

Original Research**The Effect Of Breathing Relaxation And Lavender Aromatherapy On Insomnia In The Elderly****Tata Mahyuvi^{1*}, Dhian Restika Perbawani², Heru Suwardianto³**¹ Rumah Sakit Islam Surabaya A.Yani, East Java, Indonesia² Rumah ASKA Sidoarjo³ STIKES Rumah Sakit Baptis Kediri, East Java, Indonesia**ABSTRACT**

Background: The elderly experience insomnia in the form of problems with symptoms of sleep disorders in the form of repeated difficulties in sleeping or maintaining sleep even though there is an opportunity to sleep. The objective of research was to analyze the effect of Breathing Relaxation Aromatherapy Combination Lavandula Angustifolia on Insomnia in the Elderly.

Methods: The design was a pre-experiment with approach the one group pretest-posttest design. The research population was elderly insomnia in elderly Posyandu and the sample was 21 peoples. The sampling research was total sampling. Variabel independent was Breathing Relaxation combination with lavender aromatherapy is relaxation using breathing techniques slowly and deeply, variabel dependen was insomnia level. Statistic test use Wilcoxon Signed Ranks Test

Results: The results showed that The Wilcoxon Signed Ranks Test p value = 0,000, H1 is accepted, meaning that there is an effect of the Breathing Relaxation and lavender aromatherapy on insomnia in the elderly. The combination of Breathing Relaxation and lavender aromatherapy increases the relaxation response in the elderly.

Conclusion: Effect of Breathing Relaxation combination of lavender aromatherapy (*Lavandula angustifolia*) is more effective in reducing insomnia levels in the elderly and is highly recommended and safe for the elderly)

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breathing relaxation; elderly; insomnia; lavandula angustifolia; lavender aromatherapy;

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INTRODUCTION

Elderly is one of the stages of life that any human being can go through. Despite the fact that age brings with it a decline in organ function, the elderly will still live a healthy life (Kholifah, 2016). As they age, the need for sleep rest in the elderly tends to decrease. The elderly need time to rest 6-7 hours of sleep. a day, while in adulthood the time for sleep rest is needed around 7-8 hours a day (Putra & Widiastuti, 2020). Older people who experience insomnia or what is called sleep rest disorder are problems with

symptoms of disorders in sleep in the form of repeated difficulties to sleep or maintain sleep. although there are cases of fours for sleep. These symptoms are usually followed by functional disorders and upon waking up so that during the day the elderly often experience excessive sleepiness and do not focus on doing something. Insomnia is often caused by a disease or a result of psychological problems so that the quality of sleep in the elderly is disturbed. In this case, medical or psychological treatment is needed (Aisi, 2017).

The Data of World Health Organization says that the elderly is a population group aged 60 years or more. Data from the World Health Organization (WHO) in 2015 stated that there were 901 million elderly people in the world. This number is estimated to continue to increase to 2 (two) billion people in 2050. In Indonesia in 2019, the number of elderly people is 9.7% of the total population or around 25.9 million people and in 2035 it is estimated to experience an increase of 48 million (15.77%) people. In East Java Province, all districts have the number of elderly people above 5% of the total population, for example Surabaya City (8.53%), Sidoarjo Regency (7.61%), Pasuruan City (8.81%), Gresik Regency (9,12 %), and Pasuruan Regency (9.45%) tended to be large (Paramita, 2019). Based on a preliminary study conducted on June 10, 2020 in Tambakbulak Hamlet, Tambakrejo Village, Waru District, Sidoarjo Regency, there were 21 elderly. From the survey results, 10 elderly people, 7 of whom experience sleep rest disorders or what is called insomnia.

Age changes come unnoticed, like a season. Slowly getting older humans. The elderly begins to realize that their eyesight is no longer sharp and the quality of hearing is decreasing. Over the same time, the sleep experience of older people changes. Even so, this does not mean that the need for sleep decreases with age. In fact, research results prove that the need for sleep is constant throughout the ages (Danirmala & Ariani, 2019). Based on the results of research conducted by (Rarasta et al., 2018), the incidence of insomnia in the elderly is very high, reaching 43.3% of all elderly respondents experiencing insomnia. The results of other research conducted by said that more than 50% of elderly respondents experience insomnia and often wake up at night.

The factors that cause insomnia in the elderly include several aspects, namely from a physical, psychological and environmental perspective. Insomnia sufferers show symptoms such as difficulty falling asleep immediately when sleepy, waking up at night or at times, feeling weak, lack of energy, face looks dull and tired, experiencing unclear anxiety, frequent uncontrolled anger, increased pressure blood, blurred vision, uncontrolled body movements, weight loss, indigestion, fear at night. This makes the quality and quantity of elderly sleep less (Putu et al., 2019). Pharmacological and non-pharmacological approaches to treating sleep disturbances or insomnia in the elderly can be classified into two categories. There are several non-pharmacological techniques to treat insomnia, including laughter therapy, relaxation and lavender scent

Relaxation with lavender aromatherapy using concentrations of highly aromatic essential oils extracted from herbs can be used to treat insomnia. Handling of insomnia by giving lavender Aromatherapy is very easy because the molecules of the essential oil are volatile and react directly with the olfactory organs by perceiving them by the brain (Yeni Tri Lestari, 2016). Deep breath relaxation can improve the quality of sleep in heart failure patients (Alkan et al., 2017; Suwardianto, 2013). The aim of research was to analyze the effect of Breathing Relaxation Aromatherapy Combination *Lavandula Angustifolia* on Insomnia in the Elderly. Supported by research (Hasina et al., 2019) According to this study, deep breathing relaxation will help patients with hemodialysis

sleep better. The results of the study (Lauwsen & Dwiana, 2019) prove that giving lavender aromatherapy can improve sleep quality in medical students.

MATERIALS AND METHOD

Design of this research was pre-experiment, which is a design that provides treatment to one intervention group, then observed before and after the intervention (Nursalam, 2017). The aim of research was to analyze the effect of Breathing Relaxation Aromatherapy Combination *Lavandula Angustifolia* on Insomnia in the Elderly. The population of the entire elderly insomnia in elderly Posyandu RW 03 in the village of Hamlet Tambakbulak Waru Sidoarjo Regency Tambakrejo district about 21 peoples. This research uses total sampling. Breathing Relaxation combination with aromatherapy lavender is a relaxation technique using breathing techniques slowly and deeply, using the diaphragm muscle, allowing the abdomen to lift slowly and the chest to expand fully and while inhaling aromatherapy lavender which is done in a state of relaxation that focuses on calm and reduces stress on the elderly so that sleep quality is good elderly, which will be done by researchers for 1 week (6 consecutive days) for 20 minutes before bedtime. This research has Ethical Clearance from Chakra Brahmanda Lentera Institute (No. 028/23/IV/EC/KEPK/Lemb.Candle/2021).

RESULTS

Table 1. Frequency Distribution of Characteristics Respondent

| No | Gender | Frequency | (%) |
|-------------------|--------------------|-----------|-------|
| 1 | Male | 5 | 23.8% |
| 2 | Female | 16 | 76.2% |
| Age | | | |
| 1 | 45-59 years old | 4 | 19.0% |
| 2 | 60-74 years old | 14 | 66.7% |
| 4 | > 75 years old | 3 | 14.3% |
| Education | | | |
| 1 | Elementary schools | 16 | 76.2% |
| 2 | Junior High School | 3 | 14.3% |
| 3 | Senior High School | 2 | 9.5% |
| Profession | | | |
| 1 | Not Working | 16 | 76.2% |
| 2 | Laborer | - | - |
| 3 | Entrepreneur | 3 | 14.3% |
| 4 | Retired | 2 | 9.5% |
| 5 | Farmer | - | - |

Table 1 shows that almost all of the respondents were female, with 16 (76.2 percent) of the totals of 21 respondents being female. Table 2 shows that the majority of the respondents were between the ages of 60 and 74, with 14 respondents (66.7 percent) out of a total of 21. Table 3 shows that almost all respondents have a basic education, with 16 respondents (76.2%) out of a total of 21 having a basic education.

Table 2. Cross tabulation of the effect of *Breathing Relaxation* combination of lavender aromatherapy against insomnia in the elderly

| Insomnia | Before Intervention | | After Intervention | |
|-------------|---------------------|------|--------------------|-----------|
| | Frequency | % | Frequency | % |
| No Insomnia | - | - | 4 | 19 |
| Mild | 1 | 4.8 | 12 | 57.1 |
| Moderate | 9 | 42.9 | 5 | 23.8 |
| Severe | 11 | 52.4 | - | - |
| Total | 21 | 100 | 21 | 100 |

The results of statistical tests using the *Wilcoxon Signed Ranks Test* ρ value = 0,000

Based on table 2 shows the It is understood that the majority of the respondents suffered from extreme insomnia, with 11 (52.4%) of the total of 21 respondents suffering from the condition. According to table 6, the majority of the respondents had a moderate level of insomnia, with 12 of the 21 respondents (57.1%) having a mild level of insomnia. Table above shows that before being given breath relaxation in a combination of lavender aromatherapy 11 respondents (52.4%) experienced severe insomnia and after being given breath relaxation in a combination of lavender aromatherapy (*Lavandula angustifolia*), no elderly experienced severe insomnia. Based on the results of statistical tests using the *Wilcoxon Signed Ranks Test* ρ value = 0,000, H1 is accepted, meaning that there is an effect of breath relaxation in a combination of lavender aromatherapy (*Lavandula angustifolia*) on insomnia in the elderly in RW 03 Tambakbulak Hamlet, Tambakrejo Village, Waru District, Sidoarjo Regency.

DISCUSSION

Based on the results of research at RW 03 Tambakbulak Hamlet, Tambakrejo Village, Waru District, Sidoarjo Regency, it was found that most of the elderly had severe insomnia levels, namely 11 respondents (52.4%) from a total of 21 respondents before being given Breathing Relaxation combination of lavender aromatherapy (*lavandula angustifolia*). The problem of insomnia, which is often experienced by the elderly, is a serious health problem so that it must be treated immediately, even though only by providing therapy and relaxation, this is due to avoiding the negative impacts that may arise. Several factors that trigger insomnia include stress, depression, anxiety, (Putu et al., 2019). The results are in line with research conducted which states that insomnia is a major complaint that is often experienced by the elderly, elderly over 60 years of age experience difficulty sleeping and changes in sleep patterns. also stated that the elderly also experiences a decrease in their physical, psychological and social conditions that interact with one another. This situation has the potential to damage the elderly's general health as well as their mental health.

Insomnia Sufferers in RW 03 Tambakbulak Hamlet, Tambakrejo Village, Waru Subdistrict, Sidoarjo Regency, almost all elderly is female, as many as 16 respondents (76.2%). Psychologically, women have a lower coping mechanism than men in overcoming a problem (Andriani et al., 2019). If there is a disturbance of a problem or psychological disorder, a woman will experience anxiousness, if the anxiety continues, she will experience stress and depression, so that if it continues it will result in an elderly person experiencing insomnia more often than men (Danirmala & Ariani, 2019).

Based on the results of the study, most of the elderly aged 60-74 years were 14 respondents (66.7%) of a total of 21 respondents. Insomnia generally occurs in the elderly, namely in adult women / postmenopausal women where at this age there is a decrease in organ function and the production of the hormone estrogen so that they experience psychological problems and experience feelings of anxiety. Psychological conditions and increased anxiety, anxiety, and emotions are often uncontrolled due to decreased estrogen hormone which is one of the causes of increased sleep disorders (insomnia) in women menopausal (Septiani & Muslihati, 2019).

The results of this study are in accordance with the theory that postmenopausal women suffer from insomnia more often than men. In some literature it is explained that menopause tends to have a psychological impact, namely experiencing depression, in patients who are depressed it will disrupt serotonin levels so that it will make that person experience difficulty sleeping or insomnia (Rarasta et al., 2018). Education for the elderly based on the results of the study states that almost all elderly has a basic education, namely 16 respondents (76.2%) of a total of 21 respondents and 2 respondents (9.5%) are highly educated. Respondents with a good educational experience may consciously recognize the learning process, allowing students to actively cultivate their capacity for religious spiritual power, self-control, personality, intellect, and skills required by themselves, society, and the state. in overcoming a problem, particularly insomnia in this case (Musanna et al., 2017).

The level of education also determines whether or not a person absorbs and uses knowledge, the higher the level of education of a person, the more able to absorb and use knowledge, because by having knowledge of the elderly about insomnia, this knowledge can be used as a guide to prevent and overcome insomnia (Junita et al., 2020). Based on the explanation above, the level of education can help and increase someone's knowledge, elderly people with low education will have an effect on the lack of knowledge of the elderly about how to prevent and overcome insomnia, therefore health workers play an important role in providing health education. Based on the results of the study, it was stated that almost all respondents did not work, namely 16 respondents (76.2%) from a total of 21 respondents and 3 respondents (14.3%) of whom are self-employed. The results of this study are supported by (Sumirta & Laraswati, 2014) which states that work is one of the factors sociocultural that can affect the incidence of insomnia, by working allowing individuals to be able to access and understand information about health so that the elderly have the knowledge to choose strategies to overcome insomnia. experienced. Based on the explanation above, according to elderly researchers who are still actively working, they will quickly feel tired so that their need for sleep rest will also increase, but because of the fatigue it can also make it difficult for the elderly to sleep because the body feels sick as a result of their work but in order to maintain function. cognitive elderly must remain productive.

Based on the results on the elderly in RW 03 Tambakbulak Hamlet, Tambakrejo Village, Waru District, Sidoarjo Regency in table 5.7 above shows that before being given Breathing Relaxation a combination of lavender aromatherapy (*lavandula angustifolia*) 11 respondents (52.4%) experienced severe insomnia and after being given breath relaxation in a combination of lavender aromatherapy (*Lavandula angustifolia*), no elderly experienced severe insomnia. The results of this study are supported by (Rahmawati, 2017) which states that deep breathing exercise can reduce insomnia levels. Also supported by research (Vitaliati, 2018) This program can be extended to the elderly as part of a health program for the elderly, according to which relaxation

religious using gradual deep breathing is successful in reducing insomnia levels in the elderly. The results of this study are also supported by (Damayanti & Hadiati, 2019) which states that giving aromatherapy can reduce the degree of insomnia in the elderly. It is also supported by the results of a literature review conducted by (Muttaqin, 2020) According to the study, lavender aromatherapy can improve sleep quality in the elderly by offering calm and comforting results, reducing discomfort, stress, pain, unbalanced emotions, hysteria, anger, and panic, and thereby improving sleep quality in the elderly.

Intervention Relaxation of Breath In combination with lavender aromatherapy (*Lavandula angustifolia*) is a breathing exercise using slow and deep breathing techniques, using the diaphragm muscle, allowing the abdomen to slowly lift and the chest to expand fully and while inhaling lavender aromatherapy which is done in a relaxed state and done 20 minutes before bedtime. for 1 week (6 days). The body would be more relaxed and calmer in sleep if you relax with breath by using lavender aromatherapy. The body can become more comfortable by taking long, deep breaths. The hypothalamus will receive the relaxation signal and develop Corticotropin Releasing Factor (CRF). Furthermore, CRF induces the pituitary gland to produce more Pro Opioid Melanocortin (POMC), which causes the adrenal medulla to produce more enkephalin. Endorphins are a neurotransmitter produced by the pituitary gland that affects the mood to relax (Suwardianto, 2014).

Factors that can reduce the occurrence of insomnia in the elderly include using deep breath relaxation and lavender aromatherapy. To deal with mild, moderate and severe insomnia, it is better to use non-pharmacological intervention management. Non-pharmacological intervention management is safer to use because it does not cause side effects like drugs, because of non-pharmacological therapy using physiological processes (Damayanti & Hadiati, 2019). In someone who experiences insomnia when inhaling lavender aromatherapy by relaxing deep breaths, it will increase alpha waves in the brain so that the increase in enkephalin and endorphins and with stimulation in the form of images about things they like, the elderly will feel more relaxed and comfortable in his sleep. Relaxation is aided by alpha waves. So that the lavender aromatherapy effect can increase the quality of sleep in the elderly and prevent insomnia.

CONCLUSION

Most of the elderly prior to being given the Breathing Relaxation combination aromatherapy lavender (*Lavandula angustifolia*) experienced severe levels of insomnia. No elderly people suffered extreme insomnia after being given the Breathing Relaxation lavender aromatherapy (*Lavandula angustifolia*) mixture. Breathing Relaxation with lavender aromatherapy (*Lavandula angustifolia*) has an effect on insomnia in the elderly in RW 03 Tambakbulak Hamlet, Tambakrejo Village, Waru District, Sidoarjo Regency.

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