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EFFECTIVENESS OF YOGA INTERVENTIONS ON RANGE OF MOTION, FLEXIBILITY, AND MOBILITY IN HEALTHY OLDER ADULTS: A SYSTEMATIC REVIEW

Nadia Yolanda*[1], Retno Indarwati[2], Setho Hadisuyatmana[3]
[1,2,3] Faculty of Nursing, Airlangga University, Indonesia
*e-mail: ***ndylnd2@gmail.com***

ABSTRACT

The aging process leads to a decline in physiological function. Older adults frequently experience reduced muscle strength, flexibility, balance, range of motion (ROM), and mobility, which can decrease physical activity and lower overall quality of life. Yoga serves as a non-pharmacological intervention with potential to improve physical function by combining posture exercises, stretching, breathing techniques, and relaxation. A literature search was conducted across the Scopus, ScienceDirect, and Web of Science databases for articles published between 2022 and 2026. Inclusion criteria comprised healthy older adults aged ≥60 years, yoga interventions, a comparison group, outcomes assessing ROM, flexibility, or mobility, and a Randomized Controlled Trial (RCT) study design. Methodological quality was evaluated using Joanna Briggs Institute (JBI) critical appraisal tools. Five RCT articles involving a total of 1,210 participants met the inclusion criteria. Interventions varied, including Iyengar Yoga, lifestyle-based yoga, structured yoga programs, and yoga combined with a Mediterranean diet. Findings indicate that yoga enhances upper and lower extremity flexibility, walking speed, balance, physical capacity, and functional mobility. Yoga is an effective, safe, non-pharmacological intervention to improve ROM, flexibility, and mobility in healthy older adults and support healthy aging. However, future community-based studies should focus on standalone yoga interventions and specify the exact type of yoga used to eliminate bias from confounding variables, supported by active involvement from community health workers.

Keywords: Yoga; Range of Motion; Flexibility; Mobility; Healthy Older Adults

INTRODUCTION

The global population of older adults continues to grow year by year. According to the World Health Organization (2024), the proportion of the world's population over 60 years old is expected to nearly double from 12% in 2015 to 22% by 2050. Additionally, the total number of older adults worldwide is projected to rise from 1.1 billion in 2023 to 1.4 billion by 2030. This trend indicates that population aging poses a major challenge for healthcare systems globally, including in Indonesia.

In Indonesia, the elderly population has also show a significant increase. Statistics Indonesia (BPS) reported that the proportionof older adults reached 12.00% in 2024, an increase compared to previous years (Sari et al., 2024). Beteen 2020 and 2024, the percentage of individuals aged 60 and above steadily grew by nearly 2% over the five-year period, signaling thath Indonesia is rapidly entering an aging population era (BKKBN, 2025). This condition underscores the need to ensure that increased life expectancy is accompanied by efforts to maintain health,

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functional ability, and independence, ensuring that aging is focused not just on longevity, but on quality of life.

The aging process leads to a decline in physiological body functions, particularly within the musculoskeletal system. Older adults frequently experience reductions in muscle strength, flexibility, balance, range of motion (ROM), and mobility. These declines increase the risk of falls, restrict physical activity, and ultimately lower overall quality of life. Decreased muscle strength and flexibility can impair mobility and heighten the risk of functional limitation and disability (Zhang et al., 2023). Furthermore, everyday tasks like climbing stairs require good muscle strength, balance, and ROM; limitations in these areas can directly reduce an older person's independence (Gupta et al., 2023)

Reduced flexibility and mobility in older adults are also closely linked to a higher fall risk and a fear of falling. The WHO notes that balance and mobility impairments in the elderly are primary causes of injury and diminished quality of life. An excessive fear of falling is a common issue among older adults that can erode self-confidence, limit physical activity, and worsen overall mobility (Kashyap et al., 2023). This condition often causes older individuals to become increasingly passive, which accelerates physical decline.

To preserve and improve physical function in older adults, various exercise interventions have been developed, one of which is yoga. Yoga is a mind-body practice that combines physical postures, breathing techniques, relaxation, and meditation. A study by Meiliana et al., (2025) involving 41 elderly individuals aged 60 to 87 showed that those who practiced yoga for over a year—once a week for 60 minutes per session—tended to have lower SARC-F scores compared to those who did not practice yoga. However, this difference was not statistically significant. Therefore, while yoga shows potential as a complementary therapy to support muscle health in older adults, it has not yet been proven to directly prevent sarcopenia. Another study by Shete et al., (2026) showed that a 12-week yoga program given to 26 elderly residents in a nursing home, lasting 60 minutes per session, can improve balance and functional mobility in older adults. The results showed a significant improvement in balance in the intervention group ($p < 0.001$). These findings suggest that yoga practice has the potential to be an intervention to help maintain and improve balance abilities in the elderly.

Furthermore, combining yoga with a Mediterranean diet has been shown to enhance upper and lower extremity flexibility, gait, balance, and muscle strength in community-dwelling older adults (Carcelén-Fraile et al., 2024). Combining yoga with physiotherapy produced better improvements in ROM, balance, and lower limb muscle strength compared to physiotherapy alone in older adults with stair climbing limitations (Gupta et al., 2023). TThese findings highlight yoga's potential as an effective non-pharmacological intervention for maintaining physical function in older adults.

Several types of yoga commonly practiced by older adults include Hatha Yoga, chair yoga, gentle yoga, and lifestyle-based yoga. Yoga programs for seniors can be conducted individually or in groups at light-to-moderate intensities, making them relatively safe and easy to implement in community settings. Hatha Yoga practice in older adults can improve flexibility, ROM, and balance without placing excessive strain on the body (Grabara, 2025). Meanwhile, an 8-week chair yoga program was found to improve balance, gait, functional mobility, and several quality-of-life domains among older adults in community facilities (Smith et al., 2025).

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Despite the widely reported benefits of yoga, research findings remain varied—particularly regarding its effectiveness in improving range of motion (ROM), flexibility, and mobility in healthy older adults. Variations in yoga types, intervention duration, session frequency, and outcome measures across existing studies highlight the need for a more comprehensive synthesis of scientific evidence. Therefore, this systematic review aims to analyze the effectiveness of yoga interventions in improving ROM, flexibility, and mobility in healthy older adults based on Randomized Controlled Trials (RCTs). The findings of this systematic review are expected to serve as a scientific foundation for developing safe, effective, and practical yoga-based physical exercise interventions to enhance physical function and quality of life in older adults.

METHODS

Search Strategy and Eligibility Criteria

This study utilized a systematic review design to identify and analyze relevant literature regarding the effectiveness of yoga interventions on range of motion (ROM), flexibility, and mobility in older adults. A comprehensive literature search was conducted across three database : Scopus, ScienceDirect, and Web of Science.

The Search strategy applied a combination of keyword structured according to the PICOS framework, including terms such as *yoga", "range of motion", "flexibility", "mobility", "older adults","elderly" dan "randomized controlled trial"* using Boolean operators (AND,OR).

The search strategy for the Scopus database used a combination of keyword : ("elderly" OR "older adults" OR "aging" OR "geriatric") AND ("yoga" OR "Hatha Yoga" OR "chair yoga" OR "yoga therapy") AND ("range of motion" OR "ROM" OR "flexibility" OR "joint mobility") AND ("randomized controlled trial" OR "RCT")

The search strategy for the ScienceDirect database used a combination of keyword : (older adults OR elderly) AND yoga AND (range of motion OR flexibility OR joint mobility) AND (RCT OR randomized controlled trial)

The search strategy for the Web of Science database used a combination of keyword : ((elderly OR "older adults" OR "older people" OR aging OR geriatric) AND (yoga OR "yoga intervention*" OR "Hatha Yoga" OR "chair yoga" OR "yoga therapy") AND ("range of motion" OR ROM OR flexibility OR "joint mobility" OR "physical function") AND ("randomized controlled trial" OR RCT))

The retrieved articles were subsequently screened based on inclusion and exclusion criteria using the predefined PICOS framework.

Table 1. PICOS framework

PICOS	Inclusion Criteria	Exclusion Criteria
P (Population)	Healthyy older adults (≥60 years old), without severe musculoskeletal disorders or acute illnesses, elderly, older adults	Individuals under 60 years old, adolescents, adults, children
I (Intervention)	Yoga Interventions (*Hatha Yoga*, chair yoga, gentle yoga, etc.)	Non yoga based intervenstions
C (Comparison)	No intervention, usual care or other exercises (e.g., stretching, physiotherapy, conventional gymnastics/aerobics)	No control or comparison group

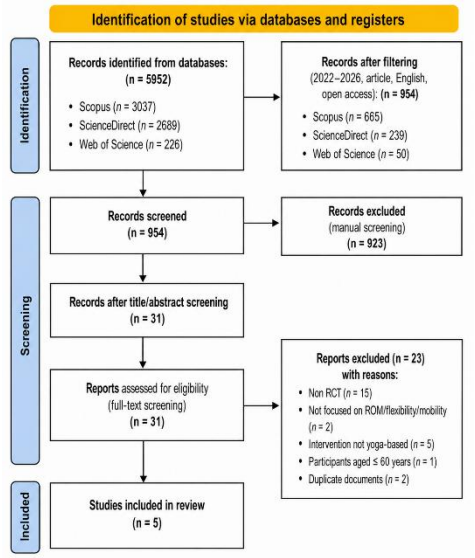
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O (Outcome)	Improvements in range of motion (ROM), joint flexibility, and mobility	Studies that do not focus on ROM, flexibility, or mobility
S (Study Design)	Randomized Controlled Trial (RCT)	quasi experimental, pre-post test design, cross-sectional, literature review, systematic review, case report, editorial

Data Analysis

The article selection process followed the PRISMA flow diagram, starting with the identification of records from the three databases based on the search terms. Screening was then conducted based on titles, abstracts, full-text reading, and alignment with the inclusion and exclusion criteria.

The initial database search yielded a total of 5,953 articles: Scopus (n = 3,037), ScienceDirect (n = 2,689), and Web of Science (n = 226). Search limits and filters were then applied within each database (publication years: 2022–2026, document type: original research articles, language: English, and open access availability). This refined the selection to 954 articles: Scopus (n = 665), ScienceDirect (n = 239), and Web of Science (n = 50).



Gambar 1. PRISMA

Critical Appraisal

Article quality was assessed using the Joanna Briggs Institute (JBI) tools based on each article's study design. Ratings were given as Y = Yes, N = No, U = Unclear, and NA = Not Applicable."

Table 2. JBI Critical Appraisal Tools for Randomized Controlled Trials

No	Author & Years	Title	1	2	3	4	5	6	7	8	9	10	11	12	13	Score
1	Oliveira et al., 2025	The Effect of an Iyengar Yoga-Based Exercise Programme versus a Seated Yoga Relaxation Programme on Falls in People Aged	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	11

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		60 Years and Older (SAGE) (2025)													
2	Snigdha et al., 2024	Yoga-Based Lifestyle Intervention for Healthy Ageing in Older Adults (2024)	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	11
3	Ko et al., 2026	Development of an Evidence-Based Yoga Programme for Community-Dwelling Older Adults (2026)	Y	U	Y	N	N	Y	Y	Y	Y	Y	Y	Y	10
4	Carcelén-Fraile et al., 2024	Effects of a Yoga Program Combined with a Mediterranean Diet on Nutritional Status and Functional Capacity in Community-Dwelling Older Adults (2024)	Y	Y	Y	U	U	Y	Y	Y	Y	Y	Y	Y	11
5	Kashyap et al., 2023 (YOFEAR Trial)	Yoga Therapy on Elderly Patients with Fear of Fall (YOFEAR Trial) (2023)	Y	Y	Y	N	N	U	Y	Y	U	Y	Y	Y	9

Table 3. Theme Analysis of Full Text Assessment

No	Penulis & Tahun	Partisipan	Intervensi	Outcome Measurement (Tools)	Metode Penelitian	Hasil Penelitian
1	Oliveira et al., 2025	700 community-dwelling adults ≥60 years old (350 intervention; 350 control)	Iyengar Yoga, 2x/week, 60 mins/session, for 12 months; plus 2 days/week of self-directed home practice	Fall rate, planned physical activity, balance confidence, quality of life, sleep, pain, goal attainment	**Desain:** Pragmatic Parallel RCT.	The yoga program did not reduce fall rates. In fact, fall rates were higher in the yoga group (IRR=1.33; p=0.044). However, yoga increased planned physical activity (+0.96 hours/week), balance confidence, and individual goal attainment. No significant effect was found on quality of life, pain, or sleep.
2	Snigdha et al., 2024	258 sedentary older adults aged 60–80 years (132 yoga; 126 control)	Yoga-Based Lifestyle Intervention, 26 weeks, several sessions/week under a	Healthy Ageing Panel (10 indikator), cognitive function, physical capability, psychological wellbeing,	**Desain:** Assessor-Masked RCT.	The yoga intervention provided significant improvements across all healthy ageing domains. There were increases in physical, cognitive, psychological, and social function, as well as an increase in

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			structured healthy ageing program	social wellbeing, inflammatory markers, Klotho		anti-aging biomarkers (Klotho) and a reduction in inflammation. Overall global effect was significant ($p<0.001$).
3	Ko et al., 2026	74 community-dwelling older adults (mean age 67.6 years)	Evidence-based yoga program for 8 weeks	Short Physical Performance Battery (SPPB), Depression Anxiety Stress Scale-21 (DASS-21), wawancara kualitatif	**Desain :** Mixed-Methods Pilot RCT.	High attendance rate (89.9%). Yoga was well received by participants. Improvements were observed in walking speed, flexibility, and reductions in depression, anxiety, and stress. The main obstacle was low adherence to home self-practice.
4	Carcelén-Fraile et al., 2024	116 community-dwelling older adults (57 intervention; 59 control)	Yoga + Mediterranean Diet for 12 weeks	Mini Nutritional Assessment (MNA), Back Scratch Test, Chair Sit-and-Reach, Tinetti Scale, Handgrip Dynamometer, 30s Chair Stand Test	**Desain :** Randomized Controlled Clinical Trial.	After 12 weeks, there were improvements in nutritional status, balance, upper and lower extremity flexibility, as well as grip strength and lower limb strength. The largest effect was found in lower body strength (d=0.81).
5	Kashyap et al., 2023 (YOFEAR Trial)	62 older adults ≥60 years with fear of falling (31 intervention; 31 control)	Structured Yoga Therapy for 12 weeks combined with standard therapy for primary illness	Falls Efficacy Scale (FES), Berg Balance Scale (BBS), Quality of Life	**Desain :** Open Label Randomized Controlled Trial.	The protocol demonstrated that yoga aims to improve balance and reduce fear of falling by enhancing proprioception and body awareness. Primary outcomes were changes in FES and BBS scores after 12 weeks of intervention.

RESULT

Characteristics of Reviewed Articles

Based on the article selection process using the PICOS criteria, five Randomized Controlled Trial (RCT) studies met the inclusion criteria and were included in the synthesis: (Oliveira et al., 2025), (Snigdha et al., 2024), (K. Y. Ko et al., 2026), (Carcelén-Fraile et al., 2024), (Kashyap et al., 2023). All studies involved healthy older adults or older adults who were independent in their daily activities, aged ≥60 years old. The interventions provided various forms of yoga,

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such as Iyengar-based yoga, lifestyle-based yoga, structured yoga programs, and yoga combined with a Mediterranean diet. The comparison groups included non-intervention control groups, usual care, wait-list control groups, and seated relaxation programs. The primary outcomes relevant to this systematic review included mobility, flexibility, balance, gait (walking ability), and movement-related physical function.

Table 4. Characteristics of Synthesized Studies

Auhtor	Sampel	Intervention	Duration	Primary Outcome
Oliveira et al., 2025	700 older adults	Yoga Iyengar	12 months	Mobility, balance, physical activity
Snigdha et al., 2024	258 older adults	Yoga-Based Lifestyle Intervention	26 weeks	Physical capacity and healthy ageing
Ko et al., 2026	74 older adults	Evidence-based yoga program	8 weeks	Flexibility, walking speed
Carcelén-Fraile et al., 2024	116 older adults	Yoga + Mediterranean diet	12 weeks	Flexibility, gait, balance
Kashyap et al., 2023	62 older adults	Structured yoga therapy	12 weeks	Mobility and balance

Systematic Review Results

No	Auhtor & Year	Research Method	Intervention	Research Result
1	Oliveira et al., 2025	**Desain:** Pragmatic Parallel RCT. **Sampel:** 700 older adults aged ≥60 years. **Variabel Independen:** Iyengar Yoga Program **Variabel Dependen:** fall incidence, physical activity, balance, quality of life, pain, sleep **Instrumen:** Fall Calendar, Goal Attainment Scale, Physical Activity Questionnaire, Balance Confidence Scale.	Iyengar Yoga, 2x/week, 60 mins/session, for 12 months; plus 2 days/week of self-directed home practice	The yoga program did not reduce fall rates. In fact, fall rates were higher in the yoga group (IRR=1.33; p=0.044). However, yoga increased planned physical activity (+0.96 hours/week), balance confidence, and individual goal attainment. No significant effect was found on quality of life, pain, or sleep.
2	Snigdha et al., 2024	**Desain:** Assessor-Masked RCT. **Sampel:** 258 older adults aged 60–80 years **Variabel Independen:** Yoga-Based Lifestyle Intervention 26 minggu. **Variabel Dependen:** Healthy Aging Phenotype (physical, metabolic, cognitive, psychological, social) **Instrumen:** Healthy Ageing Panel, Klotho, CRP, TNF-RII.	Yoga-Based Lifestyle Intervention, 26 weeks, several sessions/week under a structured healthy ageing program	The yoga intervention provided significant improvements across all healthy ageing domains. There were increases in physical, cognitive, psychological, and social function, as well as an increase in anti-aging biomarkers (Klotho) and a reduction in inflammation. Overall global effect was significant (p<0.001).

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3	Ko et al., 2026	**Desain:** Mixed-Methods Pilot RCT. **Sampel:** 74 community-dwelling older adults **Variabel Independen:** 8-week evidence-based yoga program **Variabel Dependen:** Physical and psychological function **Instrumen:** Short Physical Performance Battery (SPPB), DASS-21, Semi-Structured Interviews	Evidence-based yoga program for 8 weeks	High attendance rate (89.9%). Yoga was well received by participants. Improvements were observed in walking speed, flexibility, and reductions in depression, anxiety, and stress. The main obstacle was low adherence to home self-practice.
4	Carcelén-Fraile et al., 2024	**Desain:** Randomized Controlled Clinical Trial. **Sampel:** 116 community-dwelling older adults (57 intervention; 59 control) **Variabel Independen:** Yoga + Mediterranean Diet **Variabel Dependen:** Nutritional status, flexibility, balance, gait (walking pattern), muscle strength **Instrumen:** Mini Nutritional Assessment, Back Scratch Test, Chair Sit-and-Reach, Tinetti Scale, Dynamometer, Chair Stand Test.	Yoga + Mediterranean Diet for 12 weeks	After 12 weeks, there were improvements in nutritional status, balance, upper and lower extremity flexibility, as well as grip strength and lower limb strength. The largest effect was found in lower body strength (d=0.81).
5	Kashyap et al., 2023 (YOFEAR Trial)	**Desain:** Open Label Randomized Controlled Trial. **Sampel:** 62 older adults with fear of falling **Variabel Independen:** Structured Yoga Therapy. **Variabel Dependen:** Fear of Fall, Keseimbangan, Quality of Life. **Instrumen:** Falls Efficacy Scale (FES), Berg Balance Scale (BBS), Quality of Life Scale.	Structured Yoga Therapy for 12 weeks combined with standard therapy for primary illness	The protocol demonstrated that yoga aims to improve balance and reduce fear of falling by enhancing proprioception and body awareness. Primary outcomes were changes in FES and BBS scores after 12 weeks of intervention.

Effect of Yoga Interventions on Range of Motion and Flexibility

Of the five reviewed studies, two directly evaluated changes in flexibility and range of motion. A study by Carcelén-Fraile et al., (2024) demonstrated that a 12-week yoga program combined with a Mediterranean diet resulted in significant improvements in both upper and lower limb flexibility. Improvements were observed in the Back Scratch Test and the Chair Sit-and-Reach Test, with moderate to large effect sizes.

Similar findings were obtained in a study by Ko et al., (2026), which reported that an 8-week evidence-based yoga program provided greater flexibility improvements compared to the control group. Additionally, participants reported reduced bodily stiffness and enhanced ability to perform daily activities.

These results indicate that yoga practice—which combines static stretching, body postures (asanas), and breathing exercises—can enhance soft tissue

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elasticity, improve joint mobility, and maintain range of motion in healthy older adults.

Table 5. Effects of Yoga Interventions on Flexibility

Auhtor	Instrument	Result
Ko et al., 2026	SPPB and flexibility assessments	Flexibility increased compared to the control group
Carcelén-Fraile et al., 2024	Back Scratch Test, Chair Sit-and-Reach Test	Significant improvement in upper and lower extremity flexibility

Effects of Yoga Interventions on Mobility

Four articles demonstrated an increase in mobility following yoga interventions. A significant increase in walking speed (gait speed) was observed after participating in an 8-week yoga program (K. Y. Ko et al., 2026). This increase indicates an improvement in functional ability and mobility in older adults during daily activities.

Participants in the yoga group showed better improvements in walking ability (gait) and balance compared to the control group after a 12-week intervention (Carcelén-Fraile et al., 2024).

Although the Iyengar yoga program did not reduce the incidence of falls, yoga increased planned physical activity and balance confidence, both of which are closely linked to improved mobility in older adults (Oliveira et al., 2025)

A 26-week yoga-based lifestyle intervention improved various physical capacity indicators that serve as key components of mobility, including physical function, balance, and movement capability (Snigdha et al., 2024).

Table 6. Effects of Yoga Intervention on Mobility

Author	Mobility Outcome	Result
Oliveira et al., 2025	Physical activity and balance	Significantly increased
Snigdha et al., 2024	Physical capacity	Significantly increased
Ko et al., 2026	Gait speed	Significantly increased
Carcelén-Fraile et al., 2024	Gait dan keseimbangan	Significantly increased
Kashyap et al., 2023	Fear of falling and balance	Improvement in balance and mobility

DISSCUSION

Effectiveness of Yoga Interventions on Range of Motion (ROM) in Healthy Older Adults

The results of this systematic review indicate that yoga interventions positively impact the increase in range of motion (ROM) in healthy older adults. Improvements in ROM were notably reported by Carcelén-Fraile et al., (2024), who conducted a randomized controlled clinical trial on 116 older adults (57 in the intervention group and 59 in the control group). Their study showed that a 12-week yoga program combined with a Mediterranean diet significantly improved upper and lower limb flexibility. Another study by Ko et al., (2026) involving 74 community-dwelling older adults demonstrated that an 8-week evidence-based yoga intervention led to increased flexibility and reduced body stiffness.

The increase in ROM observed across these studies is likely attributed to yoga's core characteristics, which involve repetitive active and static stretching

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movements. Asana practice helps improve the elasticity of muscles, tendons, ligaments, and joint capsules, thereby allowing an increase in joint range of motion without placing excessive stress on the musculoskeletal system of older adults. This finding is supported by Gupta et al., (2023), who demonstrated that a 12-week combination of yoga and physiotherapy resulted in greater ROM improvements in the hip, knee, and ankle joints compared to physiotherapy alone. Yoga also enhances body awareness and proprioception, which contribute to improved movement function in older adults.

These results align with a systematic review and meta-analysis conducted by K. yan Ko et al., (2023), which concluded that yoga significantly increases flexibility and range of motion in older adults through a combination of stretching exercises, muscle strengthening, breathing exercises, and meditation. Their meta-analysis showed that yoga had a significant effect on flexibility with a moderate effect size (SMD = 0.38). Additionally, Grabara, (2025) revealed that Hatha Yoga practice involves various postures that improve flexibility, joint mobility, coordination, and balance, making it a comprehensive physical activity for older adults. Regular yoga practice can help maintain musculoskeletal function, which tends to decline due to the aging process.

Thus, the results of this review indicate that yoga can be an effective option for maintaining and improving ROM in healthy older adults. This supports their independence in daily activities to achieve healthy aging.

Effectiveness of Yoga Interventions on Flexibility in Healthy Older Adults

Flexibility is a component of physical fitness that declines with age due to decreased connective tissue elasticity, reduced muscle strength, and diminished joint mobility. Based on the review findings, studies by Carcelén-Fraile et al., (2024) and Ko et al., (2026) show that yoga provides significant flexibility improvements in healthy older adults.

This improvement in flexibility likely occurs because yoga integrates slow, controlled stretching movements that are held for specific durations. Such exercises can increase muscle length, reduce connective tissue stiffness, and enhance the elasticity of periarticular structures. Consequently, older adults are able to perform various body movements with greater ease and comfort.

These findings are reinforced by Jangphonak et al., (2025), who showed that a six-week yoga program combined with elastic band exercises significantly improved Chair Sit and Reach Test scores—a key indicator of lower extremity flexibility. Furthermore, participants experienced simultaneous improvements in strength and balance.

Study by Krejčí et al., (2022) also reported that a four-week chair yoga intervention improved balance and shoulder ROM while enhancing body composition in older adults. The authors explained that the combination of flexibility training, joint mobility, and postural control in yoga contributes to overall movement function enhancement. These findings are further corroborated by Smith et al., (2025), who reported that an eight-week chair yoga program benefited flexibility, balance, functional strength, and walking ability in older adults aged 77–92 years. Chair yoga serves as a safe alternative, particularly for older adults with physical limitations, as most movements are performed in a seated position.

Overall, the findings show that yoga effectively improves flexibility and musculoskeletal elasticity. However, because the studies analyzed had relatively

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short intervention periods (four to eight weeks), further long-term studies are needed to confirm whether these benefits and functional capacities are sustained over time.

Effectiveness of Yoga Interventions on Mobility and Movement-Related Physical Function in Healthy Older Adults

Mobility is an individual's ability to move independently and safely when performing daily activities. The results of this systematic review consistently show that yoga improves mobility in healthy older adults. Ko et al., (2026) demonstrated an increase in walking speed (gait speed), while Carcelén-Fraile et al., (2024) found improvements in gait performance and balance following a 12-week yoga intervention.

In the study by (Snigdha et al., 2024) the intervention was not limited to physical yoga movements, but rather a 26-week yoga-based lifestyle intervention involving 132 older adults in the intervention group and 126 in the waitlist control group. This program combined physical sessions (asana postures and breathing techniques) with education and daily dietary advice based on healthy nutrition principles for older adults. Regarding improvements in physical capacity supporting mobility, the study reported significant enhancements in two main parameters: gait speed and hand grip strength. Increased gait speed is directly related to smoother and more efficient daily mobility in older adults, while improved hand grip strength reflects overall musculoskeletal muscle strength. However, it should be noted that providing additional dietary advice to the intervention group without separate dietary monitoring in the control group may act as a confounding factor that could influence the observed improvements in physical function and capacity.

This finding is supported by Kashyap et al., (2023) who stated that yoga has the potential to increase Berg Balance Scale (BBS) scores and reduce fear of falling in older adults. Improvements in balance and reduced fear of falling directly impact increased mobility and participation in daily activities.

Shete et al., (2026) further reinforced these findings. After participating in a 12-week yoga program, older adults experienced significant improvements in balance and functional mobility, along with reductions in fear of falling, depression, and anxiety. The researchers explained that combining posture practice, breathing control, and meditation helps enhance postural control and safe movement capability. Similar results were reported by Krejčí et al., (2022), who showed that four weeks of chair yoga significantly improved static, dynamic, and overall balance scores compared to the control group. These balance improvements contributed to a reduced risk of falls and enhanced mobility in older adults.

Additionally, the meta-analysis by K. yan Ko et al., (2023) showed that yoga exerts a large effect on balance (SMD = 0.81) and a moderate effect on muscle strength (SMD = 0.49). Both components are primary determinants of mobility in older adults. Therefore, the balance and strength gains achieved through yoga help explain why most studies report improvements in walking ability and movement-related physical function.

Overall, the findings of this systematic review demonstrate that yoga is an effective intervention for enhancing mobility and movement-related physical function in healthy older adults. These benefits are attained through gains in flexibility, ROM, muscle strength, balance, postural control, and movement confidence. Consequently, yoga can be recommended as a safe and effective physical activity to support healthy aging and preserve independence in daily life.

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CONCLUSION

Based on the results of a systematic review of five Randomized Controlled Trial (RCT) articles meeting the PICOS criteria, it can be concluded that yoga interventions are effective in improving range of motion (ROM), flexibility, and mobility in healthy older adults aged ≥60 years.

Improvements in ROM and flexibility were demonstrated through better joint movement capacity in both upper and lower extremities following various yoga programs, including lifestyle-based yoga, structured yoga, and yoga combined with a Mediterranean diet. Yoga practice—which incorporates postures (asanas), stretching, muscle strengthening, breath control, and relaxation—has been proven to enhance musculoskeletal tissue elasticity and maintain motor function in older adults.

In addition, yoga interventions consistently provide benefits for mobility and movement-related physical function. Most studies showed improvements in balance, walking ability (gait), physical capacity, and confidence in performing daily activities by enhancing muscle strength, postural stability, balance, and functional mobility, which are essential components for maintaining functional independence in late life. Therefore, yoga can be recommended as a safe, feasible, and effective non-pharmacological intervention to support healthy ageing and enhance movement-related physical function in healthy older adults.

Nevertheless, available studies still show variations in the types of yoga, intervention durations, exercise frequencies, combinations with other interventions (such as the Mediterranean diet), and outcome measurement tools. Therefore, further RCT studies with more standardized methodologies, larger sample sizes, and longer follow-up periods are needed to strengthen the evidence regarding the effectiveness of yoga on ROM, flexibility, and mobility in healthy older adults.

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