



The Effect of Yoga Exercise On Sleep Quality Among Menopausal Women: Literature Review

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Abstract

Introduction: Menopause causes changes in ovarian function which will automatically affect hormone production, which can cause various complaints. The increase in the number of elderly women will certainly cause its own problems, namely the emergence of complaints during menopause which can affect health. It causes discomfort and sometimes causes disruption in daily work, so it can affect the quality of life of menopausal women. Yoga is an effort to unite physical and physical strength and stimulate increased production of beta endorpine to reduce complaints due to menopause. The aim of this research is to determine the effect of yoga exercise on sleep quality and cognitive function in the elderly. This research is a literature review research. **Material and Methods:** This research examines topics related to the effect of yoga exercise on sleep quality in the elderly and menopause from previous studies. The literature reviewed and studied was 15 pieces of literature with 6 pieces of literature discussing the effect of yoga exercise on sleep quality in the elderly, especially during menopause. The literature consists of journals with a travel year from 2017 to 2023. Literature collection was done through Google scholar, Pubmed, and Science Direct by PRISMA. **Results:** The results of this study show that yoga exercises carried out regularly, both in the long and short term, can improve and improve the sleep quality of the elderly, especially menopausal women. Yoga exercise can also maintain the cognitive function of the elderly and prevent the elderly from dementia and Alzheimer's disease. **Conclusion :** The evidence is insufficient to suggest that yoga is an effective intervention for menopause. Further





research is required to investigate whether there are specific benefits of yoga for treating menopausal symptoms.

Keywords: Yoga Exercise, Sleep Quality, Elderly, Menopause

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1. Introduction

The elderly population has increased in both developed and developing countries due to a decrease in birth and mortality rates, as well as an increase in life expectancy which has changed the overall population structure. The number of elderly people in Indonesia in 2020 reached 28.7 million people. (Kemenkes RI, 2022) This figure continues to increase every year. Indonesian population projections based on the results of the 2017 population census, the population was 261,890.90 people, the population of West Java was 2191140.00 people, the population of women aged 45-59 years was 1,035,350 people. (Badan Pusat Statistik, 2020) The emergence of several diseases are often experienced by premenopausal women, starting from changes to an increase in cardiovascular disorders 20.30%, increased blood vessels 41.70%, insomnia 12.60%, anxiety (mental disorders) 23.55%, to osteoporosis 62.40% which is the impact of problems in the lives of older women carry on (Premenopause). (Kemenkes RI, 2022)

The most frequent complaints are hot flushes and sweating, muscle and joint pain, sleep disorders, anxiety, and mood disorders which can significantly reduce the quality of life of menopausal women. (Swain et al., 2021) Measurement of health-related quality of life is realized in 8 dimensions, namely the dimensions of physical function, physical role, pain, general health, social function, energy, emotional role,





and mental health. These eight dimensions can be collected into 2 large components, namely the physical component and the mental component. (Bozorgnezhad, 2019)

Menopause experiences very prominent changes in sleep-wake patterns, namely a reduction in slow waves, especially stage 4 non-rapid eye movement, decreased alpha waves, and increased frequency of awakenings at night or increased sleep fragmentation due to frequent awakenings. (Women's Health Concern UK, 2023) Frequent waking up at night makes elderly people easily sleepy, have difficulty concentrating, and get tired easily, which can lead to a decrease in quality of life.

Elderly people can experience changes both biologically, psychologically and socially that can disrupt their daily lives. Decline in cognitive function can be inhibited by taking preventive measures. (Women's Health Concern UK, 2023) One of the preventive measures that elderly people can take is by doing physical activity. (Noor & Merijanti, 2023) Physical activity is body movement by the body's muscles and supporting systems that causes an increase in energy. (Aditya et al., 2022) One of the physical activities that elderly people can do is yoga. Yoga is a form of exercise that combines movement and breathing. (Jesudoss et al., 2023) Yoga is believed to be able to refresh and soothe the mind, body and soul and can also overcome physical and mental disorders. (Pramesti, 2023) Yoga exercise can stimulate β -endorphin secretion. (Adnyani et al., 2023) Increasing β -endorphins has been shown to be closely related to reducing pain, improving memory, improving appetite, sexual ability, blood pressure and breathing. (Sari & Andri, 2023)

2. Research Method

Research Design, Setting, and Samples

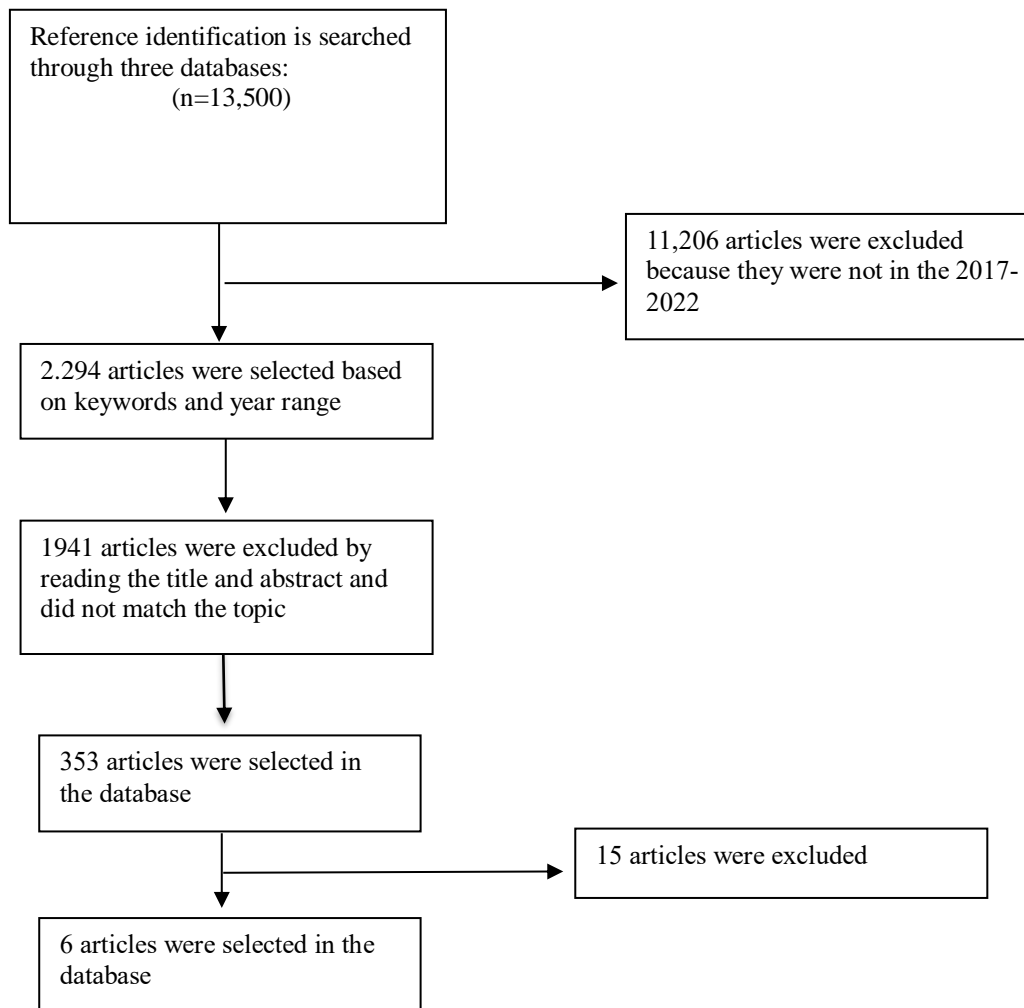
This type of research uses literature study method sourced from journals and publications results of preliminary studies regarding influence yoga exercise on sleep quality and cognitive function in the elderly. Population in This research is all journals and article obtained from Pubmed, Clinical Key, Science direct, Google scholar with PRISMA design. Inclusion criteria respondents in the literature are elderly, title





relevant literature to the research title namely the effect of yoga exercise on sleep quality on elderly menopause, library publication year 2017-2023, and speak Indonesian and English. Libraries that are not available full-text will excluded and not counted as research sample.

Figure 1. Prisma Flow Diagram



3. Results And Discussions

a. Result





This research get 6 literature that has gone through data reduction process according to the criteria inclusions that discuss the influence of yoga on sleep quality in menopausal elderly.

Table 1. Article Review Table

Author	Country	Method	Research Instrument	Intervention	Result
(W & Putra, 2019)	Indonesia	The research design used is a pre-experimental design (one group pre-post test design)	Pittsburgh sleep quality index	2 month	More than 50% (66.6%) had poor sleep quality before being given yoga and most (77.7%) had good sleep quality after being given yoga
(Grace et al., 2020)	Indonesia	This study was an analytical study with a pre-experimental design using one group pre-test post-test design. onths. The sampling method used was purposive sampling. The total samples obtained were 38 responde	Pittsburgh sleep quality index	Yoga intervention for eight Sunday	Before being given yoga exercises respondents who have quality poor sleep (55.3%) and good sleep quality (7.9%), after being given yoga exercises there is an improvement in sleep quality good (47.4%)
(Sv, 2018)	India	This is a cross sectional study. Survey samples consisted of two groups: Yoga and non-Yoga group.	Pittsburgh sleep quality index	Do it during two years or more and yoga practice every day at least one hour/day	In the yoga group the total PSQI score namely 3.2 ± 0.918 and in the group non yoga, namely 7.9 ± 0.99 Paired t-test 0,002
(Rosida et al., 2017)	Indonesia	This method uses analytical observational methods with a case control approach	Medical Outcame Study SF-36	Yoga practice at 2 month	The results of the research using the t-test showed that $p < 0.001$, which means there is a significant influence between yoga and health-related quality of





life scores, and there is also a significant difference between the quality of life scores of menopausal women who do yoga and those who do not do yoga ($p < 0.001$). The results of the multiple linear regression test showed that the regression coefficient = 435.6; $p < 0.001$ (Constant: 3296.41; CI 95% (-692)-1230.82; $R^2_{adjusted}$: 32.2% and $p < 0.001$).

(Swain et al., 2021)	India	A single-blinded randomized control trial was conducted among 80 participants	measured by MENQOL tool	intervention group were given SKY sessions for a 1-year period. Three yoga sessions were conducted weekly for 45–60 min of each session.	Significant improvements in the menopausal-specific quality of life were observed in the domain of vasomotor, psychosocial, and physical symptoms ($p < 0.05$). The antioxidant enzymes (superoxide dismutase and glutathione peroxidase (GPX) were significantly elevated after 1 year of regular practice of SKY compared to walking intervention ($p < 0.05$). In contrast, no significant improvement was observed in follicle-
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					stimulating hormone and dehydroepiandrosterone sulfate levels. The women reported no adverse events after SKY practice or brisk walking
(Rubio-Arias et al., 2017)	Spain	randomized controlled trials (RCTs) evaluating the effects of PE versus a non-exercising control condition on sleep quality, sleep disturbance and/or insomnia in MAW.	Pittsburgh Sleep Quality Index (PSQI)	In middle-aged women, low-moderate levels of programmed exercise for 12-16 weeks	RCTs on PE effects during 12-16 weeks on sleep quality (n=4 studies reporting PSQI results) and/or insomnia (n=3 studies reporting ISI results), including 660 MAW. Low-moderate levels of exercise significantly lowered the PSQI score (MD=-1.34; 95% CI -2.67, 0.00; p=0.05) compared with controls. In a subgroup analysis, moderate PE (aerobic exercise) had a positive effect on sleep quality (PSQI score MD=-1.85; 95% CI -3.62, -0.07; p=0.04), while low levels of physical activity (yoga) did not have a significant effect (MD-0.46, 95% CI -1.79, 0.88, p=0.50). In three studies (two studies of yoga, one study of aerobic





exercise), there was a non-significant reduction in the severity of insomnia measured with the ISI score (MD -1.44, 95% CI -3.28, 0.44, $p=0.13$) compared with controls. Heterogeneity of effects among studies was moderate to high.

b. Discussion

The results statistical test of each literature discusses the influence of yoga on quality sleep in the elderly with eight literature showed significant results. Six the literature that has been reviewed uses PSQI (Pittsburgh sleep quality index) as a data collection instrument and the other two literature uses Insomnia rating scale. PSQI is questionnaire containing 19 questions regarding seven aspects of sleep assessment, namely subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbance, use of sleeping medication, and daytime dysfunction with assessment score 0-3 where a score of 0 indicates no there is interference.(Sv, 2018) Two out of eight literature that uses the PSQI shows in detail the assessment of seven aspects of sleep assessment.

Research by (Sv, 2018) conducted in India showed six aspects of sleep that have value $p<0.05$ and sleep duration aspect shows p value = 0.217 whereas research by Bankar conducted in India in 2013 showed five sleep aspects that have a p value <0.05 , sleep duration aspect with p value = 0.1293, and the day disturbance aspect with p value = 0.2041.

Decreased duration sleep in the elderly can be caused by aging factor. Elderly people generally sleep about 6-7 hours a day because of it decreased NREM phase 4 activity delta waves decrease or disappear, this makes the elderly sleep better short or reduced in comparison with adults averaging 8 hours a day.(Listyaningsih &





Ratmawati, 2018) Aspects of daytime dysfunction in research by (Swain et al., 2021) conducted in India produced a p value which is not significant due to duration short sleep in the elderly can causes the elderly to become sleepy easily during the day so it experiences interference such as difficulty concentrating while running his activities.

Six literature uses PSQI showed significant results with a p value <0.05 on the total PSQI although there are two aspects to the results not significant. Research conducted by (Grace et al., 2020) and (Rubio-Arias et al., 2017) using the Insomnia rating scale as a research instrument as well showed significant results for elderly people who experience insomnia proven to be due to a decrease in levels significant insomnia with grades $p<0.05$. Insomnia in the elderly often occurs due to disruption of the NREM sleep phase stadium 4.25. Another thing that can be affecting insomnia in the elderly is stress. Yoga exercises can help in overcome stress and insomnia. Do Yoga exercise can stimulate β -endorphins which is a sleep neuro.

Based on 6 existing literature reviewed then the researcher can conclude that elderly people do yoga exercises regularly over the long term undergoing improvements and improvements sleep quality.transmitter and also calming.

4. Conclusion

Based on research conducted then it can be concluded that Yoga done regularly is good in the long or short term can improve and improve elderly sleep quality apart from yoga exercise can also maintain cognitive function the elderly and prevent the elderly from disease dementia and Alzheimer's.

5. Compliance with ethical standards

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Disclosure of conflict of interest





As part of the process of carrying out this research, the researcher ensures that no potential conflicts of interest are involved.

Statement of informed consent

As writers, everything we do is based on a mutual agreement or consent.

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