

THE EFFECT OF PROGRESSIVE RELAXATION THERAPY ON ELDERLY WITH INSOMNIA

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Abstract

Along with many physiologic changes seen with aging, significant changes also happen in sleep and circadian rhythm across the lives. Insomnia is a form of sleep disorder that is often experienced by the elderly. Insomnia is difficulty initiating or maintaining sleep. Treatment for insomnia usually begins with the elimination of habits (moving beds, using the bed only to sleep and others) if it doesn't work, it can be treated with hypnotic drugs. In fact, the elderly with all the functional decline of their bodies will make the work of their organs more difficult when they often consume these drugs. Therefore a therapy that is progressive relaxation therapy is expected to overcome these problems in the elderly. Progressive relaxation provides a way to identify specific muscles to differentiate between feelings of tension and deep relaxation. The purpose is to analyzing the effect of progressive muscle relaxation to elderly with insomnia in Pucangan Village, Kartasura. This study uses a pre-experimental approach with a one-group pre-test and post-test design. Techniques Sampling was done by purposive sampling technique as many as 30 elderly people who suffer from insomnia. The statistical test used was the paired samples t test with a p value of < 0.05 . The results using the paired t test show the mean value of the pretest was 13.10 with a standard deviation of 5.08 and the post-test value was 11.07 with a standard deviation of 5.09, with the result p value = 0.001. The conclusion in this study shows that progressive relaxation therapy has a significant effect on the elderly who experience insomnia.

Keywords: Elderly; Insomnia; Progressive Relaxation

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1. Introduction

The quality of mental health services for the elderly is still poor today, not only for the elderly but for all sufferers of all ages. As a result, sufferers are reluctant or deterred from checking themselves or getting treatment from existing mental health service facilities. In some countries, the cost of treating mental health disorders is so high that it cannot be reached by all.

In terms of sleep problems, especially insomnia, is a form of sleep disorder that is often experienced by the elderly. Insomnia is difficulty initiating or maintaining sleep.

Treatment for cases of insomnia usually begins with the elimination of habits (change beds, use the bed only to sleep, etc.) With regular exercise, it is hoped that the patient will get a relaxed body condition free from everyday tension. This therapy is called progressive relaxation therapy.

This technique is based on the belief that the

body's response to anxiety and stimulate the mind and muscles tension. Most of people don't know which muscles are chronically tense. Progressive relaxation provides a way to identify specific muscles and muscle groups that are experiencing problems and to be able to differentiate between feelings of tension and relaxation. In this case, it will affect a person's emotional condition and a relaxed body condition will be obtained, it will help a person to fall asleep and maintain it.

A similar study was also conducted by Prasetya (2016) showing that there was a significant change in the level of insomnia before and after progressive muscle relaxation therapy in the elderly in Sunggumanai Village, Pattalassang District, Gowa Regency. Researchers are interested in conducting research on the effect of progressive relaxation techniques on changes in insomnia in the elderly in Pucangan Village, Kartasura

Insomnia is broadly defined as dissatisfaction

with sleep either qualitatively or quantitatively. This is usually associated with one or more of the following: (1) difficulty initiating sleep, (2) difficulty maintaining sleep, characterized by frequent awakenings or problems returning to sleep after awakenings, and (3) early-morning awakening with inability to return (Patel et al., 2018)

These complaints can be temporary or even persistent. Short periods of insomnia are usually associated with anxiety experienced by a person. Persistent insomnia is a fairly common type, this disorder consists of a group of conditions in which the most frequent problem is difficulty falling asleep and involves two problems namely tension and anxiety. There is also insomnia which involves the use of certain drugs or certain organic diseases that interfere with the body's system. In a recent study, data obtained about 15% of the American population experience serious insomnia disorders.

It should be realized that insomnia is a sleep disorder that is difficult to overcome and requires patience in therapy. In fact, in the community or in health services, they more often use the method of using drugs in dealing with this disorder. In fact, the elderly with all the functional decline of their bodies will make the work of their organs more difficult when they often consume these drugs. Therefore, a therapy that is expected to be able to overcome these problems is needed by the elderly.

Insomnia is often underrecognized and undertreated. Even when it is recognized, comorbid insomnia may not be treated because other medical or psychiatric conditions often take priority. A number of treatment modalities have been developed to treat insomnia including cognitive behavioral therapy, sleep environment modifications, and medications (Bragg et al., 2019)

Appropriate interventions include creating an environment conducive to sleep, avoiding going to bed until drowsy, getting out of bed in 15–20 minutes if not asleep, setting a regular sleep schedule, and avoiding daytime napping . In addition to setting good bedtime habits, it is important to perform other interventions for insomniacs. There is one complementary therapy that is suitable for use in insomnia patients. One such therapy is progressive relaxation therapy (Bragg et al., 2019).

Progressive muscle relaxation is a physical stimulation and mental peace with emphasis on muscle systematic stretching and release contraction-release (Kwekkeboom et al, 2010) (Mohebi et al., 2018).

This exercise is part of cognitive-behavioral therapy that have purpose to decrease psychological stress, increasing sleep quality and disrupt the aging body.

Relaxation exercises have a sustained effect on the elderly. decrease blood pressure, heart rate, cardiac dysrhythmias, reduces oxygen demand, and reduces muscle tension, metabolic rate (Bragg et al., 2019).

2. Method

This research is a quantitative research with a quasi-experimental type of research without a control group. This study aims to test the hypothesis that has been formulated and is intended to determine whether the intervention variable / experimental variable has an effect or not. The study examines the changes that occur after the experiment / intervention. The research design scheme is described as follows:

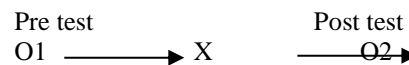


Figure 1. Research scheme

Note:

O1 : Observation before treatment

O2 : Observation after treatment

X : Treatment with Progressive Relaxation therapy

The intervention was carried out every afternoon for 3 times to 30 elderly selected using purposive sampling technique. Instrument used in this study are demographic data and Questionnaire of Kelompok Studi Psikiatri Biologik Jakarta Insomnia Rating Scale (KSPBJ-IRS). KSPBJ-IRS is used to measure the level of insomnia in elderly (Adheya et al., 2019). This questionnaire consists of 11 questions. Based on the standardized insomnia scale, namely the KSPBJ scale, limits or indicators of insomnia can be determined including the following parameters: Difficulty starting to sleep, suddenly waking up at night, being able to wake up early in the morning, feeling sleepy during the day, headaches during the day, feeling unsatisfied with sleep, feeling uncomfortable or restless during sleep, having nightmares, feeling less energetic after sleep, irregular sleeping and waking schedule and sleeping for 6 hours a night. The results of this measurement were then categorized into no insomnia, moderate insomnia and severe insomnia.

3. Result and Discussion

Based on table 1, it shows that 12 respondents (40%) are male and 18 (60%) respondents are female. While the characteristics of respondents based on age at most 13 (43.3%) respondents aged between 66 - 75 years. The distribution of the frequency of workjob with the most respondents working as laborers is 13 (43.3%) respondents.

Most of the respondents did not take drugs, namely as many as 24 (80%) respondents, while for comorbid diseases as many as 24 (80%)

Table 1. Description of Characteristic

Characteristics		f	%
Gender	Man	12	40.0
	Woman	18	60.0
Age	60 – 65	8	26.7
	66 – 75	13	43.3
	76 – 90	9	30.0
Work	No work	3	10.1
	Private	10	33.3
	Laborer	13	43.3
	Retired	4	13.3
Drug use	Consume	6	20.0
	No consume	24	80.0
Comorbidities	Yes	6	20.0
	none	24	80.0
Total		30	100

Note: f frekuensi, % Percentage

Univariate Analysis

Univariate analysis is an analysis used on one variable and aims to determine the characteristics of the variables. The results of the univariate test for the Insomnia variable before being given progressive relaxation are shown in table 2 as follows:

Table 2. Distribution of Insomnia Levels Before Progressive Relaxation Therapy

Insomnia Level	f	%
No Insomnia	8	26.7
Mild Insomnia	17	56.6
Severe Insomnia	5	16.7
Total	30	100

Note: f : frekuensi, % Percentage

Based on table 2 shows that before being given progressive relaxation therapy as many as 17 (56.6%) respondents experienced the most mild insomnia. A total of 5 (16.7%) respondents experienced severe insomnia. The results of the univariate test for the Insomnia variable after being given progressive relaxation are shown in table 3 as follows:

Table 3. Distribution of Insomnia Levels After Progressive Relaxation Therapy

Insomnia Level	f	%
No Insomnia	13	43.3
Mild Insomnia	14	46.7
Severe Insomnia	3	10.0
Total	30	100

Note: f frekuensi, % Percentage

Based on table 3 shows that after being given progressive relaxation therapy in the elderly

who do not experience insomnia as many as 13 respondents (43.3%). A total of 3 respondents (10%) experienced severe insomnia. Furthermore, table 4 presents the results of the distribution of the average frequency of insomnia scores before and after the intervention.

Table 4. Frequency Distribution of Insomnia Score Before and After Intervention

	Mean	Median	SD	Min	Max
Pre-Test	13.10	13.50	5.08	4	23
Post Test	11.07	11.50	5.09	2	23

Table 4 shows that the score for insomnia before being given progressive relaxation therapy in the elderly was 23 and the lowest was 4 with a mean of 13.10. While the score for insomnia after being given progressive relaxation, the highest value was 23 and the lowest was 2 with a mean value of 11.50.

Bivariate Analysis

Bivariate analysis was conducted to determine the effect of progressive relaxation on insomnia in the elderly, indicated by the p value < 0.005. Furthermore, for research data after the Shapiro-Wilk normality test, the results showed that the data were normally distributed with a pre-test significance value of 0.380 and a post-test significance of 0.648, which means the significance value for pre-test and post-test is greater than 0.05. So that the comparison test of the level of insomnia pre-test and post-test used to analyze the results of paired observations and the data is normal using the Paired T-Test. The following bivariate test results are shown in table 5.

Table 5. Paired T-Test Results

Insomnia level	Insomnia Score				P value
	Pre-test		Post-test		
	mean	SD	mean	SD	
Insomnia Level	13.10	5.08	11.07	5.09	0.001*

Based on table 5 with the Paired T-Test statistical test on the pre-test and post-test, the significance value of p value = 0.001 (p < 0.05). This shows that there is a significant effect of progressive relaxation therapy in elderly with insomnia in Pucangan Village, Kartasura.

Discussion

Based on the results of the study, it was found that most of the respondents experienced mild insomnia as many as 17 respondents (56.6%). A total of 5 (16.7%) elderly respondents experienced severe insomnia and 8 (26.7%) elderly respondents did not experience insomnia problems.

Before being given progressive relaxation in the elderly, a pre-test was carried out first, which was to measure the condition of insomnia that occurred in the elderly. The results of the pre test showed that 23 elderly experienced sleep problems, both mild insomnia and severe insomnia. Where sleep problems experienced by the elderly such as difficulty starting to sleep, often waking up in the middle of the night and having difficulty starting to sleep again, lack of sleep duration, or in the quality of sleep.

Sleep is a basic human need that must be met. Changes in sleep that occur in the elderly are in line with physiological changes in the elderly (Hellstrom, 2013). One of the sleep problems that occur in the elderly is insomnia. Insomnia is a disorder in quantity and quality that inhibits function (NANDA International, 2015)

Insomnia is a common chronic disease, which can have an important negative impact on health and well-being. Insomnia with inadequate complaints, difficulty falling asleep, difficulty maintaining sleep or waking up early. Insomnia has side effects for the health of the elderly such as impaired mental function that can interfere with memory concentration, one's ability to carry out daily activities, when a person is very tired due to sleep difficulties will make mental emotions more unstable so that it can become stress, heart disease, visual headaches. disturbances, body aches and pains, the body does not feel fresh and changes in sleep patterns will affect ongoing mood (Arianti, D & Novera, 2019)

According to (Potter, P.A & Perry, 2016) the elderly who have difficulty sleeping at night are caused by certain physical illnesses, lifestyle, emotional stress and environmental factors. Elderly who experience stress can disrupt sleep which causes a person to become tense, often wake up during bedtime so that it can cause poor sleep quality.

Decreased sleep quality in the elderly due to increasing age, the elderly sleep time becomes less effective this is caused by biological and psychological factors. Biological factors such as due to certain diseases that result in a person not being able to sleep well. Psychological factors such as anxiety, psychological stress, fear and emotional tension so that they can activate the sympathetic nerves that make the elderly feel tense so they cannot cause drowsiness (Wahyuni, 2010)

The results of Indrawati,(2018) research about 60% of the elderly experience insomnia or sleep disorders. Insomnia in the elderly can be overcome by non-pharmacological methods, one of which is progressive muscle relaxation exercises. Progressive relaxation is a systematic physical relaxation from the head down to the feet

accompanied by suggestions and visualizations that aim to deepen the relaxed state and is used to treat sleep disorders.

Insomnia after Progressive relaxation therapy. The results of the study showed that the level of insomnia of respondents after being given progressive relaxation therapy decreased. Prior to the progressive relaxation therapy, 17 respondents (56.6%). After being given progressive relaxation therapy to the elderly, 13 respondents (43.3%), mild insomnia (46.7%) and severe insomnia decreased to 3 respondents (10%). The results of the Borneo, C., et al, (2017) after being given progressive relaxation therapy 60% were categorized as not insomnia, 30% of the elderly were categorized as mild insomnia and 10% were categorized as moderate insomnia.

The results of Erlina's research showed that before progressive relaxation exercises most of the elderly experienced mild insomnia and a small proportion of severe and very severe insomnia. After being given progressive relaxation exercises, most of the elderly had no complaints of insomnia and a small proportion experienced mild insomnia.

The decrease in insomnia level is due to the effect of progressive relaxation therapy. Where the progressive relaxation effect helps the elderly in increasing their sleep needs and reduces sleep disturbances which tend to increase in the elderly (Pearson & Chesney, 2007). This therapy focuses on specific muscle groups and exercises to relax the muscles so that they can manage stress, removing tension from the body and mind (Snyder & Lindquist, 2010).

Alfiyanti, E.N, Setyawan D, (2014) revealed that progressive relaxation can stimulate the body's response to relax and the mind to be calm and comfortable with these conditions can increase the production of endorphins, serotonin and melatonin where endorphins are hormones that trigger feelings of happiness, serotonin hormones as mood triggers, sexual desire, sleep, and so on. memory and temperature regulation, while melatonin can create a deep sleep that the body needs to produce natural healing so that the body becomes relaxed.

Relaxation techniques are proven to be effective in reducing tension and anxiety, overcoming insomnia and asthma According to Sustrami, D & Sukmono, (2014) states that when the body is in a relaxed state, the brain waves that play a role such as delta, theta, alpha, beta and gamma will work optimally during the NREM and REM sleep processes are easily obtained by the elderly so it is no longer difficult to start sleep and wake up during the night and it doesn't take long to start falling asleep again. With reduced sleep disturbances due to biological and psychological

factors, the sleep quality of the elderly can slowly return to normal.

The Effect of Progressive Relaxation on Insomnia Levels in the Elderly. The results of the study using the paired t-test, the results obtained a significance value of p value = 0.0001 (p <0.05). This means that there is an effect of progressive relaxation therapy on the level of insomnia in the elderly in Pucangan Village, Kartasura.

The most widely used relaxation approach to overcome insomnia is progressive relaxation. Furthermore, it is explained that progressive muscle relaxation of the muscles can reduce pulse rate and blood pressure, as well as reduce sweating and respiratory rate. Deep muscle relaxation, if mastered properly, has the effect of anti-anxiety drugs. Edmund Jacobson theory states that progressive muscle relaxation techniques performed 20-30 minutes, one time on a regular basis are very effective in reducing insomnia (Tobing, D et al, 2014)

Progressive relaxation therapy is a therapy that focuses on certain muscles that are tensed and then relaxed again so that it is proven to be effective in reducing sleep disturbances in the elderly and creating a relaxed feeling (Nuryanti, L, 2014). According to research by Sulidah, Yamin, A, (2016), progressive relaxation exercises are effective in shortening sleep latency, prolonging sleep duration, increasing sleep efficiency, reducing sleep disturbances and reducing daytime activities, thereby improving sleep quality.

The results of this study are in line with the research of Borneo, et al (2017) where there is an effect of progressive muscle relaxation therapy on the level of insomnia in the elderly at the Graha Kasih Father's Nursing Home, Kubu Raya Regency. The results of Hardani, P.T & Putri, (2016) show the effectiveness of progressive muscle relaxation interventions given to the elderly with insomnia. A decrease in signs and symptoms that occur in the elderly with insomnia. Symptoms that have decreased include an increase in sleep quality or the amount of sleep and a decrease in sleep latency in the elderly.

The results of a similar study conducted by Arianti, D & Novera, (2019) showed that there was a progressive muscle relaxation effect on insomnia in the elderly with an average value of 6,467 with a standard deviation of 2,416 and a p value of 0.000. In addition, the results of Arianti, D & Novera, (2019) state the importance of holding activities for elderly cadres to be given training in progressive muscle relaxation techniques so that they have skills that can be used to reduce insomnia in the elderly

4. Conclusion

The elderly before being given

progressive relaxation therapy 16.7% experienced severe insomnia, 56.6% experienced mild insomnia, 26.7% elderly did not experience insomnia. Elderly after being given progressive relaxation therapy found 10% experienced severe insomnia, 46.7% experienced mild insomnia and 43.3% elderly did not experience insomnia. The results of the analysis showed that there was a significant effect of progressive relaxation therapy on insomnia in the elderly in Pucangan Kartasura Village.

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