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Original Research

The Effectiveness Of Facial Massage On Reducing Sleep Disorders (Insomnia) In The Elderly In Tohudan Village, Karanganyar

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ABSTRACT

Background: *Insomnia is a disorder in which sufferers experience difficulty initiating and maintaining sleep so that they cannot adequately maintain their sleep needs, both in quality and quantity. In this study, physiotherapy efforts to reduce insomnia used facial massage intervention as measured by the insomnia severity index (ISI).*

Objective: *To determine the effect of facial massage on reducing the scale of sleep disorders (insomnia) in pre-elderly people in Tohudan village, Karanganyar regency.*

Methods: *The method used in this research is quasi-experimental, with the design used being one group pre-test and post-test. From the population of 200 elderly in Senden, Tohudan village, and 72 elderly came to Posyandu Lansia, 19 people who met the inclusion criteria using a purposive sampling method would be given treatment in the form of facial massage for 3 consecutive days. Pre- and post-test measurements were carried out by filling out the ISI scale questionnaire.*

Results: *The pre- and post-test differences were carried out using the paired t-test and obtained a p-value of 0.000 (p<0.05). So the alternative hypothesis (Ha) in this study is accepted.*

Conclusion: *Giving facial massages reduces insomnia in elderly people in Tohudan Village.*

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INTRODUCTION

The elderly are a part of the growth and development process. The elderly experience various issues, including a tendency to fall easily, fatigue, cardiovascular problems, pain or discomfort, elimination disorders, impaired vision, hearing difficulties, easy itching, and sleep disturbances (Sulistyarini & Santoso, 2016). In Indonesia, the number of elderly experiencing insomnia ranges from 25.5% to 34.8%. (Farazdaq et al., 2019).

Sleep is a basic need that is very necessary for the physical and mental health of humans of all ages, especially the elderly. Adequate sleep is a source of energy and body freshness needed to optimize a person's activities the next day. The amount of time

needed by each person will vary according to their needs. However, in general, the total amount of sleep time that is sufficient for each person is approximately 6 hours per day (Kementrian Kesehatan RI, 2013).

Insomnia is a syndrome of recurring sleep difficulties, either difficulty initiating sleep and/or maintaining sleep, resulting in impairment (functional disturbance) during the day (Irianto, 2015). Therefore, sleep is an important thing for the elderly to reduce morbidity from insomnia such as depression, disability, and decreased quality of life. So along with the increase in the elderly population, an increase in health services is needed to reduce the emergence of problems such as insomnia in the pre-elderly (45-59 years) (Kementrian Kesehatan RI, 2018).

Insomnia is a disorder in which sufferers experience difficulty initiating and maintaining sleep so that they cannot maintain their sleep needs adequately, both in quality and quantity (Olii et al., 2018). The prevalence of insomnia in the elderly is estimated at 13–47%, with a proportion of around 50–70% occurring in people over 65 years of age. In the Ageing Multicenter study, 42% of 9,000 elderly people, those aged over 65 years, experienced symptoms of insomnia (Suastari, Tirtayasa, Aryana, 2014). According to Amir (2016), the prevalence of insomnia cases in Indonesia is around 10% of the total population of 238 million in Indonesia.

Treatment for cases of insomnia in the elderly can be pharmacological and non-pharmacological. Pharmacological treatment can include administering drugs such as benzodiazepines, non-benzodiazepines, and antidepressants (Sateia, M. J., Buysse, D. J., Krystal, A. D., Neubauer, D. N. & Heald, 2017). Nonpharmacologic insomnia management is considered first-line therapy for patients with persistent insomnia and has been shown to be effective. Cognitive behavioural therapy for insomnia (CBT-i) improves sleep outcomes with minimal side effects and is preferred by patients over drug therapy. CBT-i addresses dysfunctional beliefs and behaviours that contribute to insomnia and is recommended for chronic insomnia, including those with comorbidities (Outhoff, 2016).

Massage is a manual manipulation therapy technique that involves direct physical contact using the hands. Massage is manipulation using the hands on the body's soft tissue, which aims to get a relaxing effect on spasming muscle tissue, improve blood circulation, and increase metabolic processes, as well as get a stretching effect on the skin. Meanwhile, facial massage is a manual therapy technique that involves physical contact with facial skin (Fritz, 2015).

Giving a massage by applying pressure and direct touch will affect the function of the autonomic nerves, namely the parasympathetic nerve. The parasympathetic nerves that play a role in the sleep process are the raphe nucleus and the solitary tract nucleus that enter the cranial nerves, namely the vagus and glossopharyngeal nerves. The production of the serotonin hormone occurs due to stimulation of the vagus nerve.

Back massage therapy is beneficial for the human body system to reduce muscle pain in the cardiovascular system, improve blood circulation, and decrease the risk of sleep disturbances (Indrayani, 2020). Massage therapy uses the hands to relax and reduce stress, providing comfort during sleep and alleviating anxiety. Soaking in warm water can create a sense of comfort and relaxation, offering a vasodilatory effect (Dionesia, 2019).

Based on the results of interviews conducted by researchers during an initial survey with one of the facilities in Tohudan Village on Friday, April 7, 2023, it was found that most of the elderly had sleep problems, including insomnia. The aim of this

research is to determine the effect of giving facial massage on reducing the scale of sleep disorders (insomnia) in the elderly in Tohudan Village, Karanganyar.

MATERIALS AND METHOD

The research is quasi-experimental research with one group pre-test and post-test design. This study group did not have a control group to compare with subjects who were given intervention treatment in the form of facial massage for 3 consecutive days. This research will be carried out in July and August 2023 in Tohudan Village, Karanganyar Regency.

The measuring tool used in this research is the insomnia severity index (ISI). The insomnia severity index, or ISI, is a measuring tool in the form of a questionnaire that assesses the severity, impact, and nature of insomnia. The categories evaluated in the ISI include the severity of sleep problems, the level of satisfaction with sleep, problems that arise during the day due to sleep disorders, the level of sensitivity of people around them to sleep disorders, and the problem of waking up too early.

The sample taken was 19 people from a total population of 200 elderly people in Senden, Tohudan village, using the purposive sampling technique, and 72 elderly came to "Posyandu Lansia". The subjects in this study were elderly people from Tohudan village who had sleep disorders (insomnia) with inclusion criteria (1) age 45-59 years. (2) ISI score 8-28 (3) filled out informed consent and were willing to take part in the research. The exclusion criteria for this research subject were (1) currently taking sleeping pills; and (2) there was inflammation and skin disease in the facial area. The drop-out criteria are (1) subjects who do not take the pre-test and post-test and (2) subjects who do not follow the exercise program for 3 consecutive days.

Researchers screened and selected potential subjects on August 28, 2023. The assessor conducted interviews using the ISI questionnaire as a pre-test at one of the residents' homes to determine the level of insomnia before the intervention. There were 19 elderly people who met the inclusion criteria. The facial massage intervention lasted for approximately 15 minutes without using an oil to reduce irritation on the elderly's facial skin. After 3 consecutive days for each subject, the insomnia scale was measured again using the ISI (ethical clearance can be seen in the attachment to this article).

RESULTS

The subjects in this study were 19 pre-elderly people with the criteria of gender and age illustrated in tables 1 and 2.

Table 1. Subject criteria based on age

Age (years)	Frequency	Percentage (%)
45-49	7	36,84%
50-54	7	36,84%
55-59	5	26,31%
Total	**19**	**100**

Table 2. Subject criteria based on gender

Gender	Frequency	Percentage (%)
Women	19	100
Man	0	0
Total	**19**	**100**

Table 1 shows the criteria details of the subject based on age. The ages in the subject data include 7 people in the 45-49 year age range with a percentage of 36.84%, 7 people in the 50-54 age range with a percentage of 36.84%, and 5 people in the 55-59 age range with a percentage of 26.31%. Overall, all subject data falls into the pre-elderly category, namely in the age range 45-59 years with a total of 19 people with a percentage of 100%.

Table 2 shows the criteria details of the subject based on gender. All elderly people who were the subjects of this research were female, with a percentage of 100% and a total of 19 people. Meanwhile, there are no male subjects. The description of insomnia data in the elderly before and after intervention in the form of facial massage is presented in Table 3.

Table 3. Description of the insomnia scale before and after intervention

Group	N	Avarage	Standar Deviation	Variant	Minimum Score	Maximum Score
Before intervention	19	14,4737	4,24746	18,041	7	21
After intervention	19	10,7368	2,05053	4,205	7	14

The prerequisite test analysis aims to determine whether the data is normally distributed, which is one of the requirements in a parametric test. The normality test in this study uses the Shapiro-Wilk test because the subjects are less than 50. If the results obtained have a *p-value* <0.05, then the data is not normally distributed. The following is a table of data from the results of the Shapiro-Wilk test.

Table 4. Results of the normality test of ISI questionnaire before and after intervention

Group	*P Value*	Shapiro-Wilk Criteria	Information
Before Intervention	0,380	*P Value>0,05*	Normal
After Intervention	0,213	*P Value>0,05*	Normal

In the table above, it is known that the p-value before the intervention (pre-test) is 0,38, which means > 0.05 and is normally distributed. In the data taken after the facial massage intervention, it is known that the p-value of the insomnia scale is 0.21, which means >0.05 and is normally distributed. So it can be concluded that the research data, both pre-test and post-test, are normally distributed so that parametric tests can be carried out.

Based on the description of insomnia scale data in pre-elderly before and after intervention in the form of facial massage, it can be concluded that the average insomnia score decreased from 14.47 to 10.73. This decrease in the ISI score indicates that there was a decrease in sleep disorders among the elderly in Tohudan village after being given the intervention. The hypothesis testing analysis used was the paired t-test because the data in this study was data when the group was given before and after the intervention and was normally distributed. The results of the paired t-test are described in Table 5.

Table 5. Results of the Paired T-test

Description	Mean (SD)	Difference (SD)	IK 95%	*p value*
Insomnia scale before intervention (n=19)	14,4737 (4,24746)	3,7369 (2,9784)	2,30126-2,17242	0,000
Insomnia scale after intervention (n=19)	10,7368 (2,05053)			

Based on the table above, it can be seen that the paired t-test results obtained a p-value of 0.000. P value (0.000) <0.05, so the alternative hypothesis (Ha) in this study is accepted, meaning that facial massage has an effect on reducing the insomnia scale of elderly people in Tohudan village.

DISCUSSION

The characteristics of the subjects in this study were that all subjects were in the range of 45-59 years with a total of 19 people and had a percentage of 100%. All the pre-elderly who were the subjects in this study were female, with a total of 19 people, so the percentage of female subjects was 100%. The subjects in this study had a majority of junior high school education, with a total of 7 with a percentage of 36.8%. The most common occupation of the subjects was as traders, with a total of 7 people and a percentage of 36.8%.

Discussion of ISI scores based on age

The ages that dominate the subject data are the age ranges of 45-49 years and 50-54 years, with a total of 7 out of 19 people each. However, overall this data is 100% in the age range of 45-59 years, which is included in the pre-elderly category. This data is in line with research conducted, which showed that the research subjects "The Effect of Facial Massage on Insomnia in the Elderly in Jagaraga Village, Kuripan Health Centre Working Area" were dominated by elderly people aged 45-59 years with a percentage of 100% with a total of 34 subjects. This data is also supported by research conducted by Chaput et al. (2018) in 2,1826 samples from 2007 to 2015. The results showed an increase in insomnia symptoms at night from 15.8% to 21.8% in the elderly.

Discussion of ISI scores based on gender

All elderly who were subjects in this study were female, with a percentage of 100%. This data is in line with the characteristics of the research subjects conducted by Juwita et al. (2018), which showed the research subjects "The Effect of Facial Massage (Facial Massage) on Insomnia in Pre-Elderly in Jagaraga Village, Kuripan Health Centre Working Area", with the majority of the subject data being female. 55.88%. According to statistical data, there are more elderly women in Indonesia than men in 2021 with a percentage of 52.32.

In addition, according to the results of observations from the dominance of elderly subjects of female gender supported by local cultural factors, in Tohudan village, elderly women are more active in participating in community activities compared to elderly men, who predominantly spend their time working or just staying at home.

CONCLUSION

The results of the study showed that the average insomnia score for pre-elderly people in Tohudsan village before the intervention was given was a score of 14. Then, after being given the intervention in the form of facial massage, the average insomnia score for pre-elderly people in Tohudan village was a score of 10. This decrease in the average insomnia score shows a decrease in the severity of insomnia in pre-lanisa in Tohudan Village. Based on the results of the paired t-test, it is known that the p-value is 0.000, where the value is <0.05. It can be concluded that there is an effect of giving facial massage on reducing insomnia in elderly people in Tohudan village.

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