



IMPROVED SLEEP QUALITY AND DECREASED INSOMNIA RATES AFTER YOGA THERAPY: LITERATURE REVIEW

Arum Dwi Ningsih, Rizky Meuthia Pratiwi

Faculty of Health Science, Universitas Bina Sehat PPNI Mojokerto

Corresponding Email: arumdn87@gmail.com

ABSTRACT (200 kata)	Keywords
Sleep quality is a problem that is often experienced by the elderly. In the elderly phase, humans will experience a decrease in organ function and this has an impact on meeting the needs of rest and sleep. Sleep quality in the elderly has decreased, this can be seen in sleep duration, sleep latency, and subjective aspects such as night sleep and rest. The purpose of this study was to analyze the effect of yoga therapy on improving sleep quality and decreasing insomnia levels in the elderly. The research design of this article is a literature review. The sample in this study is a journal of research results that measured the effect of yoga therapy on improving sleep quality and decreasing insomnia levels. Database search and article screening are carried out independently by reviewers by following the requirements in meeting inclusion criteria. Based on the results of a review of 16 research journals, it is known that yoga therapy can improve sleep quality and reduce insomnia levels. Yoga is a sport that can increase beta levels so that it can improve emotional stability and can make the body become more relaxed, this state makes the elderly have better sleep quality.	<i>Yoga Therapy, Sleep Quality, Insomnia, Elderly.</i>

INTRODUCTION

One of the basic human needs is the need for rest and sleep. Rest and sleep are one of the important activities that must be done by humans. This is because, by doing sleep activities, a person can rest the body, restore stamina and increase endurance. Sleep needs in individuals can be met in quantity and quality with variations in the duration of sleep needs between 6-8 hours per day with maximum sleep quality (Dewi & Ardani, 2013). Sleep quality is a problem that is often experienced by the elderly. In the elderly phase, humans will experience a

decrease in organ function and this has an impact on meeting the needs of rest and sleep. Sleep quality in the elderly has decreased, this can be seen in sleep duration, sleep latency, and subjective aspects such as night sleep and rest. The fulfillment of rest and sleep needs in the elderly should be a special concern because it will have an impact on the quality of life and life expectancy of the elderly (Utami et al., 2021).

Indonesia is entering an ageing population, this is marked by increasing the increasing percentage of Indonesia's elderly

population, which reached 25.66 million people (9.60%), male elderly 47.65%, and female 52.35%, young elderly, aged 60-69 years (63.82%), middle age, aged 70-79 years (27.68%), and elderly age, aged 80 years and over (8.50%), living in urban areas 52.80%, and in rural areas 47.20%. BPS projection (2015-2045), the life expectancy of the Indonesian population, from 69.8 years (2010) to 73.4 years (2020), and will increase again to 75.5 years in 2045 (Muhtar, 2020).

The phenomenon that occurs a lot in the community is that there are some elderly who experience a decrease in sleep quality including difficulty in starting sleep, and sleep duration under 5 hours per day. The elderly who experience sleep disorders per year are around 750 people and the prevalence of sleep disorders in the elderly is quite high, which is around 50% from 18.1 million in 2009 (W & Putra, 2019). The results of research on the sleep quality of the elderly conducted at the Tresna Werdha Teratai Social Institution in Palembang City showed that the sleep quality of the elderly was poor as many as 31 respondents (100%) and good 0 respondents (0%)(Hariprasad et al., 2013).

Changes in the neurological system in the elderly occur due to a decrease in the number and size of neurons in the central nervous system. This leads to a decrease in the physiology of sleep regulation in the elderly. The elderly phase will experience a decrease in NREM 3 and 4, even the elderly have almost no stage 4 or deep sleep. So that there is a decrease in neurotransmitter function which has an impact on the distribution of norepinephrine also decreases. Sleep changes that affect sleep quality related to the aging process on such as increasing sleep latency, reduced sleep efficiency, waking up earlier, reducing deep sleep stages and circadian rhythm disturbances, increased napping. The

amount of time spent sleeping deeper decreases (Khasanah & Hidayati, 2012).

Sports activities are one of the efforts used to improve sleep quality. Doing sports activities 2 hours or more before bed can increase relaxation and reduce fatigue. Yoga is one form of exercise that is useful in improving sleep patterns (Wiadnyana, 2010). Yoga exercises that are done regularly can stimulate a decrease in sympathetic nerve activity and increase sympathetic nerve activity. This will have an impact on decreasing the hormones adrenaline, norepinephrine and chotelamine as well as vasodilation in blood vessels which results in oxygen transport throughout the body, especially the brain smoothly so that it can reduce blood pressure and pulse to normal so that it will increase relaxation of the elderly. In addition, yoga can also stimulate an increase in optimal melatonin secretion resulting in the production of beta endorphin. Yoga is Effective in improving the quality of sleep of the elderly (W & Putra, 2019). Yoga therapy is a form of rehabilitation therapy with a holistic approach. This therapy includes meditation, relaxation, breathing control and concentration exercises that can cause a sense of comfort and increase endogenous melatonin secretion. Most of the conclusions that can be drawn from the results of studies show benefits in terms of improving patient health. Providing yoga exercises on the quality of sleep of the elderly can improve the fulfillment of sleep needs in the elderly (Fulambarker et al., 2012).

The purpose of this study is to conduct Yoga Therapy to Improve Sleep Quality and Insomnia in the Elderly. In this study, the authors identified journal publications of research results on the use of Yoga Therapy and its benefits in sleep quality and insomnia in the elderly. The results of this literature review are expected to be applied to health services, especially

nursing. The literature of this review is presented in the form of articles consisting of; abstract, introduction, methods, results and discussion, conclusions, and bibliography.

METHOD

The literature study in this article is a literature review. The effect of the effectiveness of Yoga therapy on improving sleep quality and insomnia in the elderly will be reviewed, including how to sample and the variables measured. Database search and article screening are carried out independently by reviewers by following the requirements in meeting inclusion criteria.

1. Protocol

A comprehensive summary in the form of a Literature Review of the effectiveness of Yoga therapy on improving sleep quality and insomnia in the elderly. The protocol in this study uses The Center For Review and Dissemination and the Joanna Briggs Institute Guidline as a guide in assessing the quality of the studies to be summarized. The evaluation of the Literature Review will use the PRISMA Cheklist to determine the selection of studies that have been determined and adjusted to the objectives of the Literature Review.

Table 1. Overview of research methods based on PICOS

Kriteria	Inklusi	Eksklusi
Population	Elderly with the age of > 55 years, able to carry out independent activities.	Studies that focus on age groups of children, and adolescents.
Intervention	Studies that examined Yoga therapy interventions in groups of respondents, both Yoga	Studies that do not discuss the effect of Yoga therapy intervention

	therapy interventions as a single intervention or in combination.	on respondents.
Comparison	The control group was used as a comparison group of the interventional therapy performed or a group that was only observed without being given the intervention.	Has no exclusion criteria.
Outcomes	Studies that explain the effect of interventions on improving sleep quality and insomnia	It does not discuss Yoga interventions or discuss other interventions in improving sleep quality and insomnia.
Study Design and Publication Type	Quasy-experimental studies, Pra experimental studies and randomized control and trial	Qualitative research, literature review, systematic review, dan cross sectional study.
Publication Years	Year 2009 - 2021	Before 2021
Language	English and Indonesian	Languages other than English and Indonesian

2. Search Database

Intervention: focus of Yoga therapy on improving sleep quality and insomnia in the elderly.

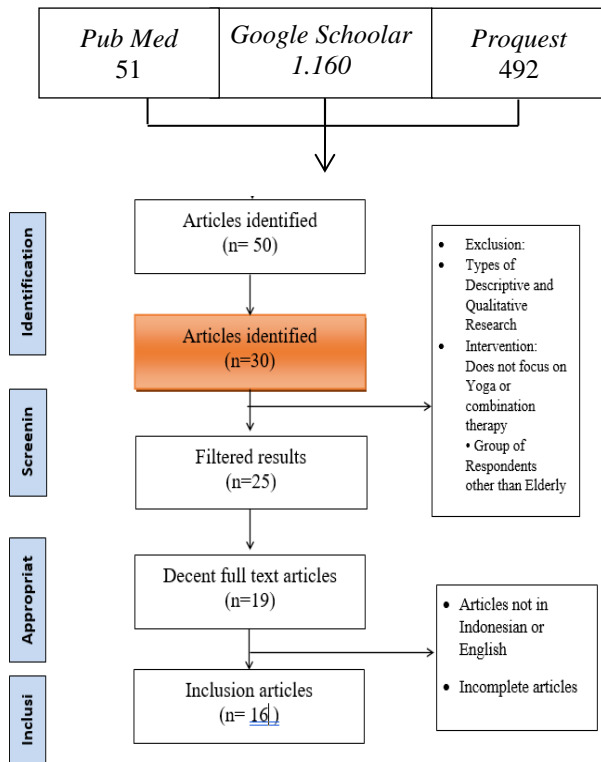


Figure 1. Literature Algorithm Review Using PRISMA flow

RESULTS

Table 2. Journal Analysis Results

No.	Researcher	Aim	Sample and Respondent Criteria	Research and Yoga method	Results of Quality of Life after the intervention
1.	(W & Putra, 2019).	Analyze the effect of yoga on the quality of sleep of the elderly.	Respondents aged 60-74 years, have no mobility limitations, can read and write, attend Posyandu activities. Number of samples = 36 respondents.	This research method is quasy-experimental. Respondents were given a simulation of Yoga gymnastics exercises together. Before the repondent exercise was measured, the quality of sleep was measured, after the intervention for 4 times, a post test was carried out to measure the quality of sleep of the elderly.	The results showed that before the Yoga intervention as many as 66.6% of the elderly had poor sleep quality, and after the Yoga intervention as much as 77.7% of the elderly sleep quality was in the good category. The Wilcoxon rank test results showed a value of $p = 0.000$ ($p < 0.005$). This proves that yoga is effective in improving the quality of sleep of the elderly.
2.	(Adriani, 2017).	Analyze the effect of yoga on the quality of sleep of the elderly.	Elderly who are able to carry out daily activities independently.	This research method is experimental quasy. Respondents were given a yoga simulation in the treatment group. The control group did not intervene. The elderly are guided to fill out questionnaires before and after doing a series of Yoga gymnastics interventions.	The results showed that there was a difference between the treatment and control groups, namely an increase in the value of better sleep quality found in the treatment group. The results of the analysis showed that there was an influence of yoga on sleep quality in the elderly in Karang Werdha Prasajo, Popoh Village, Selopuro District (p value 0.000).
3.	(Faidah et al., 2020).	Analyzing the effect of Hatha Yoga on the sleep quality of the elderly	A total of 20 elderly people with criteria are able to carry out daily activities independently.	This research method is experimental quasy. Exercise in the form of Hatha Yoga which is done for 60 minutes 2 times a week. Before and after the Hatta Yoga intervention, a procedure for filling out the elderly quality questionnaire was carried out, namely The Pittsburgh Sleep Quality Index.	The results showed that sleep quality before Hatha Yoga practice obtained an average sleep quality result of 7.10 with a standard deviation of 1.16 and after Hatha Yoga practice obtained an average sleep quality result of 3.95 with a standard deviation of 1.31. Based on data analysis using the Wilcoxon Sign Rank Test, a p value = 0.000 was obtained. This shows that Hatta Yoga intervention is able to improve the quality of sleep of the elderly.
4.	(Hariprasad et al., 2013).	Analyze the effect of yoga on the	A total of 31 respondents with criteria were elderly	This research method is quasi-experimental. Before and after the Yoga intervention, respondents filled	The results of McNemar's statistical test are known p value 0.000 ($P < 0.005$), which shows that Yoga Intervention is able to improve the quality of sleep of the elderly.

		quality of sleep of the elderly.	who were able to carry out activities independently, were not seriously ill, and lived in the Tresna Werdha Lotus social institution.	out an elderly sleep quality questionnaire with The Pittsburgh Sleep Quality Index (PSQI). Yoga intervention was carried out for 1 month by following the Yoga therapy procedure that had been established by the researcher.	
5.	(Gudawati & Muhlisin, 2011).	Knowing the difference in the level of insomnia of the elderly before and after yoga exercise.	Elderly aged 60 years and over, Experiencing insomnia both moderate, mild, and severe. Elderly who are not in a state of illness and are able to do activities regularly	Research method with Quasy Experiment Design Pre Test And Post Test One Group Design Seniors were given Yoga exercises for 7 days. Before and after the treatment of yoga exercises, researchers measured the level of insomnia in the elderly using an observation sheet in the form of the Insomnia Rating Scale developed by the Jakarta Biological Psychiatry Study Group (KSPBJ).	A total of 51 respondents before being given yoga exercises obtained an average score of 18.45. This value of 18.45 falls into the category of severe insomnia. Respondents who had done yoga 7 times for 1 week The average score on the post test showed 14.70. A value of 14.70 falls into the category of moderate insomnia. The results of the statistical test with paired t test showed a value of p-value = 0.001.
6.	(Arif Romadlon, 2016).	Analyzing the Effect of Yoga on Insomnia.	A total of 30 respondents were divided into 2 groups, namely the intervention group and the control group.	The research method used is ex-post facto, because this yoga exercise has been running for a long time. The elderly are given a series of Yoga gymnastics exercises then measurements of the level of Insomnia in the elderly.	The statistical results of the t test show a sig value of 0.01. It is a sig value of < 0.05. This proves that there is a significant difference between the yoga group that was given yoga practice and the non-yoga group that was not given yoga practice treatment against insomnia. The R Square value is 0.344, meaning that the frequent contribution of yoga practice to insomnia is 34.4% while 65.6% is influenced by other factors. Other factors in question are psychological disorders such as depression, stress, emotional and others.
7.	(Hastuti et al., 2021).	Identifying the Effect of Yoga Giving to Insomnia in the Elderly	A total of 13 respondents with the criteria of elderly age >60 years and able to carry out independent activities.	Research method with Quasy Experiment Design Pre Test And Post Test One Group Design with the method of providing simulation of Yoga gymnastics exercises in accordance with Standard Operational Procedures.	Based on the analysis comparing the results of the pre-test and post-test, there were differences in the level of insomnia of the elderly before and after yoga exercises at the elderly posyandu. The results of the statistical test with paired t test showed a value of p-value = 0.001. This shows that there is a significant influence of yoga on insomnia in the elderly.

8.	(Perdana, 2016).	Knowing the effect of yoga on insomnia reduction in the elderly.	A total of 30 respondents were divided into 2 groups, namely the intervention group and the control group. The criteria for respondents are elderly who are able to do physical activity independently.	This research method is quasi-experimental pseudo-with Pretest-Posttest Control Group Design. The number of samples in this study was 30 samples and divided into 2 groups where each group was 15 samples. Researchers took measurements with ISI (Insomnia Severity Index) before and after the Yoga Intervention.	Static test results using paired t test. The results obtained group I $p = 0.00$ ($p < 0.05$). Conclusion: With these results, it can be concluded that there is an effect of yoga on reducing insomnia in the elderly.
9.	(Hariprasad et al., 2013).	Analyze the effect of yoga on the quality of life and sleep quality of the elderly	A total of 120 respondents were divided into 2 groups, namely the intervention group and the control group	The research method is A randomized controlled trial. The intervention group was given yoga treatment every day for 1 month, then evaluated every week until supervision was carried out for 3 months. After respondents were recommended to do yoga intervention without supervision for 6 months. While in the control group did not get treatment.	Yoga interventions can improve the quality of sleep and quality of life of the elderly.
10.	(Yudhawati & Mariani Rasjid, 2019)	Analyze the effect of 3 months of yoga intervention on constipation and sleep quality.	A total of 96 respondents aged 65 and 75 years who had no history of participating in Yoga exercises for the last 1 year. Respondents were divided into 2 groups, namely the experimental group and the control group.	The research method is A randomized controlled trial. In the experimental group, Yoga practice was given 3 times per week for 3 months. Before and after the intervention in either the experimental group or the control group, pre-post test measurements were carried out using the Pittsburg Sleep Quality Index (PSQI) and Patient Assessment of Constipation QoL (PAC-QOL)	The results of the Wilcoxon Statistical Test showed that the experimental group had a significant change in sleep quality for the better with a p value of 0.005. On the variable quality of life, the MannWhitney test was carried out with a p value of 0.005. This shows that yoga therapy can improve the quality of sleep and quality of life of the elderly.
11.	(Chen et al., 2009).	Knowing the effect of giving 6 months of yoga	A total of 69 respondents were divided into 2 control	The research method is A randomized controlled trial. The intervention group was given a simulation of Yoga	The results of the statistical test showed a p value of < 0.05 . After the 6-month yoga intervention, there were differences in sleep quality improvement and a decrease in elderly

	therapy on improving sleep quality and decreasing the elderly depression score	groups and a Yoga intervention group. The inclusion criteria are: 1) Respondents aged ≥ 65 years with a Barthel Index Score of 91-99 1) 2) Able to walk independently and have intact cognitive function	exercises by a certified Yoga Instructor. Exercises are carried out for 24 weeks. In each week carried out 3 yoga exercises with a duration of 70 minutes. Sleep quality and quality of life were evaluated at weeks 12 and 24.	depression scores that were better in the intervention group than in the control group. This shows that yoga therapy can improve sleep quality and reduce quality of life in the elderly significantly.
12. (Chen et al., 2010).	Knowing the 6 months effect of Yoga therapy on sleep quality, depression and self-perception of the health status of the elderly.	A total of 128 respondents were divided into 2 groups, namely the experimental group and the control group. The Respondent Inclusion Criteria are as follows: 1) Respondents aged ≥ 60 years 2) Able to carry out activities independently 1) 3) Barthel index value ≥ 91 .	The research method is A randomized controlled trial. The intervention group received a simulated Silver Yoga exercise treatment for 6 months with a frequency of 3 times per week and a duration of exercise of 70 minutes each exercise session.	Sleep quality, and health status of the elderly significantly improved since the evaluation in the first 3 months. But the training is carried out for up to 6 months. The results of the statistical test showed a p value of <0.05 . This shows that Silver Yoga therapy is able to improve sleep quality, and health status and can reduce depression scores in the elderly.

13.	(Grace et al., 2020).	Knowing the difference in sleep quality before and after yoga practice	Terdapat 120 Responden lansia Kriteria inklusi adalah lansia yang mampu melakukan aktivitas secara mandiri, usia 60-85 tahun, dan mampu berkomunikasi dengan baik.	The research method is a pre-experimental design using one group pre-test and post-test design. In Resonden the study was carried out Yoga therapy for 12 weeks. Before and after Yoga practice, respondents measured their sleep quality using the Pittsburgh Sleep Quality Index (PSQI) instrument	The results showed a significant difference in sleep quality before and after Yoga treatment with a p value = 0.000.
14.	(Halpern et al., 2014) (Sharma, 2017)	Knowing the effects of Yoga therapy on sleep quality, mental health and quality of life of the elderly.	There were 28 elderly respondents. Inclusion criteria: 1. Seniors aged 65-80 years. 1. 2. Elderly with chronic diseases.	The research method is a pre-experimental design using one group pre-test and post-test design. Yoga practice is done in several techniques. Daily Yoga sessions consist of loosening exercises, yogic postures-breathing exercises asana-pranayama, yogic relaxation techniques and meditation-dhyana. yoga Sessions are a total of 60 minutes daily from 6 a.m.-7 a.m., 6 days a week for 1 month.	Yoga practice has been significantly shown to lower pulse rate ($p < 0.001$), breathing frequency ($p < 0.001$). Blood pressure ($p < 0.001$), stress ($p < 0.001$). In addition, yoga practice has also been shown to be effective in improving the quality of sleep of the elderly ($p < 0.001$) and quality of life ($p < 0.001$).
15	(Halpern et al., 2014).	Analyze the effect of yoga therapy on sleep quality and quality of life of the elderly.	There were 74 elderly respondents who were divided into experimental groups and control groups. Inclusion Criteria: 1. Lanisa at \geq age 60 years 1.2. Elderly who experience insomnia.	This research method is a randomized controlled trial. Respondents in the experimental group were given simulated yoga practice for 12 weeks, with a frequency of 2 times per week. The stages of yoga practice carried out are: Yoga Postures, Meditative Yoga, Yoga Meditation Exercises. The Pittsburgh Sleep Quality Index (PSQI).	There were significant differences in sleep quality and quality of life of the elderly between the experimental and control groups. Yoga therapy is significantly able to improve the quality of sleep and quality of life of the elderly with a p value of < 0.05 .

16	(Manh NGUYEN, 2018).	Knowing the effectiveness of Yoga therapy to improve the quality of sleep of the elderly.	There were 80 elderly respondents. Divided into two groups, namely Yoga group and control group. The inclusion criteria are as follows: 1. Seniors aged 55-60 years 1. 2. Able to complete a mini Mental State Examination with a score of >25.	The research design was a pre-experimental design using two groups pre-test and post-test design. The Yoga group was given Yoga treatment for 6 months. The frequency of exercise is 3 times / week with a duration of 60 minutes per exercise. The stages of Yoga practice consist of: 1. Warm-up 5 minutes 2. 25-minute meditation 3. 20-minute breathing exercises 4. 10-minute relaxation. Before and after the intervention in either the experimental group or the control group, pre-post test measurements were carried out using The Pittsburgh Sleep Quality Index (PSQI).	The results showed an improvement in the sleep quality of the elderly in the Yoga intervention group.
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DISCUSSION

Regular exercise done for 2 hours or more before going to bed or after sleep has a relaxing effect on the body and reduces fatigue. Yoga is one type of exercise that is beneficial in improving sleep patterns (Wiadnyana, 2010). Yoga can stimulate a decrease in sympathetic nerve activity and an increase in parasympathetic nerve activity so that it has an effect on decreasing the hormones adrenaline, norepinephrine and cothecholamines as well as vasodilation in blood vessels which results in oxygen transport throughout the body, especially the brain smoothly. Adequate oxygen transport to all tissues of the human body can stabilize blood pressure and regular pulse patterns. In this condition will increase the relaxation of the elderly. In addition, optimal melatonin secretion and beta endorphin influence and help increase the fulfillment of the sleep needs of the elderly. so that the elderly will become relaxed and accelerate the process of entering the NREM phase (W & Putra, 2019).

Yoga administration affects the quality of sleep of the elderly because yoga can help maintain the balance of body homeostasis through the HPA Axis pathway which can stimulate the production of β -endorphins and enkephalin which are sleep neurotransmitters. β endorphin and enkephalin can make the body become more relaxed which can cause feelings of pleasure so that the elderly can fall asleep. Yoga movements can increase the secretion of endorphin hormones so that it has an impact on the relaxed atmosphere and makes the elderly easier to focus and can divert stressors from the outside that are negative, this makes it easier for the elderly to start their sleep phase. When the quality of sleep of the elderly is well maintained, there will be muscle relaxation in the human body system. So that when you wake up, the body's system will be more effective in

carrying out its functions. Some signs if our sleep quality is good, namely being able to concentrate when awake, not feeling dizzy and easy in social relations (Ross & Thomas, 2010).

Sleep exerts a physiological effect on the nervous system. Sleep activities are part of the body's repair function, where when we do sleep activities, the body will rebuild the necessary resources. Sleep functions in reducing fatigue by increasing blood flow to the brain, increasing protein synthesis, maintaining the immune system, and spurring spinal repair. By doing quality sleep and sufficient in quantity, the body will become relaxed and brain function can be done optimally. Doing yoga in one exercise done 20 minutes can strengthen the nervous system and anxiety. Yoga has an effect on improving the physical and mental functions of the body. Physical through the improvement of the relaxing function of bones, muscles, digestion, cardiovascular system, glandular system and sympathetic nerves. At times that regular yoga exercises are performed can stimulate the work of parasympathetic nerves that make it easier for the body to rest and sleep and someone who does not experience enough sleep usually becomes irritable, has poor concentration, and has difficulty making decisions (Adriani, 2017).

Insomnia is a condition or condition of a person who does not have the ability to manage their sleep soundly (Wirawan et al., 2019). This is caused by a disturbance in the mind. So if someone experiences insomnia, then the quality of sleep decreases and certainly has an impact on the health and quality of life of the elderly.

Yoga exercises can reduce the scale of insomnia. This is because, the practice of yoga is more than just a physical benefit, Yoga helps calm the mind so that it can concentrate on the center of identity. Yoga helps to fall asleep faster and improves sleep

quality. You will sleep peacefully because the relaxing effects of yoga relieve stress, pressure and fatigue (Hastuti et al., 2021). Yoga movements cause a state of calm and relaxation, triggering brain waves to begin to slow down, slowing down and eventually making a person able to rest and fall asleep. This condition will affect the decrease in insomnia levels in the elderly (Perdana, 2016).

CONCLUSIONS

Based on the results of the Review of 16 research journals, 16 journals have quasy experiment, Pre-experimental studies and randomized control and trial research methods. A total of 16 journals show that Yoga Intervention can improve the quality of sleep in the elderly and help reduce insomnia symptoms in the elderly. This is in line with Adriani's (2017) statement that yoga practice can strengthen the nervous system, relieve stree and anxiety. Yoga has an effect that spreads to the physical and mental functions of the body. Physical through treatment, knowledge, stretching, and relaxation of bones, muscles, digestion, cardiovascular system, sympathetic glandular and nervous systems. At the same time yoga stimulates the parasympathetic nerves which make it easier for the body to rest and sleep and someone who does not experience enough sleep usually becomes irritable, has poor concentration, and has difficulty making decisions (Adriani, 2017).

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