

## The Effect of Giving Lavender Aromatherapy on Sleep Quality in the Elderly in Kamasan Village, Banjaran District, Bandung Regency in 2023

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### ABSTRACT

**Background:** Old age is a period of decline. This causes a significant decline in cognitive abilities and the speed of the aging process, such as impaired concentration, impaired language and memory abilities. As people get older, many changes occur, both physically and mentally. Changes in appearance that are part of the normal aging process, such as decreased vision, lack of sleep or decreased stamina, pose a threat to the integrity of the elderly.

**Objective:** Analyze the effect of giving Lavender Aromatherapy on the Sleep Quality of the Elderly in Kamasan Village, Banjaran District, Bandung Regency in 2023

**Methodology:** The research design used was quasi experimental with pre and post two group design. The sample in this study consisted of 32 pregnant women, consisting of 16 people in the intervention group and 16 people in the control group. The sampling technique uses random sampling technique. The research instrument used was the Pittsburgh Sleep Quality Index (PSQI) questionnaire regarding sleep quality. Data were analyzed using descriptive statistics and the Wilcoxon test to determine the difference in sleep quality scores before and after the intervention group and the control group

**Research Results:** showed changes in the sleep quality of elderly women before and after giving lavender aromatherapy. The results of statistical knowledge tests showed that the significance value (p-value) was 0.000. The p-value (0.000) < p alpha (0.05) means that there is an effect of giving lavender aromatherapy on the sleep quality of elderly women in Gunamekar Village, Bungbulang District, Garut District in 2023.

**Conclusion:** giving lavender aromatherapy provides significant changes to the sleep quality of elderly women

**Suggestion:** It is hoped that the elderly, their families and the community can play an active role in health service programs, especially regarding the health of the elderly, to be able to carry out routine checks so that they can treat their complaints as early as possible.

**KEYWORDS:** aromatherapy; effective; elderly women; lavender; quality of sleep;

### ARTICLE DETAILS

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### BACKGROUND

Increasing age will result in physical and psychological degeneration. As a result of increasing age, the elderly will experience many changes due to aging which will require the elderly to be able to adapt. Elderly people will experience stress, anxiety and even depression if they are unable to adapt and adapt to changes (Cindy Maria, 2021).

As people get older, many changes occur, both physically and mentally. Changes in appearance that are part of the normal

aging process, such as decreased vision, lack of sleep or decreased stamina, pose a threat to the integrity of the elderly. Apart from that, the elderly also face changes in roles, social status, and separation from loved ones. These conditions experienced by the elderly can become stressors (Maryam, 2022).

Indonesia is a country with a fairly large number of elderly people and it continues to increase every year. The number of elderly people in West Java is 43.03% or 2.2 million people

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of the total population in West Java. The increasing elderly population has an impact on the condition of the elderly who are easily stressed and have difficulty sleeping (insomnia). Insomnia is a sleep disorder that is most often found in the elderly. Every year it is estimated that around (20% - 50%) of adults report sleep disorders and around (17%) experience sleep disorders. The prevalence of sleep disorders in the elderly is relatively high, namely around (67%).

Insomnia is a sleep disorder that most often occurs in the elderly, characterized by the inability to initiate sleep, maintain sleep, waking up too early or sleeping unpleasantly. If a person's sleep needs are not met, it will affect central nervous function. Prolonged anxiety is associated with progressive thinking and can even lead to abnormal nervous system behavior. Lack of sleep can increase insulin levels by up to 30 percent and increase insulin resistance in type 2 diabetes sufferers by up to 43%, lack of sleep has a 5.9% risk of heart attack or stroke in the next 10 years. The consequences of insomnia are depression (23%), heart disease (17%), headaches (10%), stiff neck (5%), dizziness (8%), nausea and vomiting (4%) (Dewi, 2023)

The results of research by Yi (2019) were found in China where the prevalence of poor sleep quality in the elderly reached the range of 40-70% and this always increases every year and there is a very high risk of experiencing sleep disorders.

Based on the results of research conducted by Jepisa & Riasmini (2020), the prevalence of sleep disorders in the elderly in Indonesia reached 67%. It was found that the sleep quality of elderly people living in PSTW West Sumatra was mostly poor, 75% or 90 people out of a total of 120 respondents.

Sleep quality is an important factor in maintaining a person's physical and mental health. Quality sleep allows the body to recover and renew itself, and plays an important role in cognitive and emotional function. In a study, it was stated that the impact of insomnia on the elderly; for example excessive sleepiness during the day, attention and memory disorders, depressed mood, frequent falls, inappropriate use of hypnotics, and decreased quality of life. Some sleep disorders can be life-threatening either directly (for example hereditary and fatal insomnia and obstructive sleep apnea) or indirectly, for example accidents due to sleep disorders. The majority of elderly people are prone to experiencing sleep problems due to various factors, one of which is that elderly people often experience changes in sleep patterns, around 40 to 50% of elderly people experience sleep disorders. This can cause a decrease in quality of life, increase the risk of chronic health problems, and interfere with daily functioning (Ministry of Health, 2023).

To improve sleep quality, two therapies can be carried out, namely pharmacological and non-pharmacological therapy. Pharmacologically, drugs that can be used to treat insomnia

are benzodiazepines, antihistamines and antidepressants. Meanwhile, non-pharmacological therapy to overcome sleep integrity consists of several treatment measures, including massage, relaxation and therapy using aromatherapy techniques. Therefore, research into methods that can improve sleep quality, such as lavender aromatherapy, is becoming increasingly important in the context of healthcare. Lavender aromatherapy from flowers and fruits with spices, and herbal teas help calm nerves and help sleep because they do not cause side effects and can help elderly people maintain their health. Aromatherapy is a therapy that complements nursing practice and uses essential oils from aromatic plants to relieve health problems. Riswanto's research (2021), where the quality of sleep of elderly people before being given lavender essential oil therapy, the quality of sleep of elderly people after being given it

## OBJECTIVE

Analyzing the effect of giving Lavender Aromatherapy on the Sleep Quality of the Elderly in Kamasan Village, Banjaran District, Bandung Regency in 2023.

## METHODS

The research design used was quasi experimental with a pre and post test two group design to determine the effect of giving lavender aromatherapy on the sleep quality of the elderly in Kamasan Village, Banjaran District, Bandung Regency in 2023.

The sampling technique used was Total Sampling, namely 32 elderly women, divided into 2 groups, 1 intervention group of 16 people was given lavender therapy and 1 control group of 16 people was not given lavender therapy. The sampling technique uses random sampling technique

The statistical test used to test the normality of the data using Kolmogorov Smirnov on the sleep quality results of elderly women before and after, the results of the normality test analysis of the sleep quality variable showed an abnormal distribution. The statistical test used in this research is the Wilcoxon statistical test using one group, which is adjusted to the variable measurement scale, namely the ordinal scale. The Wilcoxon test is a non-parametric statistical test used to test differences in dependent data.

## RESULTS

**Table 1. Sleep Quality of the Elderly Before and After Giving Lavender Aromatherapy**

Quality of Sleep	
(Pretest)	(Posttest)
10,75	5,63

Based on table 1 above, it can be seen that before giving lavender aromatherapy the average sleep quality for elderly women was 10.75. And after giving lavender aromatherapy, the average sleep quality for elderly women was 5.63

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**Table 2. Sleep Quality of Elderly Women who were not given Lavender Aromatherapy**

Quality of Sleep	
(Pretest)	(Posttest)
10,63	10,63

Based on table 2 above, it can be seen that the average sleep quality of elderly women before and after not being given lavender aromatherapy was 10.63.

**Table 3. Effect of Sleep Quality in Elderly Women before and after Giving Lavender Aromatherapy**

Quality of Sleep		P- value
(Pretest)	(Posttest)	
10,75	6,50	<b>0,001</b>

Based on table 3 above, it shows that there are changes in the sleep quality of elderly women before and after giving lavender aromatherapy. The statistical test results showed that the significance value (p-value) was 0.001. The p-value (0.001) < p-value (0.05) means that  $H_a$  is rejected and  $H_o$  is accepted, meaning that there is an effect of giving lavender aromatherapy on the sleep quality of elderly women in Gunamekar Village, Bungbulang District, Garut Regency, West Java 2023

**Table 4. Effect of Sleep Quality in Elderly Women before and after not being given Lavender Aromatherapy**

Quality of Sleep		P- value
(Pretest)	(Posttest)	
10,63	10,63	<b>1,000</b>

Based on table 4 above, it shows that there is no change in the sleep quality of elderly women before and after not being given lavender aromatherapy. The statistical test results showed that the significance value (p-value) was 1.000. The p-value (1.000) > p-value (0.05) means there is no influence on the sleep quality of elderly women who were not given lavender aromatherapy in Kamasan Village, Banjaran District, Bandung Regency in 2023

**Table 5. Difference between Sleep Quality of Elderly Women who were given Lavender Aromatherapy and those who were not given Lavender Aromatherapy**

Quali ty of Sleep	Lavender Aromatherapy		P- valu e	Lavender Aromatherapy		P- valu e
	(Prete st)	(Prete st)		(Postte st)	(Postte st)	
	17,22	15,78	<b>0,6</b>	10,06	22,94	<b>0,0</b>
			<b>60</b>			<b>00</b>

Based on Table 5 above, it shows that there is a difference in the sleep quality of elderly women who were given lavender aromatherapy and those who were not given lavender aromatherapy. The statistical test results showed that the p-value was  $0.660 > p$  alpha (0.05), meaning there was no difference in sleep quality before being given lavender aromatherapy and not being given lavender aromatherapy. The statistical test results showed that the p-value was  $0.000 < p$  alpha (0.05), meaning that there was a difference in sleep quality after being given lavender aromatherapy and not being given lavender aromatherapy in Kamasan Village, Banjaran District, Bandung Regency in 2023.

### DISCUSSION

in accordance with the background which explains that as people get older, many changes a person experiences, both physically and mentally. Changes in appearance that are part of the normal aging process, such as decreased vision, lack of sleep or decreased stamina, pose a threat to the integrity of the elderly. Apart from that, the elderly also face changes in roles, social status, and separation from loved ones. These conditions experienced by the elderly can become stressors. The results of the study showed changes in the sleep quality of elderly women before and after giving lavender aromatherapy. The statistical test results showed that the significance value (p-value) was 0.000. The p-value (0.000) < p-value (0.05) means that  $H_a$  is rejected and  $H_o$  is accepted, meaning that there is an effect of giving lavender aromatherapy on the sleep quality of elderly women in Kamasan Village, Banjaran District, Bandung Regency in 2023

This is in accordance with the results of research conducted by Jepisan (2022) Lavender aromatherapy significantly improves the sleep quality of elderly parents living in PSTW, West Sumatra province. Lavender aromatherapy provides significant and significant improvements in sleep quality for elderly people with sleep quality disorders. Further clinical research needs to be carried out to examine the side effects of long-term use of lavender aromatherapy. The possibility of independent and simple use of aromatherapy should also be explored. There is a need to provide lavender aromatherapy to elderly people living in PSTW to improve the quality of elderly sleep, and there is a need for further research with more stringent control of testing methods and procedures.

Other research also explains that based on the results of research conducted with the title The effect of lavender aromatherapy in reducing insomnia in Koto Tuo Village Community Health Center 2. This research can expand the elderly's knowledge about the effectiveness of lavender aromatherapy in treating insomnia. The average number of insomnia sufferers before using lavender aromatherapy was 48.50%, the average number of insomnia sufferers after using lavender aromatherapy was 43.29 and there was a difference

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in reducing insomnia in Koto Tuo village in the working area of Community Health Center 2 (Junita, 2020)

Using experimental methods, elderly female participants with sleep disorders were given a lavender aromatherapy session before bed to observe changes in sleep patterns and their subjective perception of sleep. The research results show that giving lavender aromatherapy consistently affects the sleep quality of elderly women. Therefore lavender aromatherapy can stimulate the relaxation response, creating a psychological condition that is more conducive to quality sleep.

These results are not the same as respondents who were not given lavender aromatherapy. The results of the study showed that there was no change in the sleep quality of elderly women before and after those who were not given lavender aromatherapy. The statistical test results showed that the significance value (p-value) was 1.000. The p-value (1,000) < p-value (0.05) means there is no effect on the sleep quality of elderly women who were not given lavender aromatherapy in Kamasan Village, Banjaran District, Bandung Regency in 2023

This is in line with the results of the study which showed that there were no significant differences in sleep quality parameters between the group that did not receive aromatherapy and the control group at the end of the study. This shows that the use of lavender aromatherapy has no impact on women's sleep quality (Jones & Brown, 2020).

Therefore, the results were different between the group of respondents who were given aromatherapy and respondents who were not given aromatherapy. This is shown by the results of the study showing that there is a difference in the sleep quality of elderly women who were given lavender aromatherapy and those who were not given lavender aromatherapy. The results of statistical knowledge tests showed that the significance value (p-value) was 0.000. The p-value (0.000) < p alpha (0.05) means that  $H_a$  is rejected and  $H_o$  is accepted, meaning that there is a significant difference in the sleep quality of elderly women who were given lavender aromatherapy and those who were not given lavender aromatherapy in Kamasan Village, Banjaran District, Bandung Regency in 2023 .

The results of this research are supported by research conducted by Sari (2018) regarding the effect of giving lavender aroma therapy on reducing insomnia in the elderly at UPT Nursing Home Mojopahit Mojokerto which shows the results using the Wilcoxon sign test that  $p=0.000 < 0.05$ , thus meaning there is The effect of giving lavender aromatherapy on reducing insomnia in the elderly.

### CONCLUSION

1. The average sleep quality of elderly women before giving lavender aromatherapy was 10.75. And the average sleep quality of the elderly after giving

aromatherapy was 5.63

2. The average sleep quality of elderly women who were not given lavender aromatherapy before and after was 10.63
3. There is an effect of giving Lavender Aromatherapy on Sleep Quality in Elderly Women in Gunamekar Village, Bungbulang District, Garut Regency with a p-value <0.05, namely 0.000
4. There is no influence on the sleep quality of elderly women who are not given lavender aromatherapy in Kamasan Village, Banjaran District, Bandung Regency in 2023 with a p-value >0.05, namely 1,000
5. There is a difference in sleep quality among elderly women in the intervention group and control group in Kamasan Village, Banjaran District, Bandung Regency in 2023 with a p-value <0.05, namely 0.000

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