther.* **2019**, *23*, 652–657. [CrossRef] [PubMed]
40. Gainey, A.; Himathongkam, T.; Tanaka, H.; Suksom, D. Effects of Buddhist walking meditation on glycemic control and vascular function in patients with type 2 diabetes. *Complement. Ther. Med.* **2016**, *26*, 92–97. [CrossRef]
41. Lapanantasin, S.; Thongloy, N.; Samsee, M.; Wonghirunsombat, N.; Nuangpulsarp, N.; Ua-Areejit, C.; Phattaraphanasakul, P. Comparative effect of walking meditation and rubber-band exercise on ankle proprioception and balance performance among persons with chronic ankle instability: A randomized controlled trial. *Complementary Ther. Med.* **2022**, *65*, 102807. [CrossRef]
42. Prakhinkit, S.; Suppakitiporn, S.; Tanaka, H.; Suksom, D. Effects of Buddhism walking meditation on depression, functional fitness, and endothelium-dependent vasodilation in depressed elderly. *J. Altern. Complement. Med.* **2014**, *20*, 411–416. [CrossRef]
43. Shi, L.; Welsh, R.S.; Lopes, S.; Rennert, L.; Chen, L.; Jones, K.; Zhang, L.; Crenshaw, B.; Wilson, M.; Zinzow, H. A pilot study of mindful walking training on physical activity and health outcomes among adults with inadequate activity. *Complementary Ther. Med.* **2019**, *44*, 116–122. [CrossRef]
44. Srisoongnern, S.; Pajareya, K.; Sriboon, R.; Thanakiatpinyo, T.; Chirakarnjanakorn, S.; Thirapatarapong, W. Effects of Buddhist walking meditation on exercise capacity and quality of life of patients with chronic heart failure: A randomized controlled trial. *Heart Lung J. Crit. Care* **2021**, *50*, 363–368. [CrossRef]
45. Yang, C.H.; Hakun, J.G.; Roque, N.; Sliwinski, M.J.; Conroy, D.E. Mindful walking and cognition in older adults: A proof of concept study using in-lab and ambulatory cognitive measures. *Prev. Med. Rep.* **2021**, *23*, 101490. [CrossRef] [PubMed]
46. Edwards, M.K.; Rosenbaum, S.; Loprinzi, P.D. Differential Experimental Effects of a Short Bout of Walking, Meditation, or Combination of Walking and Meditation on State Anxiety Among Young Adults. *Am. J. Health Promot.* **2018**, *32*, 949–958. [CrossRef]
47. Mitarnun, W.; Mitranun, W.; Mitarnun, W.; Pangwong, W. Home-Based Walking Meditation Decreases Disease Severity in Parkinson’s Disease: A Randomized Controlled Trial. *J. Integr. Complement. Med.* **2022**, *28*, 227–233. [CrossRef] [PubMed]
48. Phoobangkerdphol, C.; Limampai, P.; Dasri, S.; Kuptniratsaikul, V. Walking meditation versus balance training for improving balance abilities among older adults with history of fall: A randomized controlled trial. *Clin. Rehabil.* **2022**, *36*, 538–549. [CrossRef] [PubMed]
49. Office for Health Improvement and Disparities (OHID). Physical Activity: Applying All Our Health. Available online: <https://www.gov.uk/government/publications/physical-activity-applying-all-our-health/physical-activity-applying-all-our-health> (accessed on 22 December 2022).
50. Sallis, R.; Franklin, B.; Joy, L.; Ross, R.; Sabgir, D.; Stone, J. Strategies for promoting physical activity in clinical practice. *Prog. Cardiovasc. Dis.* **2015**, *57*, 375–386. [CrossRef] [PubMed]
51. Ungvari, Z.; Fazekas-Pongor, V.; Csiszar, A.; Kunutsor, S.K. The multifaceted benefits of walking for healthy aging: From Blue Zones to molecular mechanisms. *GeroScience* **2023**, *45*, 3211–3239. [CrossRef]
52. Ma, J.; Lin, P.; Williams, J. Effectiveness of nature-based walking interventions in improving mental health in adults: A systematic review. *Curr. Psychol.* **2024**, *43*, 9521–9539. [CrossRef]

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