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Research Article

Influence of Chair-based yoga on stress, mental and physical health in older adults: A systematic review

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HIGHLIGHTS

- This systematic review included 14 studies related to Chair based yogic exercises on various effects like stress, cognition, sleep quality and physical fitness effects of yoga which are discussed in this study.
- Chair yoga practice have some positive outcome on cognition, sleep quality and in improving physical and mental health.
- Present study emphasizes that there is more research avenues with respect to this topic as there is very less information is available.
- Furthermore, randomized controlled trials with robust methodology and long term follow-ups are needed to resolve mixed results and for definitive recommendations.

ABSTRACT

BACKGROUND: The aging process involves many changes that occur at the molecular and cellular levels, which leads to decrease in physical and mental activity, cognitive decline and psychological health problems which are the most frequently observed and under-treated issues among the elderly. Many studies have reported the effect of Yoga on cognitive and mental health parameters among the elderly. However, up to date, there is no systematic review done to evaluate the role of Chair based Yoga interventions on cognition, physical and mental health in the elderly.

OBJECTIVES: This review evaluates the beneficial effect of Chair Yoga in improving cognitive, physical and mental health in the elderly.

METHODOLOGY: A comprehensive search was performed on Medline, Google Scholar and PubMed electronic database from their inception to January 2019. The literature search was constructed around search term for “mental health”, “cognition”, “Chair yoga” and “elderly”. Out of 527 records, we have considered studies with Chair based Yoga interventions on the older people for this review. Risk of bias was assessed using Delphi list and PEDro criteria.

RESULTS: We have considered only 14 studies, after filtering out irrelevant studies which are included in this systematic review. Of 14 studies, three studies assessed only stress and four studies assessed only psychological parameters, and seven studies evaluated both along with neurodisability. Study quality was fair to moderate of included RCTs on the Delphi list and PEDro criteria. Maximum studied variables in stress levels were stress hormone, Cortisol, salivary biomarkers like salivary lysozyme, and IgA & salivary cortisol while in psychological parameters, mental health with depression, anxiety and mood and in neurodisability were Alzheimer’s disease, Osteoarthritis and dementia. Chair- based Yoga interventions have some beneficial effects on stress, psychological parameters among cognitive variables, and depression among mental health parameters among the elderly.

CONCLUSION: The present review shows that Chair Yoga practice have some positive outcome in improving cognition, in combating stress and improving mental health in elderly. However, methodological limitations and small number of studies preclude confirming the potential benefits of Chair Yoga based interventions on cognition and mental & physical health among the elderly. Further, this review strongly recommends that more research avenues are available and with standard study methodology, use of validated modules of Chair Yoga intervention, and long term follow up to have definite conclusions.

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INTRODUCTION

The aging process involves many changes that occur at the molecular and cellular levels, which leads to decrease in physical and mental activity, which in turn causes the risk of disease that causes death (1). Due to age and the aging process, the older adults experience the risk factors through the organs and cells in the body due to decrease in capacity and function. The occurrence of morbidity in older adults has an impact on health problems that interfere with activities of daily life (2) background and justification. The older adults as a population are at a high risk and have a high potential for exposure to disease. Stanhope & Lancaster in 2014 (3) mention three characteristics of health risks in the older adults, namely biological risk (age related risk), social and environmental risk, and lifestyle risk (behavioral). Older adults with physical restrictions and dependence tend to be dissatisfied with their lives. Physical limitations cause them to experience a decrease in activity and socialization (4). It causes them to become restless, anxious and even depression (5). This shows that the older adults experience psychological and mental disorders, so they require to get the right intervention. Cognitive changes also occur, so that it will affect the psychological and mental health of the older adults.

Chair yoga is a term used to describe a gentle form of hatha yoga that is practiced sitting in a chair. It is one of the gentlest forms of yoga available. Chair yoga is one of the safest ways to start a yoga practice. Yoga moves are generally practiced in a chair or wheelchair, but may also include some standing postures where subjects use their chairs as props, depending on the group (6). Benefits of Chair Yoga Chair yoga has been found to help people with symptoms of hypertension, anxiety, arthritis, carpal tunnel syndrome, clinical depression, and chronic pain.

METHODS

This review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Review protocol was not published of present systematic review. Following inclusion and exclusion criteria were used to consider study in this review.

Inclusion Criteria:

1. Chair based yoga intervention in elderly
2. Effect of Chair yoga on mental and physical health of elderly
3. Chair yoga and stress in elderly
4. Chair yoga and neurodisability in elderly

Exclusion Criteria:

1. General yoga and asanas
2. Young people

LITERATURE SEARCH

A total of 18842 records were fetched by online literature search. After filtering out irrelevant articles, 1286 relevant abstracts were reviewed. Of these, only 14 studies were found to be relevant to the review which are subjected for review criteria. After studying the abstracts, the articles were categorized into Chair yoga related to stress (4), psychological parameters (4) and neurodisability (7). Out of these studies, full research articles were sought for detailed literature review and the findings are given.

DISCUSSION

In a study (7) to assess the changes mediated by exercise on activities of daily life and falls, physical fitness, salivary cortisol and alpha amylase in older adults living in social and health care givers centers, the chair-based yoga exercises program was able to maintain the levels of serum Cortisol and salivary alpha amylase protecting against stress and infection. In another study (8), the Chair-based exercise program was able to improve functional-fitness performance, decrease feelings of stress, and increase happiness. The CEP also induced clinically relevant hormonal and immune responses, which suggests that chair exercises that combine muscular strength, balance, and gait speed training are promising interventions to improve physical and mental health of older pre-frail adults.

The exercise programs (9) were able to improve functional autonomy, even in elders older than 80 years of age. It might be interesting to investigate the effectiveness of combining both aerobic and strength exercises in a unique protocol. The modulation effect of exercise in the hormonal responses needs to be further explored. In a study (10) on older adults living with dementia showed reduced anxiety and depression and improved mood in older adults living in care homes after participating in chair yoga,

In a study (11) on online Chair yoga and digital learning for rural underserved older adults at risk for alzheimer's disease and related dementias, the preliminary results indicated that the online online Chair yoga showed positive clinical outcomes in these participants. However, this should be confirmed in future studies. In a study (12) on comparison of resistance and chair yoga training on subjective sleep quality in mild cognitive impairment women, the resistance training is an effective treatment approach to improve sleep quality in women with mild cognitive impairment.

Studies on (13) effects of chair yoga therapy on physical fitness in patients with psychiatric disorders, indicated sustainable effects of 20-min, 12-week, 24-session chair

yoga therapy on physical fitness. Chair yoga therapy may contribute to reduce the risk of falls and their unwanted consequences in psychiatric patients. Gerontological nurses could add CY as a nonpharmacological component of a treatment plan and monitor older adults' progress during the online intervention. The home-based online CY intervention should be prioritised to promote health and wellness in socially isolated older adults with dementia (14).

Chair Yoga: feasibility and sustainability study with older community-dwelling adults with osteoarthritis (15) demonstrates the need for group programs for older adults to promote adherence to movement-based programs. In a study (16) to correlate the effects of Chair yoga with Osteoarthritis linguistically tailored Chair Yoga could be implemented in aging-serving communities.

Chair-based yoga can help people with moderate to severe physical dependence due to neurodisability to improve their interoceptive body awareness in a study on feasibility and effects of a chair-based yoga program for adults with neurodisability (17). Chair yoga therapy was found to be effective as the nonpharmacologic management of knee osteoarthritis in older community-dwelling female adults (18). It is a feasible and effective intervention for older female adults with knee osteoarthritis, with beneficial effects on functional fitness and daily life activity scores.

In a study (19) on the effects of the chair yoga programme on physical function in older female adults in a care-house, although no definite conclusion could be made due to the small sample size, the results of this study suggest the feasibility, safety, acceptability, and low cost burden of the CY programme. In virtual mindful chair yoga (MCY) intervention for older adults with dementia and caregivers (20), which is the first RCT of a virtually delivered MCY program that includes both caregivers and older adults with dementia/MCI. MCY was found to be feasible and enjoyable.

Growing evidence suggests an increased prevalence of cognitive and psychological health problems among elderly. Yoga is an emerging complementary and alternative medicine found to be effective in many chronic health conditions among people of all age groups. Several systematic reviews have concluded that Yoga is beneficial in improving cognitive functions and mental health.

LIMITATIONS AND FUTURE DIRECTIONS

A there are only very less number of studies done on elderly to explore the clinical effects of Chair yoga, further studies of randomized controlled trials, including an active control group, are required to address further questions about the potential benefits of chair yoga for care home residents, including on falls and other physical measures, and whether continued participation is required to sustain benefits in the longer-term. More number of studies would help in drawing a definite conclusion. We could not be able to conduct a separate review on stress and mental health, due to less number of studies.

CONCLUSION

The present review indicates that Chair Yoga-based interventions have some positive outcome in combating stress, improve memory and cognition and neurodisability in elderly population. However, methodological limitations and small number of studies preclude confirming the potential benefits of Chair Yoga-based interventions on cognition and mental health among the elderly. The WHO recommends the adaptation of interventions based on individual physical capacities to improve healthy aging. Thus, interventions with chair yoga therapy can enable older adults with knee osteoarthritis to adopt and practice the therapy at home as part of their daily life, lessening the risk of their disease progressing to disability.

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None

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