



THE EFFECT OF LAVENDER AROMATHERAPY ON INSOMNIA IN THE ELDERLY

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ABSTRACT

The elderly are at risk of experiencing sleep disturbances caused by many factors. Insomnia is difficulty getting or staying asleep. Aromatherapy is a non-pharmacological treatment with essential oils obtained from plants to help improve health problems and improve sleep quality. One of the aromatherapy that can be used to overcome the problem of decreased sleep quality is lavender aromatherapy. This research was conducted to determine the effect of lavender aromatherapy on insomnia in the elderly at the Margo Mulyo Health Center, Jalan 16, Muara Sugihan District. The design of this study is to use a pre-experimental design. The sample of this study were elderly people aged 60 years and over who were obtained by purposive sampling technique with a population of 25 elderly people with insomnia. After that given lavender aromatherapy. Data analysis used the Paired T test statistic. The results showed that before giving lavender aromatherapy, the average was 17.96, which means that the respondent had insomnia behavior and after giving lavender aromatherapy, the average was 6.68, meaning that the respondent experienced a decrease in insomnia. Based on the results of bivariate analysis using the paired t-test statistic, a significance value of 0.001 was obtained with a p-value <0.05, indicating that there was an effect of giving lavender aromatherapy to insomnia in the elderly at the Margo Mulyo Health Center, Jalan 16, Muara Sugihan District.

Keywords: elderly; insomnia; lavender aromatherapy

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INTRODUCTION

Old age can be said to be the final stage of human life development. Elderly is an age group in humans who have entered the final stage of their life process. Elderly is a group that is vulnerable to experiencing various problems such as the effects of the aging process, decreased activity ability due to retirement and physical limitations, decreased family income, loneliness left by a spouse and children who are already married and social interaction and the role of the elderly is reduced (Aprianti & Ardianty, 2020). Elderly people are at risk of experiencing sleep disorders caused by many factors such as retirement and changes in social patterns, death of a spouse or close friend, increased use of drugs, illnesses, and changes in circadian rhythms. Mood disorders, anxiety, sleep beliefs, and negative feelings are indicators of insomnia (Maliya, 2016). Currently, worldwide the number of elderly people is estimated at 500 million with an average age of 60 years and is estimated to reach 1.2 billion in 2025. In developed countries such as the United States, the increase in elderly people is estimated at 1,000 people per day and is estimated at 50% and the population is over 50 years old so that the term Baby Boom in the past has changed to an elderly population explosion (Lansia). The data shows an increase when compared to the results of the 2018 population census, which was 18.1 million people or 7.6 percent of the total population (Padila, 2016).

Indonesia is one of the countries with the largest number of elderly people in the world, due to the impact of improving the quality and standards of health services in the community. In Indonesia, there has been an increase in the elderly population from 4.48 percent (5.3 million people) in 1971 to 7.4 percent (23.9 million people) in 2018. Even in 2019 around 5.32 percent (7.1 million people) in 2020 there was an explosion in the number of elderly people by 11.34 percent or around 28.8 million people. Among the countries in the world, Indonesia is the fifth country that will have the largest elderly population after China, India, the United States, and Mexico (Ministry of Health of the Republic of Indonesia., 2019).Based on Susenas in 2018 and 2019, the number of elderly in South Sumatra in 2018 was 7.25%. While in 2019 the proportion of elderly reached 7.58%. This proves that during the elderly scale, it increased, jumping to 0.33% (South Sumatra Health Office, 2020).

The number of elderly in the city of Palembang for the age group 45-64 years, the number of men is 133,150 or 8.4% and women 133,122 people or 8.4% of the total population. While for the age group over 65 years, the number of men is 27,908 or 1.8% and women 35,788 people or 2.3% of the total population (Palembang Health Office, 2019).Insomnia is difficulty initiating or maintaining sleep. This disorder is the most common sleep need and is temporary or persistent. Insomnia is also the most common sleep disorder that is temporary or persistent and can affect almost 15% of the general population. Insomnia is more common in women than in men. Adults complain of difficulty initiating sleep (80%), while the elderly complain of many disturbances at night and waking up in the early hours of the morning (Desi et al., 2017).

According to Siregar (2019), insomniacs often complain of not being able to sleep, not sleeping long enough, sleeping with scary dreams, and feeling that their health is disturbed. People who suffer from insomnia will not be able to sleep soundly even if given many opportunities to sleep. Insomnia can be treated in two ways, namely pharmacological therapy and non-pharmacological therapy. Pharmacological therapy is therapy using sleeping pills. This is quite effective, but if consumed continuously it will cause new problems and cause dependence. Non-pharmacological therapy to overcome insomnia is with sleep regulation therapy such as setting a consistent sleep schedule including on holidays, psychological therapy aimed at overcoming mental disorders or severe stress, relaxation therapy such as progressive muscle relaxation and breathing exercises, music therapy, surrender exercises, and aromatherapy (Nasiri & Fahimzade, 2017).Aromatherapy is a non-pharmacological treatment with essential oils and obtained from plants to help improve health problems and improve sleep quality. One aromatherapy that can be used to overcome problems with decreased sleep quality is lavender aromatherapy (Lytle, Catherine, & Karen, 2014).

Lavender aromatherapy (*Lavandula angustifolia*) is one of the complementary therapies that can reduce insomnia because it contains linoleum which functions as a sedative effect so that when someone inhales lavender flower aromatherapy, the aroma released will stimulate the olfactory nerve cilia receptors located in the olfactory epithelium to lower the aroma to the olfactory bulb through the olfactory nerve. The olfactory bulb is related to the limbic system. The positive impact of lavender aromatherapy on the quality of deep sleep will be felt directly (inhalation) because the nose has direct contact with the parts of the brain that are responsible for stimulating the formation of the effects caused by aromatherapy (Dewi et al, 2018).Based on the results of research conducted by Lestari (2017), before being given lavender aromatherapy, all respondents experienced moderate insomnia. After being given lavender aromatherapy, almost all respondents experienced mild insomnia. There was an effect of giving lavender aromatherapy on reducing insomnia in the elderly at the UPT Panti Werdha

Mojopahit Mojokerto..The results of this study are in line with the research conducted by Kurnia (2013) on the effect of lavender aromatherapy on the sleep quality of the elderly at the Griya Asih Lawang Werdha Panti and the Tresno Mukti Turen Malang Age, which showed results using the Wilcoxon sign test that there was an effect of giving lavender aromatherapy on reducing insomnia in the elderly.A preliminary study conducted by the author in December 2022 through brief interviews with 10 elderly people, 6 elderly people said they had insomnia with symptoms of frequently waking up at night and having difficulty falling back asleep, some elderly people also felt less refreshed when they woke up again.The purpose of this study was to determine the effect of lavender aromatherapy on insomnia in the elderly at the Margo Mulyo Community Health Center, Jalur 16, Muara Sugihan District.

METHOD

This study used a pre-experimental method with the research design used in this study was one group pretest-posttest. The sample of this study was elderly aged 60 years and over who experienced insomnia at the Margo Mulyo Health Center, Jalur 16, Muara Sugihan District.The sampling that will be used in this study is by using non-probability sampling with a purposive sampling technique of 25 elderly people who meet the inclusion criteria.Measuring instruments used in variableslavender aromatherapy administration according to standard operating procedures (SOP). The instrument used in this study was the KSPBJ-IRS questionnaire with 10 questions. Univariate data analysis in this study was to describe the administration of lavender aromatherapy with insomnia in the elderly. Bivariate analysis was conducted to determine the effect of lavender aromatherapy on insomnia in the elderly. The management of this bivariate analysis used the Paired T test statistical test.

RESULT

Table 1.

Frequency of insomnia before being given lavender aromatherapy		
Insomnia Level	f	%
No Insomnia	0	0
Mild Insomnia	7	28
Moderate Insomnia	17	68
Severe Insomnia	1	4

From table 1 above, it can be seen that before being given lavender aromatherapy, 7 people or 28% of respondents experienced mild insomnia, 17 people or 68% experienced moderate insomnia, and 1 person or 4% experienced severe insomnia.

Table 2.

Frequency of insomnia after being given lavender aromatherapy		
Insomnia Level	f	%
No Insomnia	24	96
Mild Insomnia	1	4
Moderate Insomnia	0	0
Severe Insomnia	0	0

From table 2 above, it can be seen that after being given lavender aromatherapy, 24 people or 96% of respondents did not have insomnia and 1 person or 4% had mild insomnia.

Table 3.

Results of the analysis of the effect of giving lavender aromatherapy on the level of insomnia in the elderly

Analysis	N	Correlation	Sig(2-tailed)
Pre-aromatherapy administration Lavender	2		
Post giving aromatherapy Lavender	5	0.615	0.001

From table 3. shows that giving lavender aromatherapy has an effect on the level of insomnia in the elderly. Based on the results of the analysis using the paired t-test statistical test of paired samples with the SPSS version 23.0 program, it was obtained p value = 0.001 $< \alpha = 0.05$, meaning that H_a is accepted, meaning that there is an effect of giving lavender aromatherapy has an effect on insomnia in the elderly at the Margo Mulyo Health Center, Jalur 16, Muara Sugihan District. The results of the paired t-test statistical test of paired samples show that r count = 0.615, which is a strong correlation, meaning that the more often lavender aromatherapy is given, the more success there is in reducing insomnia itself.

DISCUSSION

The effect before giving lavender aromatherapy on insomnia in the elderly

Based on the results of the study in table 4.4 on 25 elderly respondents, the level of insomnia before being given lavender aromatherapy was obtained with a mean (17.96) and median (18) and mode obtained a value (16), minimum and maximum scores (14-24) elderly who experience insomnia are mostly triggered by stress factors, and irregular sleep patterns, usually elderly people sleep in the morning or afternoon then cannot sleep at night, and most elderly people rarely do physical activities and do not know the therapy that can reduce insomnia, either with pharmacological or non-pharmacological drugs. According to Richy Ramadhan (2017) Insomnia is a sleep pattern disorder that is a health problem in both developed and developing countries. This disease is a problem for children, adolescents, adults, and the elderly. Based on data from the World Health Organization (WHO), approximately 18% of the world's population experiences sleep disorders or an estimated 1 in 3 people experience insomnia. While the prevalence of insomnia in Indonesia is approximately 28% of the total population of 238 million Indonesians or around 10%. The dominant factors that influence insomnia are depression and anxiety. 3.4 Sufferers usually complain of difficulty sleeping, thus reducing the quality of life of sufferers. Insomnia management is divided into 2, namely pharmacological and non-pharmacological management. Pharmacological therapy using drugs from the benzo diazepine, non-benzo diazepine and miscellaneous sleep promoting agent drug groups. However, the side effects are less beneficial. Therefore, one therapy with minimal side effects is non-pharmacological therapy using lavender aromatherapy.

Siagian's research (2018) showed that the most elderly people experienced high or severe insomnia, namely 14 people (46.7%) with the highest score of 23 including high insomnia levels, while the lowest score was 4 including low insomnia categories. The researcher concluded that sleep disorders are most often experienced by the elderly, especially those aged 60 years and over, on average the elderly experience severe insomnia such as difficulty sleeping, often waking up at night, sleeping soundly for less than 3 hours, this occurs due to increasing age such as changes in sleep architecture, night sleep is more easily disturbed, the quality and duration of the condition are also disturbed, the elderly tend to have a greater desire to take a nap than young people, in addition the elderly often wake up at night and need a lot of time to fall asleep.

According to Angraini (2016) most elderly people have a high risk experiencing sleep disorders due to various factors. Luce and Segal stated that age is the most important factor

affecting sleep quality. It is said that complaints about sleep quality increase with age. At the age of over 55 years, there is a natural aging process that causes physical, mental, social, economic, and psychological problems. Healthy elderly people often experience changes in their sleep patterns, namely taking a long time to fall asleep. They realize that they wake up more often and only a little time can be used for the deep sleep stage so they are dissatisfied with the quality of their sleep. Currently, worldwide the number of elderly people is estimated to be 500 million with an average age of 60 years and is estimated to reach 1.2 billion in 2025 (3). In 2010, the number of elderly people in Indonesia was estimated to be 24 million or 9.77% of the total population. In Indonesia, in the forty-year-old age group, only 7% complained of sleep problems. While in the seventy-year-old age group, 22% experienced sleep disorders at night.

Sleep disorders can cause disturbances in the ability intellectual, low motivation, emotional instability, depression and even the risk of substance abuse disorders. Options to overcome this include sleep hygiene training, relaxation training and stimulus control therapy, all of which can be combined with medication if indicated. Research conducted by Damayanti and Hadiati (2019) concluded that the elderly are very susceptible to insomnia, this is due to the age of the elderly, where the older a person is, the more changes will occur in the body and psyche of a person, causing several body functions to be hampered, resulting in the elderly experiencing insomnia, insomnia in the elderly can affect concentration and alertness and also increase health risks, and can damage the function of the immune system, then affect physical, cognitive abilities and also quality of life.

The effect after giving lavender aromatherapy on insomnia in the elderly

Based on table 4.5, it can be seen that there is an effect of giving lavender aromatherapy on insomnia in the elderly at the Margo Mulyo Health Center, Jalur 16, Muara Sugihan District. Based on the results of the study in table 4.4 on 25 elderly respondents, the level of insomnia before being given lavender aromatherapy, the mean (6.68) and median (6) and mode values (6) were obtained, the minimum and maximum scores (5-11) for the elderly who experienced insomnia. The results of Yuliana's research (2019) concluded that lavender aromatherapy has a calming or relaxing effect for several disorders, such as reducing anxiety, tension and insomnia. Lavender aromatherapy is a relaxation therapy that can be used to overcome insomnia, this is because the fragrant aroma of aromatherapy provides a relaxing effect. The human nervous system consists of the central nervous system and the autonomic nervous system. The central nervous system functions to control desired movements, such as movements of the hands, feet, neck and fingers.

Lavender aromatherapy helps in meeting the sleep needs of the elderly both in quantity and quality. Lee, Gihyun (2017) stated that non-pharmacological therapy is better than pharmacological therapy in the elderly. The elderly's body's ability to decline in metabolism and degenerative processes is an important reason for using non-pharmacological therapy such as Lavender aromatherapy. The aromatherapy given stimulates the solfactory cortex which stimulates the brain and impulses reach the limbic system so that it affects mood. Giving this therapy can make someone relax and affect mood so that the influence makes it easy for the elderly to fall asleep soundly and the quality of sleep will be good (Sharma, 2011). Lavender aromatherapy can reduce insomnia. By smelling the aroma of essential oils, the sense of smell can stimulate our emotional memory by giving a physical reaction in the form of behavior. So this therapy can be used as one way to reduce insomnia in the elderly. Research by Sari and Leonard (2018) on the effect of giving lavender aromatherapy on insomnia in the elderly at Wisma Cinta Kasih Padang showed that giving lavender

aromatherapy can be applied as an alternative to overcome insomnia and as one of the activity therapies to fill the free time of the elderly at Wisma Cinta Kasih Padang. The researcher's assumption is that lavender aromatherapy can be done once a week with the help of a nursing home nurse and will be able to improve the quality of sleep of the elderly who experience insomnia, besides that it can also create a calm and comfortable atmosphere. This study is in line with the study conducted by Erwani (2017) the results showed that 44 elderly (65.7%) elderly experienced insomnia in the control group. The results of this study are almost the same as the study by Iin Varlina obtained (64.7%) elderly experienced insomnia in Andalas Village, Andalas Padang Health Center working area in 2015 in the control group. Based on the description above, the researcher concluded that lavender aromatherapy has a calming or relaxing effect for several disorders such as reducing anxiety, tension and insomnia. Lavender aromatherapy is a relaxation therapy that can be used to overcome insomnia, this is because the fragrant aroma of aromatherapy provides a relaxing effect.

CONCLUSION

Based on a study entitled the effect of giving lavender aromatherapy on insomnia in the elderly at the Margo Mulyo Health Center, Jalur 16, Muara Sugihan District. It can be concluded that there is an effect of giving lavender aromatherapy on the level of insomnia in the elderly. This is based on the results of the analysis using the paired t-test sample statistical test with the SPSS version 23.0 program, the p value = 0.001 $< \alpha = 0.05$ was obtained.

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