E-ISSN:2456-3110

Research Article

Geriatric Healthcare

Check for updates

Journal of Ayurveda and Integrated Medical Sciences

2025 Volume 10 Number 3 MARCH

Publisher

Maharshi Charaka Ayurveda

www.maharshicharaka.in

A clinical study to evaluate the efficacy of Yogasana and Pranayama in Geriatric Healthcare

Sharma R[1*], Sharma B[2]

DOI:10.21760/jaims.10.3.10

[1*] Ritura Sharma, Post Graduate Scholar, PG Department of Swathavritta and Yoga, PGIA, Post Graduate Institute of Ayurved, Jodhpur, Rajasthan, India.

[2] Brahmanand Sharma, HOD, PG Department of Swathavritta and Yoga, Post Graduate Institute of Ayurved, Jodhpur, Rajasthan, India.

Introduction: With the global aging population, there is an increasing need for effective healthcare interventions that enhance the physical and mental well-being of older adults. To achieve a long, healthy life, both Ayurveda and Yoga Shastra place a strong emphasis on delaying the onset of Jara. The purpose of this study was to evaluate the efficacy of Yogasana and Pranayama in improving health outcomes among geriatric participants. In the present study 40 elderly participants aged 60 and above were recruited and assigned to the intervention of Yogasana and Pranayam.

Methods: A specific yoga protocol designed and modified for this population was administered for 45 minutes, twice a day for 12 weeks. Primary functional outcome measures included the body weight, BMI & Elderly mobility scale score. All participants completed questionnaires for subjective criteria. Guiding questions were used for qualitative data analysis to ascertain how yoga participants feel improvement after intervention of yoga therapy and the impact of yoga on their life.

Results: Qualitative Data was analyzed using wilcoxon paired test to examine differences between before and after the intervention. Quantitative data were analyzed through paired T Test. The intervention group exhibited statistically significant improvements in physical function.

Discussion: The findings indicate that Yogasana and Pranayama are effective non-pharmacological interventions for improving both physical and mental health in the geriatric population, These results support the integration of Yoga practices into geriatric healthcare strategies to promote holistic well-being. Also, the impact on body weight and BMI could be considered as important outcomes for further study. Future studies should focus on long-term effects and implementation in clinical settings.

Keywords: Yoga, Geriatric Health, Jara Vyadhi, Asana

Corresponding Author	How to Cite this Article	To Browse
Ritura Sharma, Post Graduate Scholar, PG Department of Swathavritta and Yoga, PGIA, Post Graduate Institute of Ayurved, Jodhpur, Rajasthan, India. Email: drriturasharma28@gmail.com	Sharma R, Sharma B, A clinical study to evaluate the efficacy of Yogasana and Pranayama in Geriatric Healthcare. J Ayu Int Med Sci. 2025;10(3):70-75. Available From https://jaims.in/jaims/article/view/4406/	

Manuscript Received	Review Round 1	Review Round 2	Review Round 3	Accepted
2025-02-14	2025-02-24	2025-03-04	2025-03-14	2025-03-25

Conflict of Interest	Funding	Ethical Approval	Plagiarism X-checker	Note
None	Nil	Yes	11.41	

Introduction

The term "geriatrics" describes the medical treatment of the aged. The "study of physical and psychological changes which are incident to old age" is known as gerontology. India is presently experiencing a demographic shift due to an aging population. The population of the elderly is growing because of lower mortality, lower fertility, and longer life expectancy throughout this transition. Individuals beyond 60 are considered elderly. The elderly population is often ignored and poses a significant burden to the nation due to their numerous physical, social, psychological, and economic issues. Understanding geriatric issues is essential for prompt detection and treatment, enhancing the quality of life for the aged and reducing the burden on the nation.

Epidemiology of geriatrics

The demographic trend in India and around the world indicates that as countries age, their share of older citizens increases, placing a strain on the working-age population. The Sample Registration System, the 2011 Census, and other research have revealed the following changes in India's population:

- Proportion of elderly population: 8.2%
- Growth rate of the geriatric population: 1.9%
- Physically disabled elderly: 5177 per lakh
- Old age dependency ratio: 14.2 per lakh

Geriatrics refers to the medical care of elderly people, while gerontology is the study of the physical and psychological changes associated with aging. India is currently experiencing a demographic transition characterized by an increasing elderly population due to reduced mortality, reduced fertility, and increased life expectancy. Individuals above the age of 60 are classified as elderly.**[1]**

The geriatric population is often neglected and faces numerous medical, social, psychological, and economic challenges, which create a significant burden on the country. Addressing geriatric concerns through timely detection and management is essential to improving the quality of life for elderly individuals and reducing the strain on national resources. The aging population is more vulnerable to both communicable and non-communicable diseases due to physiological changes and a weakened immune system.

According to Indian statistics, malignancies account for 6% of elderly mortality, respiratory issues account for 10%, infections, including tuberculosis, account for another 10%, and accidents, poisoning, and violence contribute to a smaller proportion of deaths.

Aim and Objective

Aim

Study the mode of action of Yoga therapy on key areas of geriatric health. The merits it provides are preventive and curative aspects.

Key areas: Geriatric health

- Maintain Balance and stability, prevention of falls, burns, trauma and accidents.
- Relieving pain, improving Flexibility and joint health.
- Prevention of Respiratory disorders.
- Maintain optimum body weight, prevention of obesity.
- Improve digestion and appetite.
- Prevention of memory loss, senility.
- Capable of doing daily routine work without any assistance or support.

Objectives of study

- Study the role of *Yoga* (*Aasan* and *Pranayama*) in geriatric health.
- Plan an integrated module of Yoga for elderly people, this should be acceptable to elderly people in the direction to improve their quality of life. Find a Yoga therapy which is safe, economic and easy to administer.

Methodology

Participants of trial were chosen by convenience sampling method and placed into the following one group, with 44 patients, without regard to their age, gender, religion, or caste. Selection of subjects from OPD and IPD of Dr. S.R. Rajasthan Ayurved University, Jodhpur and from surveys or camps.

Out of 44 registered participants, 4 participants were dropped out from trial, and all 40 patients completed the trial. The intervention spanned 12 weeks, incorporating daily sessions of targeted *Yogasana* and *Pranayama*.

The participants were done, after making them aware of merits/demerits of trial with duration of the proposed trial. Fulfillments of inclusion criteria & Registration of the patients were done. Investigations mentioned were advised by them.

Investigations

Patients underwent in-depth subjective and objective examinations. A thorough history was kept systematically, including information about the method of onset, past treatments, family history etc. Ayurvedic and contemporary parameters were used to build a region-based specialized research Performa, and all therefore mentioned information was recorded.

Intervention

In group before starting the main process, participants were asked to do warm up by *Sushma Vyayama*. After completion of the main process each patient was advised to do relax for a few minutes.

Table 1: The Yoga Protocol for geriatric Population (30 minutes)

Duration: 3 months **Follow-Up:** Every one month

Yogasana				
SN	**Standing postures**	**Sitting postures**	**Lying postures**	**Rounds**
1.	Tadasana with support	Vajrasana	Pavamuktasana	3 rounds/twice a day
2.	Vrikshasanawith support	Bhrdhasana	Bhujangasana	3 rounds/ twice a day
3.	Ardha chakrasana	Pashchimottanasana	Makarasana	3 rounds/ twice a day
4.	Kati Chakrasana	Uttanamandukasana	Shalabhasana	3 rounds/ twice a day
5.	Trikonasana	Shashankasana	Shavasana	3 rounds/ twice a day
Pranayama				
1.	Anulom - Vilom			10 rounds/ twice a day
2.	Om chanting			5 rounds/ twice a day

Measurement tools

Measurement tools included body weight, BMI, Elderly mobility scale score measured at baseline and end of the study in all participants. In addition, the questionnaire was filled with by participant before and after the trial completed.

Assessment of subjective criteria by some general symptoms of Indigestion, Mobility, Sleep, Anorexia, Constipation, Sensory Perception, Loss of Memory, Adjustment to Weather, Wrinkle of Skin, Dyspnea, Palpitations, Chest Pain, Joint Pain, Sex Desire, Incontinence of Urine and Weight Loss were assess by asking questions and given grading for them**.**

Observations and Results

A total of 44 patients were registered from the O.P.D Department of *Swasthavritta and Yoga,* Sanjeevani Hospital, DSRRAU, Jodhpur, Rajasthan. Of them 40 completed the trial. Under this study, 16 signs and symptoms were assessed before and after treatment in subjective criteria and 3 in objective criteria.

All the Results are calculated by using Software: In Stat Graph Pad 3 (version 3.10). Non-Parametric Data was analyzed using Wilcoxon paired test to examine differences between before and after the intervention. Parametric data was analyzed through paired T Test.

Table 2: Showing Overall % Effect of Yoga therapy on Subjective Parameters

SN	Subjective Parameters	% Relief
1.	Mobility	50 %
2.	Sleep	72.5 %
3.	Indigestion	79.48 %
4.	Anorexia	76.47 %
5.	Constipation	71.05 %
6.	Sensory perception	60 %
7.	Weight loss	51.42 %
8.	Lack of memory	53.57 %
9.	Adjustment to weather	72.09 %
10.	Wrinkle of skin	39.4 %
11.	Dyspnea	70.27 %
12.	Palpitations	70.59 %
13.	Chest pain	57.14 %
14.	Joint pain	52.27 %
15.	Incontinence of urine	52.38 %
16.	Sex desire	29.09 %

Table 3: Showing the overall % Effect of Yoga therapy on Objective Parameters

SN	Objective Parameters	% Relief
1.	Elderly mobility scale score	28.85%
2.	Bodyweight	4.06 %
3.	BMI	4.14 %

Discussion

The data presented demonstrates the impact of Yoga therapy on both subjective and objective parameters. Subjective parameters include personal experiences or feelings of the individuals, while objective parameters refer to measurable outcomes. This combination provides a comprehensive picture of the effectiveness of yoga therapy in improving health and well-being.

Subjective Parameters

The results for the subjective parameters show a significant improvement in most aspects of the participants' daily lives, indicating the potential of yoga therapy to alleviate various health concerns.

Sleep (72.5%) and **Indigestion (79.48%)** demonstrated the highest percentages of relief, indicating that yoga therapy significantly contributes to enhancing relaxation and digestive function. These enhancements are likely connected to the stress-reducing attributes of yoga, which have been proven to stimulate the parasympathetic nervous system, facilitating improved sleep quality and digestive health.

Anorexia (76.47%) and Constipation (71.05%) also showed notable improvement, reinforcing the claim that yoga therapy can assist in appetite regulation and support gastrointestinal function. Considering that yoga is linked to better circulation and strengthened abdominal muscles, these findings correspond with existing research.

Sensory perception (60%) and Weight loss (51.42%) Moderate improvements are seen in sensory perception (60%) and weight loss (51.42%), suggesting that while yoga therapy has some influence on sensory awareness and weight management, other lifestyle factors may have a more significant impact on these results.

Dyspnea (70.27%) and Palpitations (70.59%) Significant improvement in cardiovascular health is indicated by dyspnea (70.27%) and palpitations (70.59%). The focus of yoga on deep breathing techniques like pranayama is likely aiding in the alleviation of these symptoms, which are often associated with stress and anxiety.

Joint pain (52.27%) and Chest pain (57.14%) There is moderate to substantial relief noted in joint pain (52.27%) and chest pain (57.14%), Indicating that yoga's gentle stretching and strengthening practices can alleviate musculoskeletal and chest discomfort, which frequently arises from poor posture, stress, or muscular tension.

Lack of memory (53.57%) and **Adjustment to weather (72.09%)** A significant percentage of participants reported improvements in memory (53.57%) and ability to adjust to weather conditions (72.09%), suggesting enhancements in cognitive functions and the body's capacity to adapt to environmental changes. This improvement may be attributed to the overall stress-relieving benefits of yoga, which enhances mental clarity and resilience against stressors, such as fluctuations in weather.

Wrinkle of skin (39.4%) and **Sex desire (29.09%)** The relief percentages for skin wrinkles (39.4%) and libido (29.09%) were the lowest, indicating that while yoga may have some positive impact on skin health and sexual desire, these aspects might not be as significantly affected by yoga therapy. Factors such as age, hormonal changes, and lifestyle choices play a larger role in skin aging and sexual health.

Objective Parameters

The objective parameters show more modest improvements, which may reflect the fact that these outcomes are more directly tied to measurable physical changes, which typically take longer to manifest lifestyle interventions like yoga. There has been some improvement in the elderly mobility scale scores (28.85%), although the effect seems to be less noticeable than the subjective mobility report. This could be because self-reported mobility is subjective, and participants' perceptions of their improvement are impacted by things like emotional health or pain alleviation.

There are not many changes in body weight (4.06%) or BMI (4.14%). This implies that the short-term effects of yoga therapy on BMI or weight loss are minimal. Yoga may not be enough on its own to produce noticeable changes in body weight or fat loss, even though it can be a useful addition to a weight loss program. Combined dietary changes or more intense physical exercise are likely to have a greater effect on BMI. This study was conducted to evaluate issues that will be important in the design of a study to examine the effect of yoga on flexibility,

Balance and quality of life on a geriatric population, and to obtain data on the magnitude and variability of the response. The sample size of this study was not large. However, the data suggest that Indigestion, Sleep, Anorexia, Constipation, Sensory Perception, Loss of Memory, Adjustment to Weather, Wrinkle of Skin, Dyspnea, Palpitations, Chest Pain, Joint Pain, Sex Desire, Incontinence of Urine and Weight Loss may improve through the use of yoga intervention for geriatric health issues, along with Mobility, but that there may be only a slight improvement in BMI and body weight.

Conclusion

The findings demonstrate that Yoga treatment improves a few subjective health metrics, particularly those linked to digestion, stress-associated symptoms, and sleep quality. Additionally, it helps alleviate cardiovascular symptoms and musculoskeletal pain, indicating its promise as a comprehensive therapeutic strategy. Although Yoga is good for general health and well-being, its effects on weight management and physical measurements might take longer to show or require further interventions. This is because the changes in objective indicators, especially bodyweight and BMI, are negligible. These results imply that yoga works best when paired with other lifestyle changes and highlight the significance of considering both subjective and objective metrics when assessing the efficacy of yoga therapy.

Frequent Yoga practice has been shown to be beneficial for improving. Significant improvements in joint health, flexibility, and pain relief were also observed. This trial fulfilled our study's primary goal, which was to improve stability and balance while preventing falls, burns, trauma, and accidents using yoga and pranayama. The study group's proportion of relief serves as confirmation. Improved mobility, less symptoms, and more life satisfaction were reported by the participants.

References

1. Sadhna AK, Ujwale R. A review of yoga in key areas of geriatric health. EJPMR. 2019;6(3):569-72. *[Crossref][PubMed][Google Scholar]*

2. Panruti RV, Liebig PS, Duvvuru J. Gerontology in India. Gerontologist. 2015 Dec;55(6):894-900. *doi: 10.1093/geront/gnv022 [Crossref][PubMed][Google Scholar]*

3. Ingle GK, Nath A. Geriatric health in India: concerns and solutions. Indian J Community Med. 2008 Oct;33(4):214-8. *doi: 10.4103/0970-0218.43225. PMID: 19876492; PMCID: PMC2763704 [Crossref][PubMed][Google Scholar]*

4. Sengupta P. Health impacts of yoga and pranayama: a state-of-the-art review. Int J Prev Med. 2012 Jul;3(7):444-58. *PMID: 22891145; PMCID: PMC3415184 [Crossref][PubMed][Google Scholar]*

5. Living older adults. J Geriatr Phys Ther. 2003;26(3):14-22. . *[Crossref][PubMed][Google Scholar]*

6. Physiopedia contributors. File: AGILE Outcome Measures EMS v2. pdf [Internet]. Physiopedia; 2018 Aug 26 [cited 2025 Apr 24]. *Available from: [Article][Crossref][PubMed][Google Scholar]*

7. Pandya DH, Baghel MS. Understanding of ageing through Ayurveda. J Ayurveda Hol Med (JAHM). 2014;2(9):27-30. *[Crossref][PubMed][Google Scholar]*

8. Iyengar BKS. Light on yoga. 2nd ed. New York: Schocken Books; 1976. *[Crossref][PubMed][Google Scholar]*

9. Bankar MA, Chaudhari SK, Chaudhari KD. Impact of long-term yoga practice on sleep quality and quality of life in the elderly. J Ayurveda Integr Med. 2013 Jan;4(1):28-32. *doi: 10.4103/0975-9476.109548. PMID: 23741159; PMCID: PMC3667430 [Crossref][PubMed][Google Scholar]*

10. Yoga for indigestion: proven yogasanas to relieve dyspepsia in winters [Internet]. Netmeds. Available from: https://www. netmeds. *com/health-library/post/yoga-for-indigestion-proven-yogasanas-to-relieve-dyspepsia-in-winters [Crossref][PubMed][Google Scholar]*

11. Rizzuto L, Hay P, Noetel M, et al. Yoga as adjunctive therapy in the treatment of people with anorexia nervosa: a Delphi study. J Eat Disord. 2021;9:111. *doi: 10.1186/s40337-021-00467-9 [Crossref][PubMed][Google Scholar]*

12. Bonaz B, Bazin T, Pellissier S. The vagus nerve at the interface of the microbiota-gut-brain axis. Front Neurosci. 2018 Feb 7;12:49. *doi: 10.3389/fnins.2018.00049. PMID: 29467611; PMCID: PMC5808284 [Crossref][PubMed][Google Scholar]*

13. The power of perception: a guide to happier living from the yoga sutras [Internet]. Available from: https://yogauonline. com/yoga-practice-teaching-tips/yoga-for-beginners/the-power-of-perception-a-guide-to-happier-living-from-the-yoga-sutras. . *[Crossref][PubMed][Google Scholar]*

14. How to lose weight with yoga: here are six transformative yoga asanas to help you lose weight faster [Internet]. Economic Times. Available from: https://economictimes. indiatimes. *com/news/how-to/how-to-lose-weight-with-yoga-here-are-six-transformative-yoga-asanas-to-help-you-lose-weight-faster/articleshow/101150627.cms?from=mdr [Crossref][PubMed][Google Scholar]*

15. Lavretsky H, Newhouse PA. Stress, inflammation, and aging. Am J Geriatr Psychiatry. 2012 Sep;20(9):729-33. *[Crossref][PubMed][Google Scholar]*

16. Telles S, Gandharva K, Sharma SK, Gupta RK, Balkrishna A. Body temperature and energy expenditure during and after yoga breathing practices traditionally described as cooling. Med Sci Monit Basic Res. 2020;26:e920107. *doi: 10.12659/MSMBR.920107 [Crossref][PubMed][Google Scholar]*

17. Rajak C, Rampalliwar S, Mahour J. A study of the combined effect of yoga (yogic exercises, pranayama & meditation) on hyper-reactivity to cold pressor test in healthy individuals. Natl J Physiol Pharm Pharmacol. 2012;2:140-5. *[Crossref][PubMed][Google Scholar]*

18. Beri K. Breathing to younger skin: reversing the molecular mechanism of skin aging with yoga. Future Sci OA. 2016 May 9;2(2):FSO122. *doi: 10.4155/fsoa-2016-0015. PMID: 28031969; PMCID: PMC5137887 [Crossref][PubMed][Google Scholar]*

19. Sahay BK, Murthy KJR. Long-term follow-up studies on the effect of yoga in diabetes. Diabetes Res Clin Pract. 1988;5(Suppl 1):S655. *[Crossref][PubMed][Google Scholar]*