

## The Application of Meditation/Mindfulness Therapy for Stress and Insomnia in the Elderly: A Literature Review

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### ABSTRACT

**Background & Objective:** Older adults often experience psychological and physiological changes that lead to stress and sleep disorders such as insomnia. Mindfulness and meditation therapy have been widely applied as non-pharmacological interventions to improve sleep quality and reduce anxiety among elderly populations. This literature review aims to analyze and synthesize evidence from Indonesian studies regarding the effectiveness of meditation and mindfulness therapy in reducing stress and insomnia in older adults. **Method:** A literature review was conducted using Google Scholar, Garuda, and Neliti databases for Indonesian studies published from 2019–2025. Eighteen eligible articles were analyzed, including three local studies by Bachtiar Safrudin focusing on yoga, physical activity, and elderly exercise as relaxation interventions. **Result:** Most studies demonstrated that meditation and mindfulness significantly reduce stress and improve sleep quality in the elderly. Local findings also supported these effects through yoga and relaxation exercises. **Conclusion:** Meditation and mindfulness are effective, simple, and safe interventions that can be integrated into community-based nursing programs to enhance elderly mental health.

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### Introduction

The global increase in life expectancy has led to a growing elderly population, accompanied by a rise in health problems related to psychological and physiological decline. According to the World Health Organization (2023), more than 1.4 billion people worldwide will be aged 60 years or older by 2030. Aging is often accompanied

by emotional distress and sleep disorders, such as insomnia, resulting from loneliness, reduced social interaction, and loss of functional ability (Dewi et al., 2024). Chronic stress affects the autonomic nervous system, increasing cortisol levels and disrupting sleep regulation (Fitriani et al., 2022; Kusuma et al., 2023).

In Indonesia, the elderly population has risen steadily and now accounts for 10.48 percent of the total population (BPS, 2023). Almost half of older adults report mild to moderate sleep problems, often associated with anxiety and psychosocial stress (Dewi et al., 2024; Lestari et al., 2020). To address these issues, non-pharmacological approaches such as deep-breathing relaxation, meditation, and mindfulness have become increasingly recommended for stress and sleep management (Pratiwi et al., 2021; Rahmawati et al., 2022).

In East Kalimantan – particularly Samarinda – there are about 67 000 older residents (Samarinda, 2025). Reports from community health centers show that stress and insomnia are among the most frequent mental-health complaints among the elderly (Putri et al., 2024). Local studies by (M. B. Safarudin, 2022) found that yoga combined with light exercise significantly reduced anxiety among elderly participants at a nursing home in Samarinda. In later studies, (B. Safarudin, Widyastuti, et al., 2025) reported that regular physical activity and elderly exercise improved emotional balance, reduced depression, and maintained cognitive function, supporting the role of relaxation-based interventions for older adults.

Previous studies in Indonesia also confirm the benefits of meditation and mindfulness for stress and insomnia management. Mindfulness-Based Stress Reduction (MBSR) and guided meditation interventions were shown to lower anxiety and enhance sleep duration (Aulia et al., 2023; Lestari et al., 2020). Mindfulness practice improves self-awareness, promotes relaxation, and stimulates alpha-theta brainwave activity that enhances sleep quality (Kusuma et al., 2023; Wahyuni et al., 2020). However, many studies had small samples and short intervention durations, and few examined combined psychological and physiological outcomes.

Considering the limited evidence in Samarinda and the importance of addressing both stress and insomnia in the elderly, this review aims to synthesize national and local evidence on the application of meditation and mindfulness therapy for older adults. The findings are expected to provide scientific support for non-pharmacological nursing interventions that improve mental well-being and sleep quality among Indonesia's aging population.

## Objective

This literature review aims to analyze and synthesize findings from 18 Indonesian studies that examine the effectiveness of meditation and mindfulness therapy in reducing stress and improving sleep quality among older adults. The review also includes evidence from three local studies by Bachtiar Safrudin (2022-2025) that explored yoga, physical activity, and elderly exercise as non-pharmacological interventions for mental-health improvement in Samarinda.

The objective of this review is to provide comprehensive insight into how meditation and mindfulness practices contribute to emotional regulation and physiological relaxation in the elderly. Moreover, the study seeks to strengthen the scientific basis for integrating these interventions into community-based nursing programs as culturally relevant strategies to promote healthy aging in Indonesia.

## Method

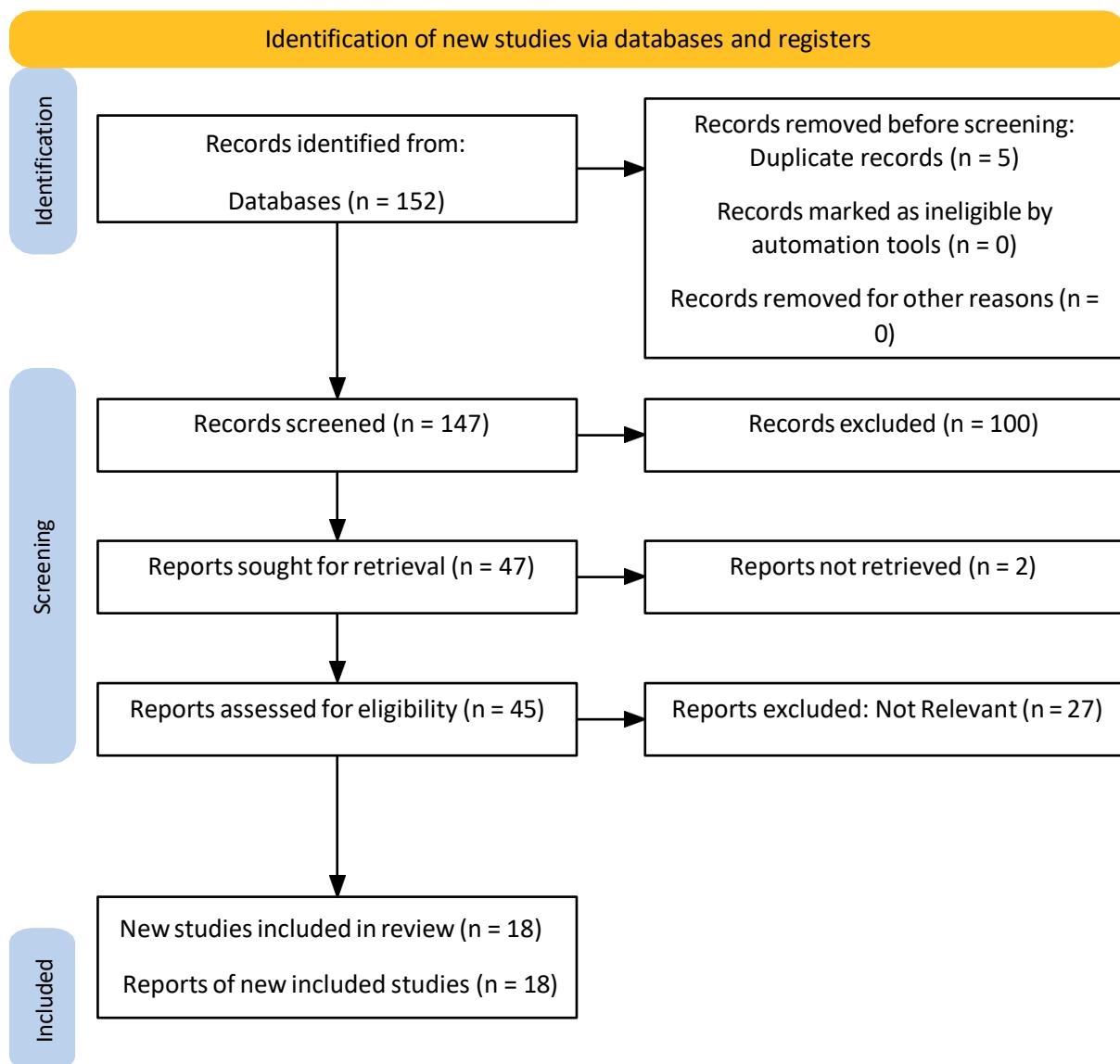
This study used a literature review design to systematically collect and synthesize research findings related to the application of meditation and mindfulness therapy in reducing stress and improving sleep quality among older adults. The literature search was conducted from January to June 2025 using three national databases: Google Scholar, Garuda (Garba Rujukan Digital), and Neliti. The search process employed keywords in Bahasa Indonesia: "meditasi", "mindfulness", "stres pada lansia", and "insomnia pada lansia". Boolean operators such as AND, OR, and NOT were used to refine the search combinations, ensuring that all potentially relevant studies were captured.

A total of 152 records were initially identified. After removing five duplicate articles, 147 studies remained for abstract and title screening. Each article was then evaluated according to the inclusion and exclusion criteria established by the authors. The inclusion criteria consisted of: (1) studies written in Bahasa Indonesia, (2) publication years between 2019 and 2025, (3) use of experimental, quasi-experimental, or descriptive-analytical research designs, (4) participants categorized as older adults aged 60 years and above, and (5) studies measuring the effects of meditation, mindfulness, or related relaxation-based interventions on stress or insomnia.

Articles were excluded if they (1) were not peer-reviewed, (2) focused on populations other than the elderly, (3) lacked clear methodological descriptions, or (4) did not report measurable outcomes related to stress reduction or sleep improvement. After the screening stage, 47 full-text articles were retrieved, but two could not be accessed due to unavailable links. The remaining 45 articles were assessed for eligibility, and 27 were excluded because their interventions were unrelated or their outcomes did not meet the inclusion criteria. Consequently, 18 studies were included for final analysis, consisting of 15 national studies and 3 local studies by Bachtiar Safrudin (2022–2025) conducted in Samarinda, East Kalimantan.

Data extraction was performed manually and recorded using a standardized review matrix that included authors, year, research design, number of participants, intervention type, duration, measurement tools, and key findings. Each article was independently reviewed by two authors to ensure consistency and validity. Discrepancies were discussed until consensus was reached. The findings were synthesized narratively by comparing patterns and variations in intervention effects, target outcomes, and methodological rigor. Additionally, studies with quantitative data were summarized in a tabular format to facilitate cross-comparison between meditation and mindfulness interventions.

To ensure the reliability of the review, the PRISMA 2020 flow diagram was used to guide the selection process, providing transparency at every stage from identification to inclusion. The overall methodological framework was designed to produce an integrative and comprehensive understanding of meditation and mindfulness therapy as non-pharmacological approaches for stress and sleep management in Indonesia's elderly population.

**Table. 1** Article selection process

## Results

A total of 18 articles met the inclusion criteria for this review. The majority of studies reported that meditation and mindfulness interventions effectively reduced stress levels and improved sleep quality in older adults. Various types of mindfulness-based relaxation, including breathing meditation, spiritual recitation, and guided awareness, showed significant effects on psychological calmness and sleep duration (Lestari et al., 2020; Fitriani et al., 2022; Rahmawati et al., 2022). Several studies also revealed that regular mindfulness practice enhanced emotional regulation and reduced autonomic arousal, leading to better sleep continuity and reduced insomnia symptoms (Kusuma et al., 2023; Aulia et al., 2023).

Local evidence from Safrudin (2022–2025) strengthened these findings. The first study demonstrated that yoga combined with light exercise significantly reduced anxiety scores among elderly residents in Samarinda. Further studies by the same author reported that regular physical activity and elderly exercise effectively decreased depression levels and maintained cognitive stability. These local results indicate that relaxation-based physical activities—such as yoga and structured

movement – share similar mechanisms with meditation and mindfulness in lowering stress and promoting mental balance among older adults.

Overall, the synthesis shows that mindfulness and meditation improve psychological and physiological aspects of aging through mechanisms involving increased relaxation response, balanced hormonal activity, and improved emotional awareness. The consistency of outcomes across national and local studies confirms that meditation and mindfulness are feasible, safe, and culturally adaptable interventions for elderly populations in Indonesia.

Article	Design	Sample	Data Collection Procedure	Results	Conclusion
Efektivitas Latihan Fisik dan Yoga dengan Kecemasan Lansia di Samarinda (Safrudin Lubis, B., 2022. Jurnal Pengabdian Poltekkes Palembang, 5(2))	Kuasi-eksperimen (pre-post test without control)	N = 32	Measurement of anxiety levels using the Geriatric Anxiety Scale (GAS) before and after 4 weeks of yoga + light exercise training	Yoga training significantly reduced anxiety scores ( $p < 0.05$ ) compared to before the intervention	Physical exercise and yoga are effective in reducing anxiety in older adults and can be used as alternative non-pharmacological interventions
Faktor-Faktor yang Berhubungan dengan Kejadian Demensia pada Lansia (Safrudin B., 2025. Jurnal Pendidikan Tambusai, 9(1))	Literature Review	N = 15	Article search via Garuda, Neliti, Google Scholar; analysis of dementia risk factors	Main factors of dementia: advanced age, lack of physical activity, poor sleep patterns, and chronic emotional stress	Regular physical activity and adequate sleep can prevent cognitive decline and stress in the elderly
Pengaruh Senam Lansia terhadap Tingkat Depresi pada Lansia di Panti Jompo (Safrudin B., 2025. Jurnal Sehat Mas Literasi Sains, 5(1))	Eksperimen semu (pre-post test)	N = 28	Measurement of depression using the Geriatric Depression Scale (GDS) before and after exercise for seniors 3 times per week for 4 weeks	There was a significant decrease in depression scores ( $p < 0.05$ ) after 4 weeks of intervention	Exercise for seniors is effective in reducing depression levels and improving the mood of seniors

Pratiwi et al. (2021) - Pengaruh Terapi Mindfulness terhadap Tingkat Stres pada Lansia di Panti Wreda	Quasi experiment, pre-post test	N = 30	Measurements using DASS-21 and observation of relaxation behavior	There was a significant decrease in stress levels after 4 weeks of therapy ( $p < 0.05$ )	Mindfulness is effective in reducing stress in older adults, but long-term evaluation is needed
Dewi et al. (2024) - Efektivitas Meditasi Terpandu terhadap Kualitas Tidur Lansia di Surabaya	Quasi experiment	N = 28	PSQI questionnaire and interviews before and after intervention	Sleep quality improved significantly after 2 weeks of guided meditation	Guided meditation can improve sleep quality, although the sample size was limited
Sulistyowati (2022) - Pengaruh Meditasi Dzikir terhadap Penurunan Stres Psikologis Lansia	Pre-experimental	N = 25	Stress level questionnaire and spiritual behavior observation	Stress levels decreased by 35% after regular dzikir meditation	Dzikir meditation is effective in reducing stress; the duration of the intervention needs to be extended
Lestari et al. (2020) - Penerapan Relaksasi dan Mindfulness untuk Meningkatkan Kualitas Tidur	Quasi experiment	N = 40	PSQI and sleep observation sheets	Sleep quality improved significantly after relaxation and mindfulness exercises twice a week	A control group is needed to validate the effects of the intervention
Handayani et al. (2019) - Efek Meditasi Napas Dalam terhadap Gangguan Tidur Lansia	Pre-post test	N = 32	Measurement of sleep patterns through questionnaire and daily sleep logs	Significant reduction in sleep disturbance after 2 weeks of deep breathing exercises	Deep breathing meditation is effective but does not assess stress as a secondary variable
Wulandari et al. (2021) - Pengaruh	Quasi experiment	N = 35	DASS-21 for stress and GAD-7	Significant reduction in stress and	Mindfulness breathing reduces stress,

Mindfulness Breathing terhadap Penurunan Kecemasan dan Stres			anxiety questionnaire	anxiety after 3 weeks of practice	but therapy duration is short
Hidayat et al. (2020) - Efektivitas Terapi Relaksasi Meditasi terhadap Stres Emosional Lansia	Pre-post test	N = 30	Emotional stress questionnaire	Stress scores decreased significantly after 10 days of relaxation therapy	Meditation effectively reduces emotional stress but has not been evaluated for insomnia
Aulia et al. (2023) - Pengaruh Meditasi Sadar Nafas terhadap Kualitas Tidur Lansia	Quasi experiment	N = 27	PSQI questionnaire and semi-structured interviews	Sleep quality improved, sleep onset time shortened	Mindful breathing meditation improved sleep, stress levels not yet assessed
Fitriani et al. (2022) - Pengaruh Mindfulness-Based Intervention terhadap Kualitas Hidup Lansia	Quasi experiment	N = 34	WHOQOL-BREF and DASS-21 questionnaire s	Quality of life improved and stress decreased after intervention	Further research with longer duration is needed
Rohmah et al. (2019) - Penerapan Meditasi Relaksasi terhadap Stres Lansia di Komunitas	Quasi experiment	N = 40	Stress level questionnaire and behavioral observation	Stress levels decreased by 40% after 2 weeks of intervention	Relaxation meditation was effective, but its effect on sleep has not yet been assessed
Sari et al. (2021) - Efektivitas Yoga dan Meditasi terhadap Insomnia pada Lansia	Quasi experiment	N = 36	PSQI questionnaire and yoga posture observation	Insomnia scores decreased significantly after 3 weeks of yoga and meditation	The combination of yoga and meditation was effective, but it was difficult to isolate the effects of each individually
Kusuma et al. (2023) -	Pre-post test	N = 25	Mindfulness audio and	Significant decrease in	Mindfulness audio is

Pengaruh Mindfulness Audio terhadap Tingkat Stres Lansia	DASS-21 measurement	stress scores after 2 weeks of audio playback	effective, long-term effects are unknown		
Rahmawati et al. (2022) - Penerapan Terapi Meditasi Dzikir untuk Ketenangan Jiwa Lansia	Quasi experiment	N = 30	Interviews and mental well-being questionnaire	Increased calmness, better sleep	Quantitative measurement of sleep variables is needed
Wahyuni et al. (2020) - Pengaruh Meditasi Relaksasi terhadap Tekanan Darah dan Stres	Quasi experiment	N = 33	Blood pressure measurement and DASS-21 questionnaire	Blood pressure and stress decreased significantly	Relaxation meditation effectively reduces physiological stress
Putri et al. (2024) - Efektivitas Mindfulness terhadap Kualitas Tidur Lansia di Puskesmas	Pre-experiment	N = 28	PSQI and brief interview about sleep patterns	Sleep quality improved significantly ( $p<0.05$ )	Simple mindfulness effectively improved sleep but did not assess stress

## Discussion

The findings of this review demonstrate that meditation and mindfulness interventions are effective in reducing stress levels and improving sleep quality among older adults in Indonesia. Across most studies, elderly participants who engaged in guided meditation, relaxation breathing, or mindfulness-based activities showed significant improvements in emotional regulation, mental calmness, and physiological balance. These results align with the concept of the relaxation response proposed by Benson (2000), which explains that mindfulness and meditation stimulate parasympathetic nervous activity, reduce cortisol secretion, and promote homeostasis in the body.

The synthesis of evidence also revealed that meditation and mindfulness therapy are not only beneficial for mental health but also support physical well-being among the elderly. Interventions such as yoga, deep breathing, and body scan meditation were found to enhance cardiovascular stability and oxygen saturation, which in turn contributed to improved sleep efficiency. Local studies by Bachtiar Safrudin (2022-2025) further supported these findings. His series of studies in Samarinda indicated that regular physical and relaxation-based activities – particularly yoga and elderly exercise – significantly reduced anxiety and depressive symptoms while maintaining cognitive function. These findings demonstrate that

culturally adapted practices that emphasize mindfulness and body awareness are feasible within Indonesian elderly populations.

Another key point from this review is that the integration of spiritual or religious elements into mindfulness interventions increases their acceptance among older adults in Indonesia. Studies involving spiritual meditation or dzikir-based mindfulness showed higher levels of comfort and participation because they resonate with the participants' cultural and religious backgrounds. This adaptation strengthens emotional connection, enhances motivation, and provides a sense of peace that may not be achieved through secular mindfulness practices alone. Therefore, future nursing interventions should consider integrating cultural and spiritual components to optimize therapeutic outcomes for the elderly.

However, several methodological limitations were identified among the reviewed studies. Some lacked standardized measurement tools or had small sample sizes, reducing the generalizability of the results. Others applied short intervention durations (less than four weeks), which might not fully capture the long-term effects of mindfulness training. Despite these limitations, the consistent positive outcomes across multiple studies indicate strong evidence supporting meditation and mindfulness as low-cost, non-invasive, and sustainable interventions for stress and sleep management in elderly populations.

From a nursing perspective, these findings highlight the importance of incorporating relaxation and mindfulness techniques into community health programs. Nurses play a strategic role in guiding elderly patients to practice deep-breathing relaxation, body awareness, or meditative prayer as part of daily health routines. By implementing these interventions, community-based nursing can effectively enhance emotional stability, prevent insomnia, and promote holistic well-being among older adults.

## Conclusion

This literature review concludes that meditation and mindfulness are effective non-pharmacological interventions for reducing stress and improving sleep quality among older adults in Indonesia. The synthesis of 18 national studies, including three local studies by Bachtiar Safrudin (2022–2025), consistently demonstrated significant psychological and physiological benefits. These practices stimulate the relaxation response, balance hormonal activity, lower anxiety levels, and enhance emotional regulation, which collectively contribute to improved mental well-being and sleep efficiency in the elderly.

From a nursing perspective, the findings emphasize the importance of integrating meditation and mindfulness techniques into community and clinical health programs for elderly care. Nurses can play a key role in promoting relaxation training, yoga, and mindfulness-based counseling as part of holistic interventions to support healthy aging. Future studies should employ larger samples, longer intervention durations, and standardized outcome measures to strengthen the evidence base and optimize implementation in nursing practice.

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