

# The Effectiveness of Chair Yoga in Older Adults: A Literature Review

Clarity Marwein<sup>1</sup>, Dr. Anjali Suresh<sup>2</sup>, Dr. R. Sedhunivas<sup>3</sup>

<sup>1</sup>MPT (CBR) Final Year Student, Department of Physiotherapy, School of Health Sciences, Garden City University, Bangalore, Karnataka, India

Corresponding author Email: [cmarwein98\[at\]gmail.com](mailto:cmarwein98[at]gmail.com)

<sup>2</sup>Professor, and HOD, Department of Physiotherapy, School of Health Sciences, Garden City University, Bangalore, Karnataka, India

<sup>3</sup>Assistant Professor, Department of Physiotherapy, School of Health Sciences, Garden City University, Bangalore, Karnataka, India

**Abstract:** **Background:** Chair yoga is a form of yoga that can be done while the patient is sitting or while he is standing by using a chair as the supportive device. This modification allows seniors with fear of fall and impaired balance to practice safely. Chair yoga (CY) is a type of yoga that can be done anywhere, anytime, and can be practiced while sitting in any chair except the one with wheels<sup>(1)</sup>. The purpose of the study was to find whether Chair Yoga is effective in improving the mobility, functional independence and improving the quality of life of older adults. **Objective:** The objective of the study is to review the literature for finding the effectiveness of Chair yoga in improving the quality of life in older adults. 22 articles were selected with the terms Chair yoga techniques used. **Results:** The data were tabulated according to the type of study, number of participants in the study, the condition being treated, treatment given, outcome measures and results. Out of 21 articles, 18 articles says that chair yoga is effective than other therapeutical treatment. They say that it is more effective in elderly and lower extremity problems. **Conclusion:** This review found mixed responses to the outcome measures used for chair yoga techniques. These contrasting results reveal the need for future research. This may help researchers to conduct research using chair yoga for older adults and further develop protocols to enhance better interpretations and the need for Evidence - Based Information.

**Keywords:** Chair yoga, Geriatric.

## 1. Introduction

Yoga is a system of exercises that aim at training the consciousness by creating harmony between the body and the spirit for a state of perfect spiritual insight and tranquillity to promote control of the body and mind. Yoga was taken from the Sanskrit core 'Yuj,' which means join or attach<sup>(2)</sup>. Yoga was recommended as a form of "total - solution" exercise for seniors by the National Recreation and Park Association. Though yoga has shown dramatic improvements in functions among seniors, it also has undesirable side effects since older adults generally have lesser strength and balance and a greater prevalence of osteoarthritis<sup>(3)</sup>. So, older adults are at a of developing musculoskeletal and neurological complications when practicing on a mat. Chair yoga is a form of yoga that can be done while the patient is sitting or while he is standing while by using a chair as the supportive device<sup>(1)</sup>. It can be done anywhere using any stable chair, except those with wheels. There is no specific yoga chair. Chair yoga can become an ideal intervention for seniors because of its cost - effective nature and because the patient does not need to engage in strenuous activity. For older adults with physical limitations who are force to be constantly seated for prolonged periods chair yoga can make them move, find awareness of the body, be more productive and happier. There is no specific yoga chair, any stable chair can be used except those with wheels as it might slip. Chairs can be seated for support, use during standing poses for balance, or used as a prop for modifying poses. A mat is not mandatory, but sometimes it is recommended that the mats be prepared for any wear and tear (placing the chair on the mat). Small non - slip pads can be placed under the chair to avoid placing the chair on the mat to reduce damage to the mat. Most yoga classes

incorporate bare feet as part of the experience, but by no means it is necessary. If there are orthotics in the shoes that will support the feet and arches, the subjects can keep their shoes on.

The need of the study firstly should fulfill the inclusion criteria and furthestmost as many articles must be reviewed on chair yoga in older adults with outcomes on mobility and functional independence. Articles must be reviewed on the technique for Extensive research.

The objective of the study includes:

- To review the literature to find the effectiveness of Chair yoga in improving mobility.
- To review the literature to find the effectiveness of chair yoga in improving Functional independence.
- To review the literature to find the effectiveness of chair yoga in improving Quality of Life.

## 2. Methodology

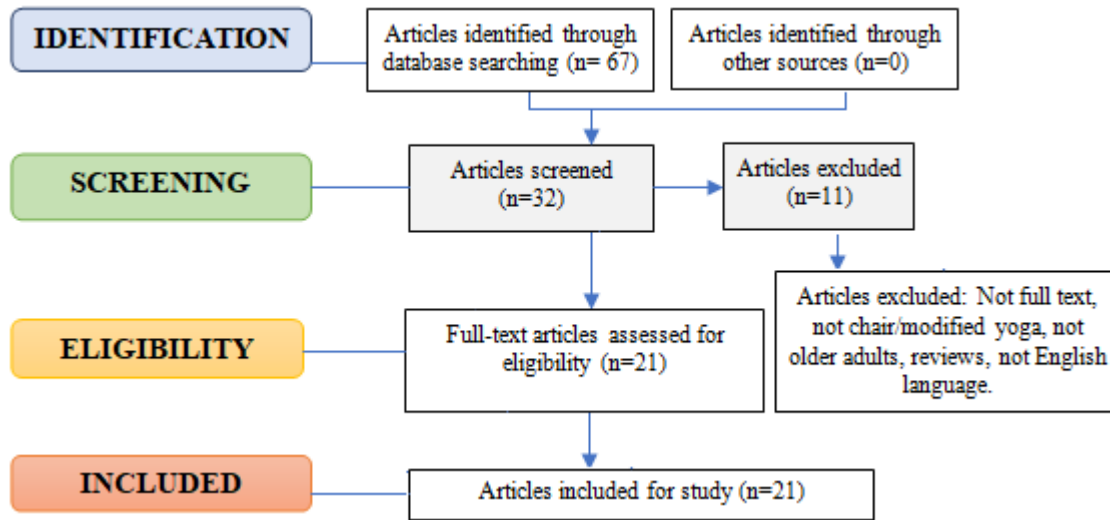
### 2.1 Literature Search Methodology

Online search engines used to collect journals were Google Scholar, Pub Med, and Science direct. The authors identified articles based on the keywords. The articles were collected in full text. A total of 67 articles were identified, out of which 21 were selected for review based on exclusion and inclusion criteria.

2.2 Study Selection Data extraction

The data which was collected were tabulated based on the sample size, treatment given, outcome measures used, the results obtained were arranged in chronological order.

Inclusion criteria: (1) published in English language only; (2) Chair and Modified Yoga; (3) published in peer review journals only; (4) Human participants were studied.



2.3 Literature Evaluation

Review of Literature

Sl. No	Author	Year & Journal	Study design	Participants	Condition	Treatment	Control Group	Outcome measures	Results
1	David Saurez Iglesias, et. al <sup>(4)</sup>	2021 & Disability and Rehabilitation	A pre - and post - testing control group	34	Neurodisability	Chair - based yoga	Usual care	HRQOI (WHOQol-BREF), MAIA	Chairbased Yoga is safe and effective in adults with neurodisability.
2	Kevin F. Boehnke, et. al <sup>(5)</sup>	2020 & Elsevier Inc	Single arm pre/post clinical trial.	26	Adults with self - identified chronic pain	Chair yoga		PROMIS - Fatigue, PROMIS - Sleep Disturbance, PROMIS - Physical functioning short form with mobility aid users, HADS.	CY is safe and suitable
3	Juyoung Park, et. al <sup>(6)</sup>	2020, Experimental Gerontology	Experimental study	131	OA	Chair Yoga	HEP	WOMAC, pain interference and FI	Participants with higher baseline FI shown decline in WOMAC and pain interference. No greater decline in FI for CY compared to HEP.
4	Yumiko Otsuka-Sakuma, et. al <sup>(7)</sup>	2020, Journal of Japan Health Medicine Association	Nonrandomized comparative study	22	Physical function in older female adults.	CY	No exercise program	BMI, sit - and - reach test, handgrip dynamometer	No significant change seen.
5	Juyoung Park, et. al <sup>(8)</sup>	2019 & American Journal of Alzheimer's	RCT	31	Dementia	Chair Yoga	Music intervention, CBE	MMSE, RASS, Mini PPT, SPPB, TUG, BMI, handheld	Effective in improving QoL.

		Diseases and other dementias						dynamometer, HADS, Cohen – Mansfield Agitation Inventory- Short Form, QOL - alzheimer's disease, PSQI, Eps worth sleep Quality index	
6	Ching - Teng Yao, et. al <sup>(9)</sup>	2019 & Topics in Geriatric Rehabilitation	Quasi - Experimental	31	Low physical activities	Chair Yoga	Regular daily activities	BMI, short Portable Mental Status Questionnaire, Wellbeing Question naire, 30second bent arm lateral raise test, handgrip test, back scratch test, chair sit - and - reach test, 8 - ft up - and go - test.	Chair yoga training provides a simple and inexpensive exercise program that improves the functional fitness and wellbeing effectively.
7	Yoga Kerpati, et. al <sup>(10)</sup>	2018	Quasi - experimental study	42	Functional status of older adults	Chair yoga with spiritual intervention	C	FIM	It's a preventive measure against functional decline. Recommended with higher frequency.
8	Ruth McCaffrey, et. al <sup>(11)</sup>	2017 & Holistic Nursing practice	Two arm, randomized, controlled trial	85	OA	Chair Yoga	HEP	PROMIS, WOMAC, BBS, LISTA - SF	CY showed significant improvements on pain interference, function, and quality of life.
9	Garry A. Tew, et. al <sup>(12)</sup>	2017, BMC Geriatrics	Randomised controlled pilot trial	52	Sedentary at risk for mobility limitation	Chair yoga	Education	SPPB, health status, Warwick - Edinburgh Mental Well Being Scale, feasibility, adverse events and interviews	CY group scored more and showed perceived benefits.
10	Saeko Ikai et. al <sup>(13)</sup>	2017, Journal of psychiatric research	Single blinded randomized controlled trial	56	Physical fitness in patients with psychiatric disorders	Chair yoga	C	Anteflexion in sitting, strength, MFES, QoL, psychopathology and function.	CY has positive contributions in improving the physical fitness. No change in psychopathology.
11	M. Karydaki, et. al <sup>(14)</sup>	2017, International Journal of Kinesiology & Sports Science	RCT	49	Mild cognitive impairment	Chair Yoga	Cognitive activities	MMSE, PSQI, BBS and SFT.	No significant differences between the groups. However, CY is feasible, safe & well accepted.
12	G. Furtado, et. al <sup>(15)</sup>	2016 & Complementary Therapies in Clinical	Comparative study	35	Institutionalised older adults	Chair Yoga	-	Lawton Instrumental Activities of Daily Living	Chairyoga improves the subject's perception and maintain the PF

		Practice						(IADL) questionnaire, Tinetti Falls Efficacy Scale (FES), The Senior Fitness Test battery, 30s - CS, 30s - AC, CSR.	scores and stress hormone levels.
13	Juyoung Park, et. al <sup>(16)</sup>	2016, Journal of Gerontological Social Work	A two - arm RCT	100	Community dwelling with knee OA and chronic pain	Chair Yoga	HEP	PROMIS (Pain Interference, Emotional Distress and Depression, Ability to Participate in Social Activities), BBS and WOMAC.	No significant difference between or within groups.
14	Avital Mazar Ben - Josef, et. al <sup>(17)</sup>	2016, Integrative cancer therapy	A pilot study	27	Active prostate Cancer with radiation therapy	Chair yoga	Eischens yoga	Participati on, ED, UI, fatigue, and QoL.	CY is feasible for patients receiving radiotherapy.
15	Aleeze S. Moss, et. al <sup>(18)</sup>	2015, Journal of Applied Gerontology	RCT	39	Community Dwellers	Chair yoga	-	SF - 36, Acceptance and Action Questionnaire, Five Facet Mindfulness Questionnaire, Self - Compassion Scale and Brief Symptom Inventory.	There is significant improvement in CY group.
16	Rana Awdish, et. al <sup>(19)</sup>	2015, Scholarly Journal	Case study	3	Pulmonary artery hypertension	Chair yoga	-	6MWT, O2 sats, Health Promoting Lifestyle Profile II, and physical function.	There is decrease in anxiety and joint pain.
17	Juyoung Park, et. al <sup>(20)</sup>	2014 & Holistic	A quasi experimental research design	38	Older adults with OA	Sit 'N' Fit Chair Yoga	-	MMSE, RASS, Mini - PPT, SPPB, TUG, BMI, handheld dynamometer, HADS, Cohen - Mansfield Agitation Inventory - ShortForm, QOL - alzheimer's disease, PSQI, Eps worth sleep Quality index	CY group showed significant effects in the outcome measures.
18	Ruth McCaffrey, et. al <sup>(21)</sup>	2014, Research in Gerontological Nursing	A quasi - experimental single group design	9	Community dwellers with Alzheimer's disease	Sit 'N' Fit Chair Yoga	-	6MWT, GST, and BBS.	Positive results seen on all outcome measures.
19	Terry Roth	2012 &	Experimental	18	Osteoporosis	Chair Yoga	-	-	CY has shown

	Schaff, et. al <sup>(22)</sup>	Topics in Geriatric Rehabilitation	Study		sis, cancer, knee pain, hip replacement surgery, high blood pressure, heart disease, back pain, pinched nerves, limited shoulder mobility, diabetes, neuropath, stress, and depression.				significant improvements in senior citizens.
20	Mary Lou Galanti no, et. al <sup>(23)</sup>	2012 & International Journal of Yoga	Pilot study	20	Seniors at risk for Falls or had fall in the past 6 months.	Chair Yoga	-	TUG, SPPB, BBS, FR, Modified SR, TFES, HADS, BPI, QOL	Chairyoga program showed Improvements in seniors with fear of fall.
21	Juyoung Park, et. al <sup>(24)</sup>	2011, Holistic Nursing Practice	Pilot study	21	OA	Chair Yoga	Reiki & HEP	WOMAC and Center for Epidemiologic Studies Depression Scale.	CY showed significant increase in physical function, decrease pain and improve QoL.

### 3. Discussion

This review includes studies from 2011 - 2022 and it provides evidence of the use of chair yoga for different diagnoses. The review in the literature supports the use of chair yoga as an intervention to improve quality of life in older adults. 18 of the studies had positive results. The findings suggest that chair yoga is safe, feasible and cost-effective. It is more effective in elderly and lower extremity problems. Further studies should also explore the use of chair yoga in neurological, orthopaedic, cardiopulmonary & gynaecological conditions in different populations. Further research can also be done to standardize the chair yoga program as per frequency, intensity and time (FIT) prescription.

### 4. Results

Out of 21 articles, 18 articles stated that chair yoga is effective than other therapeutic treatment. They say that it is more effective in elderly with lower extremity problems. 2 articles supported use of chair yoga in older adults as it is safe and feasible.

### 5. Conclusion

The literature review analysed the effects of chair yoga for older adults. The wide range of reviews used to demonstrate that chair yoga can be a choice of treatment for older adults and its primary importance to have evidence for these. The guidelines given in this review will help us to achieve higher quality results and to determine the true effectiveness of chair yoga as a treatment for older adults.

**Acknowledgement:** I thank God for giving me the strength as well as all the teachers who have shared their expert knowledge in guiding me to complete this review.

**Conflict of Interest:** None

**Financial Support:** Nil

### References

- [1] Dua R, Malik S, Bhadoria A, Kumar R. Chair Yoga. J Med Evid. 2021; 2 (3): 262.
- [2] Cruz - Jimenez M. Normal Changes in Gait and Mobility Problems in the Elderly. Vol.28, Physical Medicine and Rehabilitation Clinics of North America. W. B. Saunders; 2017. p.713-25.
- [3] Wang MY, Yu SSY, Hashish R, Samarawickrame SD, Kazadi L, Greendale GA, et al. The biomechanical demands of standing yoga poses in seniors: The Yoga empowers seniors study (YESS). BMC Complement Altern Med. 2013; 13 (1): 1.
- [4] Suárez - Iglesias D, García - Porro M, Clardy A, Ayán Pérez C. Feasibility and effects of a chair-based yoga program for adults with neurodisability. Disability and Rehabilitation. Taylor and Francis Ltd.; 2021.
- [5] Boehnke KF, Lamore C, Hart P, Zick SM. Feasibility study of a modified yoga program for chronic pain among elderly adults in assisted and independent living. 2020; 000: 1-4.
- [6] Park J, Sherman DG, Agogo G, Hoogendijk EO, Liu Z. Frailty modifies the intervention effect of chair yoga on pain among older adults with lower extremity osteoarthritis: Secondary analysis of a nonpharmacological intervention trial. Exp Gerontol. 2020; 134: 110886.

- [7] Otsuka - Sakuma Y, Sasaki - Otomaru A, Sato C. Effects of the Chair Yoga Programme DVD on Physical Function in Older Female Adults in a Care - House : A Preliminary Study. Vol.29.2020.
- [8] Park J, Tolea MI, Sherman D, Rosenfeld A, Arcay V, Lopes Y, et al. Feasibility of Conducting Nonpharmacological Interventions to Manage Dementia Symptoms in Community - Dwelling Older Adults: A Cluster Randomized Controlled Trial. *Am J Alzheimers Dis Other Demen.*2019; 35: 1–12.
- [9] Yao CT, Tseng CH. Effectiveness of Chair Yoga for Improving the Functional Fitness and Well - being of Female Community - Dwelling Older Adults with Low Physical Activities. *Top Geriatr Rehabil.*2019 Oct 1; 35 (4): 248–54.
- [10] Kertapati Y, Sahar J, Nursasi AY. *Enfermería Clínica. Enfermería clínica.*2018; 28: 70–3.
- [11] McCaffrey R, Park J, Newman D. Chair yoga: Feasibility and sustainability study with older community - dwelling adults with osteoarthritis. *Holist Nurs Pract.*2017; 31 (3): 148–57.
- [12] Tew GA, Howsam J, Hardy M, Bissell L. Adapted yoga to improve physical function and health - related quality of life in physically - inactive older adults: A randomised controlled pilot trial. *BMC Geriatr.*2017; 17 (1): 1–10.
- [13] Ikai S, Uchida H, Mizuno Y, Tani H, Nagaoka M, Tsunoda K, et al. Effects of chair yoga therapy on physical fitness in patients with psychiatric disorders: A 12 - week single - blind randomized controlled trial. *J Psychiatr Res.*2017 Nov 1; 94: 194–201.
- [14] Karydaki M, Dimakopoulou E, Margioli E, Lyras V, Apostolopoulos X, Papagianni M, et al. Comparison of Resistance and Chair Yoga Training on Subjective Sleep Quality in MCI Women. *Int J Kinesiol Sport Sci.*2017; 5 (1): 26.
- [15] Furtado GE, Uba - Chupel M, Carvalho HM, Souza NR, Ferreira JP, Teixeira AM. Effects of a chair - yoga exercises on stress hormone levels, daily life activities, falls and physical fitness in institutionalized older adults. *Complement Ther Clin Pract.*2016 Aug 1; 24: 123–9.
- [16] Park J, Newman D, McCaffrey R, Garrido JJ, Riccio M Lou, Liehr P. The Effect of Chair Yoga on Biopsychosocial Changes in English - and Spanish - Speaking Community - Dwelling Older Adults with Lower - Extremity Osteoarthritis. *J Gerontol Soc Work.*2016 Nov 16; 59 (7–8): 604–26.
- [17] Ben - Josef AM, Wileyto EP, Chen J, Vapiwala N. Yoga Intervention for Patients with Prostate Cancer Undergoing External Beam Radiation Therapy: A Pilot Feasibility Study. *Integr Cancer Ther.*2016; 15 (3): 272–8.
- [18] Moss AS, Reibel DK, Greeson JM, Thapar A, Bubb R, Salmon J, et al. An adapted mindfulness - based stress reduction program for elders in a continuing care retirement community: Quantitative and qualitative results from a pilot randomized controlled trial. *J Appl Gerontol.*2015; 34 (4): 518–38.
- [19] Awdish R, Small B, Cajigas H. Development of a modified yoga program for pulmonary hypertension: A case series. *Altern Ther Health Med.*2015; 21 (2): 48–52.
- [20] Park J, McCaffrey R, Newman D, Cheung C, Hagen D. The effect of sit “N” fit chair yoga among community - dwelling older adults with osteoarthritis. *Holist Nurs Pract.*2014; 28 (4): 247–57.
- [21] Park J, Mccaffrey R. Earn 2.1 Contact Hours Activity Objectives Author Disclosure Statement Statement Commercial Support Statement Activity Objectives Commercial Support Statement Earn 2.1 Contact Hours cne.2012.
- [22] Schaff TR. *Senior Yoga.*2012; 28 (3): 223–37.
- [23] Galantino M, DeCesari J, Rinaldi S, Wurst V, Nell M, Green L, et al. Safety and feasibility of modified chair - yoga on functional outcome among elderly at risk for falls. *Int J Yoga.*2012; 5 (2): 146.
- [24] Park J, McCaffrey R, Dunn D, Goodman R. Managing osteoarthritis: Comparisons of chair yoga, reiki, and education (pilot study). *Holist Nurs Pract.*2011; 25 (6): 316–26.