

Mindful Yoga Therapy For Elderly Depression: Community-Based Nonpharmacological Approach

Terapia de yoga con atención plena para la depresión en adultos mayores: un enfoque comunitario no farmacológico

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SUMMARY

Introduction: Depression among older adults is a multifaceted public health concern influenced by factors such as spousal loss, social isolation, and biological and psychological changes. Mindful yoga therapy, integrating gentle physical movements with mindfulness practices, offers a non-pharmacological approach to improving mental health in this population. **Methods:** This study employed a quasi-experimental design with a pretest-posttest control group. A total of 70 elderly participants were randomly assigned to the intervention and control groups, with 35 participants in each group. Purposive sampling was used, with inclusion criteria: age ≥ 60 years; Geriatric Depression Scale (GDS) score > 5 ; independent in daily activities; Muslim; and not using antidepressants. Exclusion criteria included elderly individuals with mental disorders, a history of mental disorders, or dementia. The intervention group received mindful yoga therapy

for 12 weeks (2-3 sessions per week, 30 minutes per session), comprising breathing techniques, guided meditation, gentle body movements, and mindfulness exercises. Data were analyzed using the Wilcoxon test.

Results: After the intervention, 74.3 % of participants in the mindful yoga group were classified as normal, compared with only 5.7 % in the control group. The mean depression score in the intervention group decreased significantly from 8.00 ± 3.162 to 4.74 ± 2.934 ($p = 0.001$), whereas the control group showed no significant change ($p = 0.055$).

Conclusions: Mindful yoga therapy effectively reduces depression levels in older adults and can be recommended as a safe, easy-to-implement, community-based non-pharmacological intervention.

Keywords: Mindful yoga, depression, community, quasi-experiment, elderly, purposive sampling.

RESUMEN

Introducción: La depresión en los adultos mayores es un problema de salud pública multifacético, influido por factores como la pérdida de la pareja, el aislamiento social y los cambios biológicos y

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psicológicos. La terapia de yoga con atención plena, que integra movimientos físicos suaves con prácticas de mindfulness, ofrece un enfoque no farmacológico para mejorar la salud mental en esta población.

Métodos: Este estudio empleó un diseño cuasiexperimental con grupo de control y mediciones pretest–posttest. Un total de 70 adultos mayores se dividió equitativamente en un grupo de intervención y otro de control, con 35 personas en cada grupo. Se utilizó un muestreo intencional con los siguientes criterios de inclusión: edad ≥ 60 años, puntuación en la Escala de Depresión Geriátrica (GDS) > 5 , independencia en las actividades diarias, sermusulmán y no usar antidepresivos. Los criterios de exclusión incluyeron adultos mayores con trastornos mentales, antecedentes de trastornos mentales o demencia. El grupo de intervención recibió terapia de yoga consciente durante 12 semanas (2–3 sesiones por semana, de 30 minutos por sesión), que incluía técnicas de respiración, meditación guiada, movimientos corporales ligeros y ejercicios de atención plena. Los datos se analizaron mediante la prueba de Wilcoxon.

Resultados: Despues de la intervención, el 74,3 % de los participantes del grupo de yoga consciente se clasificaron como normales, en comparación con solo el 5,7 % del grupo de control. La puntuación media de depresión en el grupo de intervención disminuyó significativamente de $8,00 \pm 3,162$ a $4,74 \pm 2,934$ ($p = 0,001$), mientras que en el grupo de control no se observaron cambios significativos ($p = 0,055$).

Conclusiones: La terapia de yoga con atención plena reduce eficazmente los niveles de depresión en adultos mayores y puede recomendarse como una intervención no farmacológica, segura, fácil de implementar y basada en la comunidad.

Palabras clave: Yoga con atención plena, depresión, comunidad, cuasiexperimental, adultos mayores, muestreo intencional.

INTRODUCTION

Depression in older adults is one of the most common mental health problems, yet it often goes undiagnosed or is not treated optimally. As they age, older adults face various physical, psychological, social, and spiritual changes that can trigger symptoms of depression. Depression in older adults is a complex issue that requires a holistic approach to diagnosis, treatment, and prevention (1). Depression in older adults often goes undetected. Depressive disorders are characterized by sadness, loss of interest or pleasure, feelings of guilt or low self-esteem,

sleep or appetite disturbances, fatigue, and lack of concentration (2).

Various factors contribute to the onset of depression in older adults, including biological changes due to the aging process, chronic diseases that reduce quality of life, loss of a spouse, retirement, reduced social roles, and limitations in daily activities (3). If not appropriately treated, depression can increase the risk of disability, worsen medical comorbidities, increase the burden on families, and even increase the risk of suicide in the elderly (4). This condition indicates that depression in the elderly is a public health issue that requires serious attention, both through medical approaches and community-based interventions (5).

Globally, depression in older adults occurs in approximately 19.2 % of the total elderly population worldwide (6). Indonesia is the second country with the highest incidence of depression, with a prevalence of 14.5 % for those aged 75 and above and a prevalence of 24.9 % among the elderly population. Overall, 30 % of older adults in Indonesia admit to experiencing depression (7). In Central Java Province, the prevalence of older adults experiencing depression is 10,346 people, or 14.2 % of the total older adult population. In Sukoharjo Regency, the prevalence of depression among those aged ≥ 15 years is 3 271 people, the majority of whom are adults and elderly (5).

The management of depression in the elderly has so far focused on the use of pharmacological therapy, such as the administration of antidepressants. However, the pharmacological approach has limitations, including potential side effects, drug interactions, and low long-term compliance (8). Therefore, non-pharmacological intervention strategies that are safe, effective, and widely accessible to the community are needed (9). One approach that is increasingly being researched is Mindful Yoga Therapy, the integration of yoga practice with mindfulness. Yoga involves physical activity through stretching, breathing, and relaxation, while mindfulness emphasizes full awareness of the present experience without judgment (10).

Mindful yoga therapy combines traditional yoga techniques with a mindfulness-based stress reduction approach. This integration aims to improve physical and mental health through

practices that promote calm, nonjudgmental awareness, and stress reduction (11). The benefits of mindful yoga therapy in terms of mental health are that mindful yoga therapy has shown potential in reducing symptoms of depression among the elderly, with participants in mindful yoga programs reporting significant improvements in their mood and overall mental health (10,12). Physical benefits: Regular mindfulness yoga practice can improve physical health by increasing muscle strength, body flexibility, and immune system function (13). These physical improvements can contribute to overall well-being and reduce physical symptoms associated with depression (11). Social engagement: Participation in mindfulness yoga therapy may encourage older adults to become more actively involved in their communities, fostering social connections and reducing loneliness (14).

The urgency of this study is that researchers use a combination of yoga therapy and mindfulness interventions to reduce depression. Previous studies have not used interventions that combine yoga therapy and mindfulness to treat depression, using yoga therapy or mindfulness alone. Yoga physically helps with flexibility, balance, and muscle strength, which are important for the elderly, while mindfulness helps manage stress, increase self-awareness, and reduce negative thoughts. The combination of these two interventions can be part of a holistic wellness program for the elderly that addresses physical, mental, and spiritual aspects.

This study aimed to determine the effectiveness of mindful yoga therapy in reducing depression among the elderly in the community.

METHODOLOGY

This study is a quantitative quasi-experimental design with a pretest-posttest control group. The study was conducted from July to September 2024 in Jetis Village, Baki, Sukoharjo.

The study population consisted of 201 elderly residents of Jetis Village. Purposive sampling was used to select participants based on the following inclusion criteria: age 60 years or older; Geriatric Depression Scale (GDS) score greater than 5; ability to perform activities independently;

Muslim faith; nonuse of antidepressants; and willingness to participate until the study's completion. Exclusion criteria included elderly individuals with mental disorders, a history of mental disorders, or dementia. After applying these criteria, 78 participants qualified for the study. Sampling is shown in Figure 1.

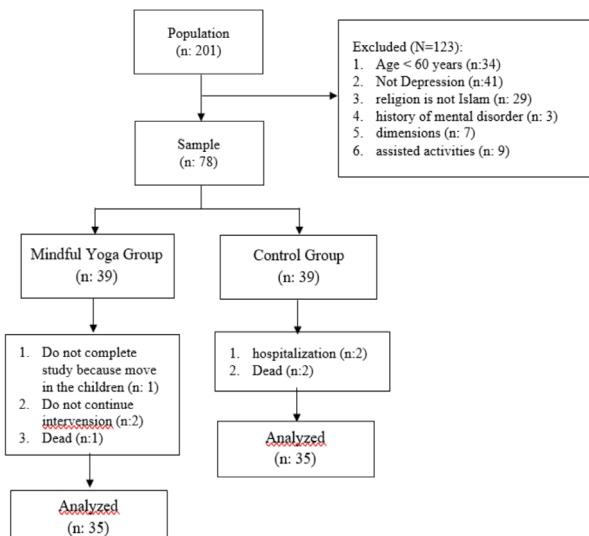


Figure 1. Sampling criteria.

The instrument used was Greenberg's Geriatric Depression Scale (GDS) short form questionnaire, consisting of 15 yes/no questions, with a score of 0-5 indicating no depression, a score of >5-10 indicating depression, and a score of >10 indicating persistent depression (7). The validity test results obtained a value of ≤ 0.4438 (r table) and the reliability test results were 0.886 or 88.6 %.

Mindful yoga therapy was provided to the elderly for 12 weeks, with therapeutic movements targeting the upper and lower body, 2-3 times per week, each session lasting 30 minutes. The researcher conducted the exercise protocol, and the team performed the therapy exercises together in the village. For the next session, the exercises were conducted in groups at each health center, with the assistance of researchers and cadres.

Mindful Yoga therapy movements began with preparation, namely determining the time, which could be in the morning or the afternoon. It was hoped that the time would not be changed; for example, if it were scheduled in the morning, the last intervention would also be scheduled in the morning. The required equipment is a yoga mat. The following steps include warm-up, core, and closing. Warm-up (5 minutes): sit cross-legged with your back straight, place your hands on your knees, palms facing up, close your eyes, take a deep breath through your nose, exhale slowly through your mouth, and focus on your breath and body. Slowly turn your head clockwise and counterclockwise, raise your shoulders to your ears and then lower them, sit cross-legged, and turn your body to the right with your left hand on your right knee while holding your breath. Core Section (15 minutes) The movements include: 1) Dynamic spinal twist, which involves sitting upright, then straightening both legs apart while straightening both arms, with the right hand touching the toes of the left foot and the left hand behind the back. Repeat the movement in the opposite direction while inhaling. 2) Knee bend, sit upright, then lift your right leg and hug it with both hands, bending your right knee to your chest. 3) Naukasanchalanan/rowing, which involves straightening your legs and making movements similar to rowing a boat. 4) Karmasana is a sitting movement with the knees bent while both fingers are tied behind the back as you exhale, looking to the right/left, then combining the two fingers of the hands and raising them above the head, moving the hands to the left/right while inhaling. 5) Bhastriksana 1 breathing technique involves sitting in meditation and inhaling and exhaling 8 times. 6) Bhastriksana 2 breathing technique, ascetic movement, closing the right nostril with the thumb while inhaling and the left nostril with the ring finger while exhaling. Next, guided imagery combined with mindfulness therapy (10 minutes) involves the following movements: close your eyes, take a deep breath, intend in your heart that you want to get closer to Allah, and cleanse your soul through istigfar (remembering Allah SWT), and train yourself to develop positive potential while listening to soothing music. When exhaling, say silently or softly, "Astaghfirullah...," and repeat 5-10 times. Closing (5 minutes): Pray and ask about the patient's feelings and complaints after therapy.

The research protocol and ethics have been approved by the Health Research Ethics Committee of Dr. Moewardi General Hospital with number 791/II/HREC/2024.

Data Analysis

Data were analyzed using SPSS Statistics to examine descriptive statistics, frequencies, and percentages. The homogeneity of the experimental and control groups was tested using ANOVA. The outcome variables among the three groups were analyzed using the Wilcoxon test.

RESULTS

By gender, the mindful yoga group was predominantly female (57.1 %), as was the control group (51.4 %). The majority of respondents were aged 60-65 years in both the intervention (40 %) and control (60 %) groups. Educational level: The majority of participants in the mindful yoga group were in elementary school (42.9 %), whereas the control group was in high school (37.1 %). Regarding marital status, the majority of participants in the mindful yoga group were married (62.9 %), while the majority of participants in the control group were married (82.9 %) (Table 1).

Before the intervention, none of the participants in either group (mindful yoga and control) were in the normal category. In the mindful yoga group, 24 people (68.6 %) showed symptoms of depression, and 11 people (31.4 %) were classified as constantly depressed. Meanwhile, in the control group, 22 participants (62.9 %) showed symptoms of depression, and 13 participants (37.1 %) were classified as constantly depressed. Statistical tests showed No. significant difference between the two groups before the intervention ($p = 0.637$).

After the intervention, there was a noticeable change in the distribution of depression levels, particularly in the mindful yoga group. In this group, 26 participants (74.3 %) were in a normal condition, 6 participants (17.1 %) still showed symptoms of depression, and only 3 participants (8.6 %) were classified as constantly depressed. In

Table 1. Demographic characteristics of the respondents of the mindful yoga group, and control group characteristics by gender, age, education, and occupation

Characteristics	Mindful yoga (n = 35)		Control (n = 35)	
	n	%	n	%
Gender				
Male	15	42.9	17	48.6
Female	20	57.1	18	51.4
Age				
60 – 65 years	14	40.0	21	60.0
66 – 70 years	10	28.6	5	14.3
> 70 years	11	31.4	9	25.7
Education				
Elementary School	15	42.9	9	25.7
Junior High School	4	11.4	4	11.4
Senior High School	14	40.0	13	37.1
Bachelor's Degree	2	5.7	7	20.0
Master's Degree	0	0	2	5.7
Marital Status				
Married	22	62.9	29	82.9
Widower/Widow	13	37.1	6	17.1

contrast, in the control group, only 2 participants (5.7 %) were in the normal category, while the majority (68.6 %) still showed symptoms of

depression, and 9 participants (25.7 %) were classified as constantly depressed (Table 2).

Table 2. Frequency distribution and results of pre- and post-normality test of depression levels.

Characteristics of Depression	Mindful yoga (n = 35)		Control (n = 35)		Normality test
	n	%	n	%	
Before Intervention					
Normal	0	0	0	0	0.637
Shows Depression	24	68.6	22	62.9	
Always Depressed	11	31.4	13	37.1	
After Intervention					
Normal	26	74.3	2	5.7	0.217
Shows Depression	6	17.1	24	68.6	
Always Depressed	3	8.6	9	25.7	

Table 3. The results of the mean difference between the pre-test and the post-test.

Group	Information	Analysis Result		P
		n	Mean ± SD	
Mindful yoga therapy	Pre-test	35	8 ± 3.162	0.001
	Post-test	35	4.74 ± 2.934	
Control	Pre-test	35	9.43 ± 3.381	0.055
	Post-test	35	9.14 ± 3.246	

Table 3 presents the results of the analysis of the difference in mean depression scores before and after the intervention in the mindful yoga therapy group and the control group. In the mindful yoga therapy group, the mean depression score before the intervention was 8.00 ± 3.162 , and decreased significantly to 4.74 ± 2.934 after the intervention. Statistical test results show that this decrease is significant with a p-value of 0.001, indicating that mindful yoga intervention is effective in reducing participants' depression levels. In contrast, in the control group, the average depression score changed only slightly from 9.43 ± 3.381 at pre-test to 9.14 ± 3.246 at post-test. This decrease was not statistically significant ($p = 0.055$).

DISCUSSION

The results of this study indicate that community-based *Mindful Yoga Therapy* has a significant effect in reducing depression levels in older adults. The decrease in depression scores found in the intervention group compared to the control group shows that this non-pharmacological therapy can provide real psychological benefits for older adults (9). These findings align with previous studies showing that yoga and mindfulness-based practices can reduce depressive symptoms by improving physiological functioning, emotion regulation, and psychological well-being in older adults (15). Controlled breathing activities, gentle body postures, and meditation exercises in Mindful Yoga Therapy have been shown to stimulate the parasympathetic nervous system, reduce muscle tension, and improve sleep quality, which ultimately contributes to a reduction in depressive symptoms (16).

Beyond its physiological benefits, Mindful Yoga Therapy also enhances the psychological and social well-being of the elderly. Mindfulness exercises help individuals focus more on the present moment, accept experiences with greater calm, and reduce the tendency toward rumination, which is often a trigger for depression (17). On the other hand, group therapy within a community provides the elderly with opportunities to build social connections, a sense of togetherness, and emotional support from fellow participants (18).

This social factor is very important, considering that loneliness and social isolation are strong determinants of the onset of depression in old age. Thus, the positive effects of Mindful Yoga Therapy stem not only from physical and psychological components, but also from the social dimension inherent in community-based therapy (19).

Mindful Yoga Therapy combines light physical exercise, deep breathing, and mindfulness practices (full awareness of the present moment). This approach not only promotes physical health but also positively affects mental health, including reducing depressive symptoms (20). There are several key reasons this therapy is effective: first, it activates the body's relaxation response (parasympathetic response). Breathing exercises and slow movements in yoga help reduce sympathetic nervous system activity (which is active during stress) and increase parasympathetic nervous system activity (21). This makes the body more relaxed, lowers heart rate and blood pressure, and reduces muscle tension and anxiety that often accompany depression (22). Second, Improving Emotional Regulation. Through mindfulness, participants are encouraged to be aware of their thoughts and feelings without judgment. This technique trains the brain not to overreact to negative thoughts or stressors, thereby gradually strengthening the ability to manage emotions (23).

These findings also reinforce the view that non-pharmacological interventions such as mindfulness-based yoga can be used as an alternative or complementary therapy in efforts to reduce symptoms of depression in older adults. This therapy has advantages because it is relatively safe, does not cause side effects like antidepressant drugs, can be done at a low cost, and is easily accessible within the community (8). This is relevant to the needs of the elderly population in Indonesia, where the prevalence of depression is quite high. However, there are still limitations in access to professional mental health services (24). By integrating Mindful Yoga Therapy into community health programs, such as elderly health posts, this approach has the potential to be an effective, affordable, and sustainable strategy for improving the mental health of older adults.

CONCLUSIONS

The results of this study show that mindful yoga therapy significantly reduces depression levels in older adults. The group that received the intervention experienced a significant decrease in depression scores after participating in 12 weeks of sessions, while the control group did not experience any significant changes. Mindful yoga, which combines breathing techniques, light physical activity, and spiritual elements, has been proven to reduce depression in older adults. Therefore, this therapy is recommended as a holistic, safe, and accessible non-pharmacological intervention alternative in the context of public health services, especially for older adults in the community.

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MINDFUL YOGA THERAPY FOR ELDERLY DEPRESSION

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