Journal of Pioneering Medical Sciences
Received: June 03, 2026 | Accepted: September 05, 2026 | Published: November 05, 2026
Volume 15, Issue 10, Pages 227-231

DOI https://doi.org/10.47310/jpms2026151023



Mindfulness Based Intervention to Combat Stress, Anxiety and Depression among Elderly in Selected Community Area

Jayasri Jayamoorthy[1*], Geetha Chockalingam[2], Avudaiappan Sankaran[3], Padmavathi Nagarajan[4] and Lokeshmaran Anandaraj[5]

[1]Department of Psychiatric Nursing, Sri Balaji Vidyapeeth University (Deemed to be University), Puducherry, India
[2]Department of Child Health Nursing, Kasturba Gandhi Nursing College, Sri Balaji Vidyapeeth (Deemed to be University), Puducherry, India
[3]Department of Psychiatry, Mahatma Gandhi Medical College and Research Institute, Sri Balaji Vidyapeeth (Deemed to be University), Puducherry, India
[4]Department of Psychiatric Nursing, College of Nursing, Jawaharlal Institute of Postgraduate Medical Education and Research (JIPMER), Puducherry, India
[5]Department of Community Medicine, Mahatma Gandhi Medical College and Research Institute, Sri Balaji Vidyapeeth (Deemed to be University), Puducherry, India

Author Designation: [1]PhD Scholar, [2,3]Professor, [4]Assistant Professor, [5]Associate Professor,

*Corresponding author: Jayasri Jayamoorthy (e-mail: jayasridaya@gmail.com).

©2026 the Author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/4.0

Abstract **Objectives:** Mental health problems in older people and a significant cost to their quality of life. This is an emerging non-pharmacological approach to improve psychological wellbeing in this population, called Mindfulness Based Interventions (MBIs). The aim of the present study was to identify the effectiveness of a mindfulness-based program administered over an 8-week period aimed at the reduction of stress, anxiety and depression. **Methods:** The study used a randomized controlled repeated-measures study design which included 132 subjects. The participants were randomly assigned to both groups. The study group were offered the 8-week MBI for older adults. The program conducted for about 10 to 15 minutes per session. Psychological outcomes were measured using standardized instruments, including the Perceived Stress Scale (PSS), Geriatric Anxiety Scale (GAS-10) and Geriatric Depression Scale (GDS). **Results:** The study findings revealed a statistically significant reduction in depression, stress and anxiety in the study group compared to the control group following the intervention ($p<0.001$). The control group showed only slight changes, however. **Conclusion:** The findings emphasize the need to further integrate structured mindfulness programs in resource-limited, community-based and geriatric health care in order to improve mental health and promote healthy aging.

Key Words Mindfulness-Based Intervention, Elderly, Stress, Anxiety, Depression, Mental Health

INTRODUCTION

The global demographic transition toward an ageing population has made mental health challenges among older adults a major public health concern. Stress, anxiety and depression are among the most common psychological disorders affecting the elderly population. Globally, approximately 5-7% of older adults experience depression, with prevalence rates reported to be considerably higher in developing countries [1]. In India, individuals aged 60 years and above constituted 8.6% of the total population in 2011 and this proportion is projected to increase to nearly 19% by 2050 [2]. Findings showed that more than 72,000 participants, indicate that depression, anxiety and stress are significant contributors to poor mental health among older adults. These psychological conditions are further aggravated by factors such as social discrimination, food insecurity, chronic illnesses and multimorbidity [1].

Older adults have benefitted from Mindfulness Based Interventions (MBIs) as a non- pharmacological intervention. There is evidence that MBSR has a positive effect in reducing symptoms of depression, anxiety and perceived stress [3-5]. MBSR is an approach developed by Kabat-Zinn and includes body-scan meditation, sitting meditation, mindful yoga and mindful movement. These techniques have been successfully applied to older adults and have shown to improve mental health and overall well-being in this group [6]. Randomized controlled trials have demonstrated substantial decreases in depression and anxiety after engaging in an 8-week MBSR programme [3,4]. Other advantages are enhanced spiritual health [5] and advantageous biologic effects, including decreased expression of pro-inflammatory genes [7]. Furthermore, research examining long-term community-based outcomes of mindfulness interventions among older adults in India is scarce.

Few studies have incorporated extended follow-up assessments to evaluate the sustainability and durability of intervention effects over time [8,9].

The novelty of the present study lies in evaluating the effectiveness of a community-based Mindfulness-Based Intervention (MBI) in reducing stress, anxiety and depression among older adults in India, while addressing the limited evidence available from South Asian populations. Unlike studies primarily conducted in Western settings or institutionalized elderly populations, this study focuses on older adults in a community setting and examines changes in multiple psychological outcomes simultaneously. The findings may support the development of accessible, non-pharmacological and culturally appropriate strategies for promoting psychological well-being among older adults in India.

METHODS

Study Design and Participants

A randomized controlled repeated-measures study was used. The study was carried out in the selected urban, semi-urban and rural communities in Puducherry, India. The participants were randomly assigned to both groups. The elderly were randomly selected and divided into two groups: study group (n = 66) and control group (n = 66).

Eligibility Criteria

The inclusion criteria included people aged 60-75 years, with mild to moderate stress, anxiety and depression, who were able to communicate and give informed consent. Exclusion criteria were severe psychiatric conditions, significant cognitive impairment, unstable medical conditions, previous experience with structured meditation or yoga, substance use and physical limitations that could interfere with participation.

Outcome Measures

Demographic and clinical information were obtained from all participants. Cognitive function was evaluated using the Mini-Mental State Examination (MMSE). Psychological outcomes were measured using standardized instruments, including the Perceived Stress Scale (PSS), Geriatric Anxiety Scale (GAS-10) and Geriatric Depression Scale (GDS).

Intervention

The study group were offered the 8-week MBI for older adults. The program conducted for about 10 to 15 minutes per session. Sessions were held each day and participants were urged to do home practice using activity logs and periodic follow-up. In the control group, participants received regular care.

Data Collection Procedure

Face-to-face standardized assessments were conducted at baseline and at three post-intervention time points to collect the data. Regular follow-up and participant-maintained log sheets and telephone follow up to monitor adherence to the intervention.

RESULTS

Table 1 presents the demographic characteristics of the elderly participants. In the study group, most participants were aged 60-65 years (68.2%), female (53.0%) and belonged to urban (36.4%) or semi-urban (33.3%) areas. Similarly, the control group predominantly comprised participants aged 60-65 years (75.8%) and males (53.0%). Pension was the major source of income in both groups. Non-vegetarian food habits were more common than vegetarian habits and more than half of the participants reported engaging in regular exercise. Hypertension was the most frequently reported illness, followed by diabetes mellitus.

Table 2 depicts the levels of anxiety and depression among elderly participants. In the study group, mild anxiety (56.1%) and mild depression (53.0%) were more prevalent than moderate levels. In contrast, the control group showed a higher proportion of moderate anxiety (62.1%) and moderate depression (65.2%). These findings indicate that psychological distress was comparatively lower among participants in the study group than in the control group.

Table 3 shows a significant reduction in stress, anxiety and depression scores among the study group following the mindfulness-based intervention. Mean stress decreased from 18.12±4.71 to 8.02±3.37, anxiety from 9.32±1.34 to 4.95±1.58 and depression from 9.28±1.61 to 3.26±1.84 over 12 weeks. These changes were statistically significant ($p<0.001$), indicating the effectiveness of the intervention.

Table 1: Demographic Variables of the Participants in the Groups

Demographic Variable	Category	Study (n = 66) n (%)	Control (n = 66) n (%)
Age	60-65 years	45 (68.2)	50 (75.8)
	66-70 years	21 (31.8)	16 (24.2)
Gender	Male	31 (47.0)	35 (53.0)
	Female	35 (53.0)	31 (47.0)
Residential Area	Rural	20 (30.3)	24 (36.4)
	Urban	24 (36.4)	21 (31.8)
	Semi-urban	22 (33.3)	21 (31.8)
Number of Children	1	10 (15.2)	11 (16.7)
	2	25 (37.9)	24 (36.4)
	3	20 (30.3)	21 (31.8)
	4	8 (12.1)	9 (13.6)
	5	3 (4.5)	1 (1.5)
Living Arrangement	Living with spouse	31 (47.0)	34 (51.5)
	Living alone	19 (28.8)	14 (21.2)
	Living with children	16 (24.2)	18 (27.3)
Source of Income	Pension	41 (62.1)	38 (57.6)
	Offsprings	25 (37.9)	28 (42.4)

Table 1: Continued

Demographic Variable	Category	Study (n = 66) n (%)	Control (n = 66) n (%)
Food Habits	Vegetarian	25 (37.9)	23 (34.8)
	Non-vegetarian	41 (62.1)	43 (65.2)
Habits of Exercise	Yes	38 (57.6)	36 (54.5)
	No	28 (42.4)	30 (45.5)
Duration of Exercise	No exercise	28 (42.4)	30 (45.5)
	1 hour	5 (7.6)	8 (12.1)
	2 hours	21 (31.8)	19 (28.8)
	3 hours	7 (10.6)	5 (7.6)
	4 hours	5 (7.6)	4 (6.1)
Type of Leisure Activity	None	9 (13.6)	3 (4.5)
	Watching TV	18 (27.3)	17 (25.8)
	Hearing music	22 (33.3)	20 (30.3)
	Talking with friends	17 (25.8)	26 (39.4)
Duration of Sleep (Hours)	4	4 (6.1)	5 (7.6)
	5	26 (39.4)	31 (47.0)
	6	18 (27.3)	19 (28.8)
	7	14 (21.2)	10 (15.2)
	8	4 (6.1)	1 (1.5)
Habits of Consuming	None	29 (43.9)	27 (40.9)
	Alcohol	17 (25.8)	22 (33.3)
	Tobacco	7 (10.6)	5 (7.6)
	Smoking	13 (19.7)	12 (18.2)
Duration of Consumption	Not applicable	29 (43.9)	27 (40.9)
	0–5 years	6 (9.1)	7 (10.6)
	6–10 years	24 (36.4)	25 (37.9)
	More than 10 years	7 (10.6)	7 (10.6)
Present Illness	Hypertension	36 (54.5)	39 (59.1)
	Musculoskeletal diseases	6 (9.1)	2 (3.0)
	Diabetes mellitus	24 (36.4)	25 (37.9)

Table 2: Anxiety Level and Depression among the Participants

Variable	Level	Study Group (n = 66)		Control Group (n = 66)	
		Frequency	Percentage	Frequency	Percentage
Anxiety	Mild	37	56.1	25	37.9
	Moderate	29	43.9	41	62.1
Depression	Mild	35	53.0	23	34.8
	Moderate	31	47.0	43	65.2

Table 3: Effectiveness of Mindfulness-Based Intervention in Study Group

Variable	Time	Mean (SD)	Median (IQR)	Friedman test	p-value
Stress	Pre-test	18.12 (4.71)	19 (13, 22)	188.462	<0.001
	Week 4	13.24 (3.82)	13 (10, 16)		
	Week 8	10.87 (3.56)	10 (8, 13)		
	Week 12	8.02 (3.37)	7 (5, 10)		
Anxiety	Pre-test	9.32 (1.34)	9 (8, 11)	186.743	<0.001
	Week 4	8.01 (1.61)	8 (7, 10)		
	Week 8	6.17 (1.82)	6 (5, 7)		
	Week 12	4.95 (1.58)	5 (3, 6)		
Depression	Pre-test	9.28 (1.61)	9 (8, 11)	191.527	<0.001
	Week 4	6.51 (2.31)	6 (4, 8)		

Table indicates a gradual decline in stress, anxiety and depression scores among participants in the control group. Although statistically significant changes were observed over time ($p<0.001$), the reduction was less marked than that observed in the study group.

Table show the relationship between stress, anxiety and depression among elderly participants. No significant correlation was found between stress and anxiety or between anxiety and depression. However, stress demonstrated a significant positive correlation with depression ($r = 0.352$, $p<0.001$), suggesting that increased stress levels were associated with higher depression scores.

DISCUSSION

This study demonstrated that Mindfulness-Based Intervention (MBI) had a statistically significant effect on reducing stress, anxiety and depression among the elderly population ($p<0.001$). These findings are consistent with previous studies demonstrating the effectiveness of mindfulness-based interventions in improving psychological well-being among older adults [10-12]. The significant reduction in perceived stress scores in the intervention group was consistent with previous findings reporting a 54.7% reduction in perceived stress following an MBSR program among older adults [12]. Similarly, significant reductions

in depression scores have been reported among elderly residents of residential homes following MBSR [13] and among depressed older adults following an eight-week MBSR program ($p<0.001$) [2]. The reduction in anxiety scores observed in the present study also supports previous findings demonstrating significant improvements in anxiety among participants receiving Mindfulness-Based Elder Care compared with the control group in a randomized controlled trial [10]. Furthermore, a literature review reported that mindfulness therapy was effective in reducing anxiety among older adults [14,15].

The comparatively smaller reductions in psychological symptom scores in the control group were consistent with findings from previous randomized controlled trials [10,12,2]. Similarly, a systematic review and meta-analysis reported that MBSR was more effective than wait-list control conditions in reducing depression among older adults [11]. Another meta-analysis of 32 randomized controlled trials demonstrated that MBSR was more effective than control interventions in reducing depressive symptoms [16].

A significant positive correlation was observed between stress and depression ($r = 0.352$, $p<0.001$). This finding is consistent with evidence suggesting that chronic stress and depression may share neurobiological pathways involving glucocorticoid-mediated changes in the amygdala, hippocampus and prefrontal cortex [9]. Additionally, a study reported beneficial effects of a mindfulness-based cognitive behavioral intervention in older adults at risk of depression and anxiety [17]. The absence of significant correlations between stress and anxiety and between anxiety and depression may indicate that these psychological constructs have distinct yet potentially overlapping dimensions among older adults, warranting further investigation. Overall, these findings strengthen the evidence supporting mindfulness-based interventions as potentially effective, low-risk, non-pharmacological approaches for improving psychological well-being among elderly individuals.

CONCLUSION

This study provides strong evidence that mindfulness-based interventions significantly reduce anxiety, stress and depression in elderly populations. The intervention was particularly effective in improving depressive symptoms and promoting emotional resilience. Demographic factors such as income stability, exercise habits, leisure activity, and sleep duration were also significant predictors of mental health outcomes. These findings support the incorporation of structured mindfulness programs into community and clinical geriatric care to enhance overall psychological well-being and quality of life.

Limitations

The study was conducted in selected clusters in Puducherry, limiting generalizability and cluster sampling may have introduced selection bias. Lack of blinding may have resulted in expectancy and attention effects. The absence of a detailed intervention fidelity assessment and potential contamination between participants may have affected intervention consistency. Self-reported measures were susceptible to social desirability bias, while unclear attrition and missing data may have influenced the results. The short follow-up period limited assessment of long-term effects. Additionally, analyzing repeated measures separately within each group may have overlooked group-by-time interactions. Future studies should address these limitations using rigorous methodological and statistical approaches.

Recommendations:

- Integrate mindfulness-based interventions into routine geriatric care programs and community health initiatives to improve mental health outcomes
- Encourage regular physical activity, leisure engagement and sleep hygiene as complementary strategies for stress and depression management
- Explore digital or telehealth delivery of mindfulness interventions to increase accessibility among elderly individuals with mobility constraints

Ethical Statement

The study was carried out in an ethical manner when dealing with human subjects. All participants signed a written informed consent before entering the study. Confidentiality and anonymity were upheld throughout and extra medical and psychological needs were referred appropriately.

REFERENCES

[1] Moss, A. *et al.* "An adapted mindfulness-based stress reduction program for elders in a continuing care retirement community." 2014, DOI: 10.1177/0733464814559411.

[2] Javadzade, N. *et al.* "A randomized, controlled trial study of the effectiveness of mindfulness-based stress reduction program on depression and physical problems in depressed elderly individuals." *Journal of Health Psychology*, vol. 30, no. 11, 2024, pp. 2957-2969. DOI: 10.1177/13591053241302472.

[3] Martens, N.L. "Yoga interventions involving older adults: Integrative review." *Journal of Gerontological Nursing*, vol. 48, no. 2, 2022, pp. 43-52. DOI: 10.3928/00989134-20220110-05.

[4] Farhang, M. *et al.* "The impact of a yoga-based mindfulness intervention versus psychoeducational session for older adults with mild cognitive impairment: The protocol of a randomized controlled trial." *International Journal of Environmental Research and Public Health*, vol. 19, no. 22, 2022. DOI: 10.3390/ijerph192215374.

[5] Farhang, M. *et al.* "Impact of mind-body interventions in older adults with mild cognitive impairment: A systematic review." *International Psychogeriatrics*, vol. 31, no. 5, 2019, pp. 643-666. DOI: 10.1017/S1041610218002302.

[6] Fountain-Zaragoza, S. and R.S. Prakash. "Mindfulness training for healthy aging: Impact on attention, well-being and inflammation." *Frontiers in Aging Neuroscience*, vol. 9, 2017. DOI: 10.3389/fnagi.2017.00011.

[7] Parra, D.C. *et al.* "A qualitative study of older adults' perspectives on initiating exercise and mindfulness practice." *Research Square*, 2019. DOI: 10.21203/rs.2.15394/v3.

[8] Mallya, S. Evaluating the effects of mindfulness-based stress reduction on cognitive function and quality of life in nondemented older adults: A pilot study. Toronto Metropolitan University, 2023. DOI: 10.32920/ryerson.14663457.v1.

[9] Gard, T. *et al.* "The potential effects of meditation on age-related cognitive decline: A systematic review." *Annals of the New York Academy of Sciences*, vol. 1307, no. 1, 2014, pp. 89-103. DOI: 10.1111/nyas.12348.

[10] Hsiung, Y. *et al.* "Effects of Mindfulness-Based Elder Care (MBEC) on symptoms of depression and anxiety and spiritual well-being of institutionalized seniors with disabilities: A randomized controlled trial." *BMC Geriatrics*, vol. 23, 2023. DOI: 10.1186/s12877-023-04220-6.

[11] Li, S.Y.H. and D. Bressington. "The effects of mindfulness-based stress reduction on depression, anxiety and stress in older adults: A systematic review and meta-analysis." *International Journal of Mental Health Nursing*, vol. 28, no. 3, 2019, pp. 635-656. DOI: 10.1111/inm.12568.

[12] Yıldız, M.K. and O.S. Orak. "The effect of the Mindfulness-Based Stress Reduction program on the level of perceived stress and geriatric depression in older adults: A randomised controlled study." *Psychogeriatrics*, vol. 23, no. 2, 2023, pp. 261-272. DOI: 10.1111/psyg.12929.

[13] Kumar, S. *et al.* "Impact of Mindfulness-Based Stress Reduction (MBSR) on depression among elderly residing in residential homes." *Nursing Journal of India*, 2022. DOI: 10.48029/nji.2014.cv602.

[14] Nurhidayati, T. *et al.* "Literature review: Effectiveness of mindfulness therapy for elderly anxiety." In [Book title to be verified], 2022, pp. 166-175, DOI: 10.2991/978-94-6463-070-1_21.

[15] Feng-qin, D. *et al.* "Can mindfulness-based stress reduction relieve depressive symptoms? A systematic review and meta-analysis." *Journal of Pacific Rim Psychology*, vol. 17, 2023. DOI: 10.1177/18344909221145814.

[16] Garg, R. *et al.* "Mindfulness-based cognitive behavioral intervention as a preventative approach for elderly individuals at risk of depression and anxiety: A randomized controlled trial." Research Square, 2024. DOI: 10.21203/rs.3.rs-5386036/v1.

[17] Pérez, V.A.F. *et al.* "Mindfulness-based intervention for the reduction of compassion fatigue and burnout in nurse caregivers of institutionalized older…" 2022. [Title and publication details incomplete in the information provided.]