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A Study Done To Assess and Improve the Quality of Life in Older Adults Through Interventions Targeting Physical, Social and Cognitive Domains

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Abstract

Background: The global increase in the elderly population has made preservation of quality of life (QOL) a major public health priority. Age-related physical limitations, cognitive decline, and social isolation adversely affect the overall well-being and independence of older adults. This study assessed the quality of life of older adults and evaluated the effectiveness of simple multi-domain interventions targeting physical, social, and cognitive health. A prospective interventional study was conducted among 50 older adults aged ≥60 years attending the outpatient department of a tertiary care centre. Baseline quality of life was assessed using a structured questionnaire. Participants then underwent multi-domain interventions comprising supervised physical exercises, cognitive stimulation activities, and structured social interaction sessions over the intervention period. Following completion of the intervention, the same questionnaire was re-administered to assess changes in quality of life. The pre- and post-intervention scores were compared using appropriate statistical methods. Among the 50 participants, the majority were males and belonged to joint families. Baseline assessment demonstrated low quality-of-life scores across the physical, social, and cognitive domains.

Following the intervention, there was an overall improvement in post-intervention scores, indicating

better physical functioning, enhanced social engagement, and improved cognitive performance. The findings suggest that multi-domain interventions can produce meaningful improvements in the quality of life of older adults attending a tertiary care centre. Multi-domain interventions incorporating physical activity, cognitive stimulation, and social engagement were effective in improving the quality of life of older adults. Such simple, low-cost interventions can be integrated into routine geriatric care to promote healthy and active aging.

Keywords: Elderly Health, Healthy Aging, Multi-domain Intervention, Health Promotion, Lifestyle Intervention

Introduction

Population aging is one of the most significant demographic transitions of the twenty-first century. Improvements in healthcare, sanitation, nutrition and socioeconomic conditions have contributed to increased life expectancy worldwide, resulting in a rapidly growing older adult population. According to the World Health Organization (WHO), the global population aged 60 years and above is projected to increase from 1 billion in 2020 to 2.1 billion by 2050[1]. This demographic transition has shifted the focus of healthcare from merely increasing longevity to promoting healthy aging and maintaining functional ability throughout later life. India is experiencing a similar demographic transition, with a steadily increasing elderly population.

The United Nations Population Fund estimates that the number of older adults in India will exceed 340 million by 2050. Findings from the Longitudinal Aging Study in India (LASI) indicate a high burden of chronic diseases, functional limitations, psychological distress and social dependency among older adults, emphasizing the need for comprehensive strategies that support healthy aging and improve quality of life[2]. Quality of life (QOL) is a multidimensional concept that reflects how individuals perceive their overall well-being in relation to their physical health, psychological status, level of independence, social relationships, personal beliefs and the environment in which they live. It considers a person's own goals, expectations and life circumstances rather than health status alone[3]. Among older adults, maintaining a good quality of life is an important goal of healthy aging because it supports independence, functional ability and active participation in society. Aging is associated with gradual declines in physical capacity, cognitive function and social engagement, all of which can adversely affect the quality of life of older adults. Reduced mobility and muscle strength may limit independence in daily activities, while age-related cognitive changes can impair memory, attention and executive functioning. In addition, social isolation and reduced participation in meaningful social interactions are common among older adults and may contribute to poorer physical and mental health outcomes. These interconnected changes highlight the need for comprehensive, multi-domain interventions that promote healthy aging and preserve functional ability[4]. Multi-domain interventions that combine physical exercise, cognitive stimulation and lifestyle modification have been shown to improve cognitive performance and help maintain functional ability in older adults. Such integrated approaches address multiple determinants of healthy aging simultaneously and are increasingly recommended as an effective strategy for preserving independence and enhancing overall quality of life in the elderly population[5]. The present study implemented a multidomain intervention consisting of structured

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physical activity, cognitive exercises and group-based social interaction to improve the quality of life of older adults.

Despite advances in geriatric healthcare, maintaining quality of life remains a major challenge due to the multifactorial nature of aging. Interventions focusing on a single domain may not adequately address the complex interaction between physical health, cognitive function and social well-being. Consequently, multi-domain interventions have gained increasing attention as a practical strategy to promote healthy aging and preserve functional independence. Evaluating the effectiveness of such interventions in routine clinical settings is essential for developing feasible, evidence-based approaches to geriatric care.

Accordingly, the present study was undertaken to assess the quality of life among older adults attending the outpatient department of our medical college hospital and to evaluate the effectiveness of interventions targeting the physical, cognitive and social domains in improving their overall quality of life.

Aims and Objectives

Aim

To improve the quality of life among older adults through interventions targeting the physical, cognitive and social domains.

Objectives

1. To assess the baseline quality of life among older adults using a structured pre-intervention questionnaire.
2. To implement a multi-domain intervention comprising physical, cognitive and social activities among older adults.
3. To compare the quality-of-life scores before and after the multi-domain intervention.
4. To evaluate the effectiveness of multi-domain intervention in improving the quality of life among older adults.

Materials and Methods

Study Design and Setting

A hospital-based pre and post interventional study was conducted among older adults attending the Outpatient Department (OPD) of a tertiary care centre from December 2026 to January 2027.

Ethical considerations

The study was approved by the Institutional Ethics Committee of our college before commencement of data collection. Written informed consent was obtained from all participants prior to enrollment. Confidentiality and anonymity of participant information were maintained throughout the study.

Study participants

The study included 50 older adults aged 57–65 years who attended the OPD during the study period. Participants fulfilling the eligibility criteria were enrolled using convenience sampling after obtaining written informed consent.

Inclusion criteria

- Older adults aged 57–65 years.
- Medically stable individuals capable of participating in the intervention.
- Individuals willing to provide written informed consent.

Exclusion criteria

- Older adults with severe cognitive impairment or psychiatric illness.
- Individuals with severe visual, hearing or locomotor disability limiting participation.
- Critically ill patients requiring emergency medical care.

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- Individuals unwilling to participate.

Study instrument

Data were collected using a structured researcher-developed questionnaire prepared after an extensive review of the literature and consultation with faculty from the Department of Community Medicine. The questionnaire consisted of two sections.

The first section collected socio-demographic information including age, gender, educational status and living arrangement.

The second section consisted of 15 items distributed equally across three domains:

- Social domain (5 items): social participation, social support, interpersonal relationships and loneliness.
- Physical domain (5 items): mobility, physical activity, functional ability, pain and perceived physical health.
- Cognitive domain (5 items): memory, attention, concentration, communication and problem-solving ability.

Each item was scored on a 5-point scale, with scores ranging from 1 to 5. Negatively worded items were reverse scored so that higher scores consistently represented a better quality of life. Domain scores were calculated by summing the responses within each domain, and an overall quality-of-life score was obtained by summing all domain scores. The total possible score ranged from 15 to 75, with higher scores indicating better quality of life.

Study procedure

Following informed consent, all participants underwent a baseline assessment using the structured questionnaire. Participants subsequently received a one-week multi-domain intervention programme conducted within the college premises.

Physical Domain Intervention

Participants performed simple supervised physical exercises within the college premises. These included 20–30 minutes of walking, along with light stretching exercises and upper-and lower-limb movements designed to improve flexibility, mobility and balance. The exercises were demonstrated by the investigators, and participants were encouraged to perform them safely according to their individual physical abilities.

Cognitive Domain Intervention

Participants underwent structured cognitive stimulation activities using printed worksheets. The activities included number and word puzzles, connect-the-sequence exercises, simple arithmetic problems, sudoku, and other problem-solving exercises designed to stimulate attention, memory, language and executive functioning. The worksheets were explained before administration, and assistance was provided whenever required.

Social Domain Intervention

Participants were encouraged to participate in daily group interaction sessions. Guided discussions focused on familiar and enjoyable topics such as childhood memories, family life, grandchildren, hobbies, occupations, memorable life experiences and other topics of personal interest. Participants were encouraged to communicate freely and interact with fellow participants irrespective of linguistic backgrounds. The sessions promoted social interaction, emotional expression and peer support within the group. The sessions employed a guided reminiscence and group discussion approach, encouraging participants to share personal experiences, family memories, hobbies, achievements and other meaningful life events to

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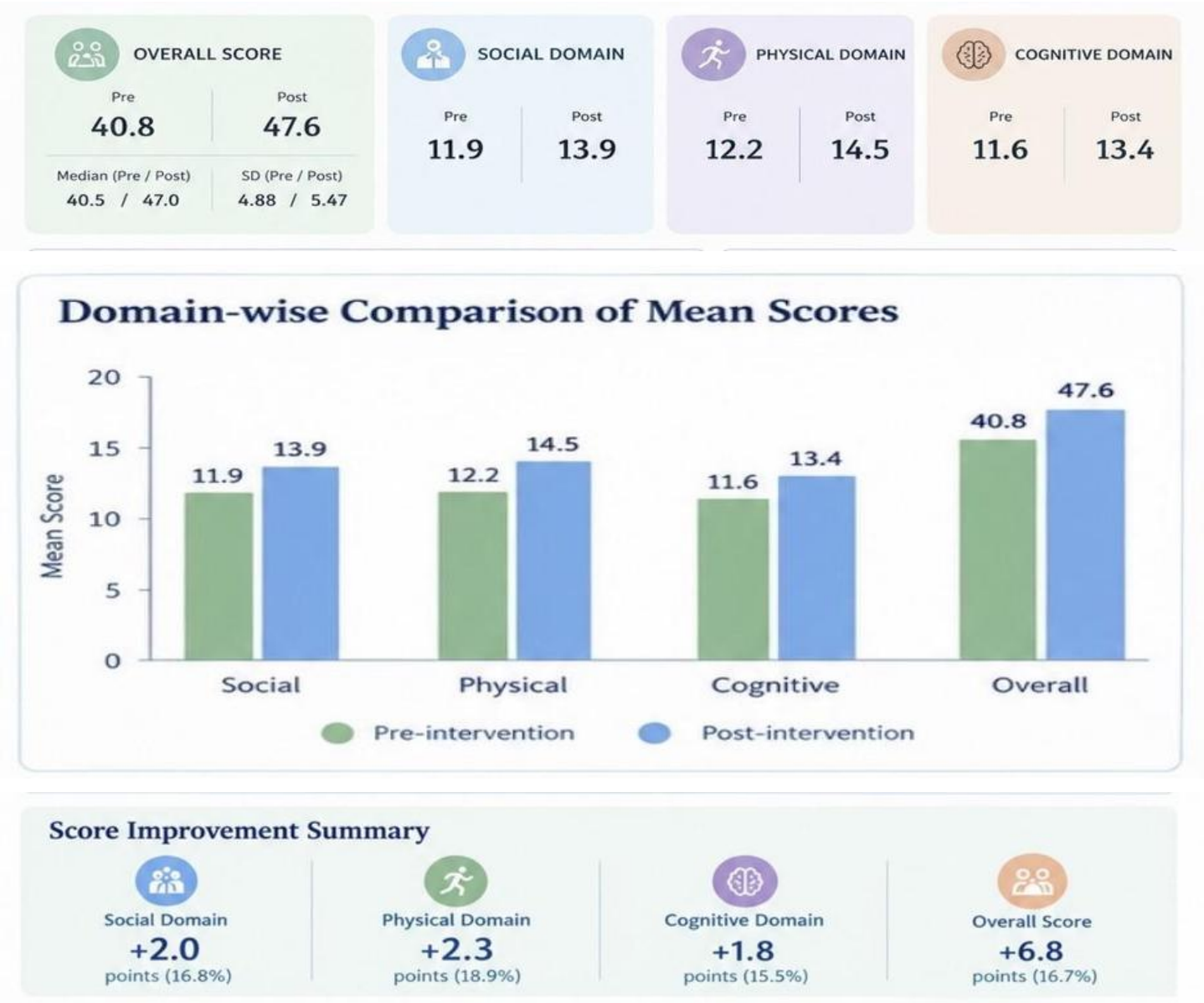
promote social interaction, communication and emotional well-being

Statistical analysis

Data collected through the structured questionnaire were recorded using Google Forms and exported to Microsoft Excel for compilation and analysis. Pre-intervention and post-intervention scores were compared to evaluate the effectiveness of the multi-domain intervention using Jamovi Software. Descriptive statistics were used to summarize the findings, and statistical significance was determined using the paired t-test, with a p-value of <0.05 considered statistically significant.

Results

A total of 50 older adults completed both the pre-intervention and post-intervention assessments and were included in the final analysis.



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Paired Samples T-Test Results

Variable	Pre-intervention Mean ± SD	Post-intervention Mean ± SD	Mean Difference (Post – Pre)	t	df	p-value
Overall Score	40.8 ± 4.88	47.6 ± 5.47	+6.8	-8.32	49	< 0.001



Detailed Results

Domain	Pre-intervention Mean ± SD	Post-intervention Mean ± SD	Mean Difference (Post – Pre)	p-value (Paired t-test)
Overall Score	40.8 ± 4.88	47.6 ± 5.47	+6.8	< 0.001
Social Domain	11.9 ± —	13.9 ± —	+2.0	< 0.001
Physical Domain	12.2 ± —	14.5 ± —	+2.3	< 0.001
Cognitive Domain	11.6 ± —	13.4 ± —	+1.8	< 0.001

Comparison of the average scores across individual questionnaire items demonstrated consistently higher post-intervention scores than baseline, indicating improvement across the social, physical, and cognitive domains assessed.

Overall, the post-intervention assessment showed a clear upward shift in quality-of-life scores compared with the baseline assessment, with a greater proportion of participants achieving higher score categories after completion of the intervention.

Discussion

The present study assessed the effectiveness of multi-domain interventions comprising physical activity, cognitive stimulation, and social engagement in improving the quality of life of older adults attending a tertiary care hospital. Comparison of pre-intervention and post-intervention scores demonstrated an overall improvement in quality of life following the intervention. Although the magnitude of improvement was modest, the findings suggest that structured multi-domain interventions can positively influence healthy aging and functional well-being among older adults.

Most participants demonstrated relatively low baseline quality-of-life scores prior to intervention. This may be attributed to age-related reductions in physical activity, limited opportunities for social interaction, and gradual cognitive decline, all of which adversely affect independence and daily functioning.

These observations are consistent with the World Health Organization's concept of healthy aging, which emphasizes that functional ability depends on maintaining physical, cognitive, and social capacities throughout later life.[6]

Following completion of the intervention, participants demonstrated improvement across all three domains. Walking exercises and simple upper-limb movements improved confidence in mobility and encouraged regular physical activity. Cognitive activities including mathematical exercises, word puzzles, and sequencing worksheets stimulated attention, memory, and executive

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function, while group discussions promoted interpersonal communication and reduced social isolation. Together, these interventions contributed to better overall quality of life, indicating that multiple domains should be addressed simultaneously rather than independently.

The findings of the present study are comparable to the Finnish Geriatric Intervention Study to Prevent Cognitive Impairment and Disability (FINGER), which demonstrated that a multi domain intervention consisting of exercise, nutritional guidance, cognitive training, and vascular risk management significantly improved cognitive performance compared with standard health advice. Although the present study was conducted over a shorter duration and involved simpler interventions, the overall direction of improvement was similar,

supporting the effectiveness of integrated lifestyle interventions in older adults[5]. The present findings also correspond with the Multi-domain Alzheimer Preventive Trial (MAPT), which evaluated physical activity, nutritional counseling, cognitive training, and preventive healthcare. The investigators reported slower cognitive decline among participants who adhered to multi-domain interventions, particularly those at increased risk of dementia. These findings reinforce the concept that combining interventions across multiple domains provides greater benefit than isolated single-domain programmes[7]. The Prevention of Dementia by Intensive Vascular Care (preDIVA) trial also evaluated a multi-domain preventive strategy in community-dwelling older adults. Although the study did not demonstrate a statistically significant reduction in dementia incidence, participants showed improvements in cardiovascular risk management and maintenance of functional health. Similar to the present study, these findings indicate that multi-domain interventions may produce gradual improvements in overall well-being even when dramatic clinical changes are not immediately evident[8]. The present results are further supported by the systematic review conducted by da Silva et al., which concluded that cognitive stimulation programmes improve cognitive function, psychological well-being, and quality of life in older adults[9]. The cognitive exercises incorporated into the present study were inexpensive, easy to administer, and well accepted by participants, suggesting that similar activities can be incorporated into routine geriatric health programmes Social interaction constituted another important component of the intervention. Group discussions enabled participants to share life experiences, hobbies, and family relationships, thereby promoting emotional support and reducing feelings of loneliness.

Hamdan Mansour et al. similarly reported that psychological well-being and social support are major determinants of quality of life among older adults, highlighting the importance of addressing social needs alongside physical health[10]. One of the strengths of the present study is the implementation of simple, feasible, and low-cost interventions that can be conducted in outpatient hospital settings without specialized equipment. The activities required minimal resources and demonstrated good participant acceptance, making them suitable for incorporation into community-based healthy aging programmes.

The study was conducted in a single institution with a relatively small sample size and lacked a control group, thereby limiting generalisability. Furthermore, the intervention period was short, and long-term sustainability of the observed improvements could not be evaluated.

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Future studies should include larger multicentric populations, longer follow-up periods, and randomized controlled designs to better establish the long-term effectiveness of multi-domain interventions

Overall, the present study demonstrates that integrating physical exercise, cognitive stimulation, and social engagement can improve quality of life among older adults. These findings support the growing body of evidence indicating that multi-domain interventions represent an effective strategy for promoting healthy aging, maintaining independence, and enhancing overall well-being in elderly populations[6].

Conclusion

This study demonstrated that multi-domain interventions targeting physical activity, social engagement, and cognitive stimulation can improve the quality of life of older adults. The findings support the incorporation of simple, low-cost, and community-based interventions into routine geriatric care to promote healthy aging, functional independence, and overall well-being. Further studies with larger sample sizes and longer follow-up periods are recommended to strengthen the evidence for these interventions.

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References

1. World Health Organization. Decade of Healthy Ageing: Baseline Report [Internet]. Geneva: World Health Organization; 2020 [cited 2026 Jul 30].
2. United Nations Population Fund (UNFPA) India. Caring for Our Elders: Institutional Responses - India Ageing Report 2023. New Delhi: UNFPA India; 2023.
3. The WHOQOL Group. The World Health Organization quality of life assessment (WHOQOL): position paper from the World Health Organization. Soc Sci Med. 1995;41(10):1403-1409.doi: 10.1016/ 0277-9536(95)00112-K.
4. Livingston G, Huntley J, Sommerlad A, Ames D, Ballard C, Banerjee S, et al. Dementia prevention, intervention, and care: 2020 report of the Lancet Commission. Lancet. 2020;396(10248):413-446. doi:10.1016/S0140-6736(20)30367-6.
5. Ngandu T, Lehtisalo J, Solomon A, Ahtiluoto S, Antikainen R, Bäckman L, et al. A 2-year multidomain intervention of diet, exercise, cognitive training, and vascular risk monitoring versus control to prevent cognitive decline in at-risk elderly people (FINGER): a randomised controlled trial. Lancet. 2015;385(9984):2255-63. doi:10.1016/ S0140-6736 (15)60461-5.
6. World Health Organization. World report on ageing and health. Geneva: World Health Organization; 2015.

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7. Andrieu S, Guyonnet S, Coley N, Cantet C, Bonnefoy M,Bordes S, et al. Effect of long-term omega-3 polyunsaturated fatty acid supplementation with or without multidomain intervention on cognitive function in elderly adults with memory complaints (MAPT): a randomised, placebo-controlled trial. Lancet Neurol. 2017;16(5):377-89.
8. Moll van Charante EP, Richard E, Eurelings LS, van Dalen JW, Ligthart SA, van Bussel EF, et al. Effectiveness of a 6-year multidomain vascular care intervention to prevent dementia (preDIVA): a cluster-randomised controlled trial. Lancet. 2016; 388(10046):797-805.
9. da Silva TBL, Santos GD, Moreira APB, Ishibashi GA, et al.Cognitive interventions in mature and older adults: benefits for psychological well-being and quality of life—a systematic review. Dement Neuropsychol.2019;13(4):389-397.
10. Hamdan Mansour AM, Shehadeh JH, Puskar K, EI-Hneiti M, Haourani EM. Investigating physical, psychological and social well-being of older persons in Jordan. Curr Aging Sci. 2017;10(3):217-223.

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