

---

---

## **THE EFFECTIVENESS OF PROGRESSIVE MUSCLE RELAXATION TO REDUCE ANXIETY LEVEL IN MENOPAUSE WOMEN**

---

---

**Ayu Agus Cetina<sup>(1)</sup>, Maskun Pudjianto<sup>(2)</sup>, Rini Widarti<sup>(3)</sup>, Dea Linia Romadhoni<sup>(4)</sup>**

*DIV Physiotherapy, 'Aisyiyah Surakarta University, Indonesia*

*<sup>(1)(2)(3)(4)</sup> 'Aisyiyah Surakarta University, Indonesia*

E-mail : [aayy08743@gmail.com](mailto:aayy08743@gmail.com)

**Background:** Humans experience growth and development at various levels of age. With increasing age, growth and development will stop at a stage which results in various changes in body functions. Menopause is the permanent cessation of the menstrual cycle for women who previously had menstruation as a result of the loss of ovarian follicular activity. **Objective:** To determine the effect of progressive muscle relaxation exercise on anxiety levels in postmenopausal women. **Methods:** This study uses a pre-experimental method with a pre-post test one group design. Samples were taken as many as 25 respondents with non-probability sampling technique with purposive sampling method, namely sampling based on inclusion and exclusion criteria. Measurements were made using the Hamilton Anxiety Rating Scale (HARS) questionnaire. **Results:** Based on the Wilcoxon test to determine whether there is an effect of progressive muscle relaxation on reducing anxiety levels in postmenopausal women, the results obtained a significance value of 0.001 ( $p < 0.05$ ). **Conclusion:** There is an effect of giving progressive muscle relaxation to reduce anxiety levels in postmenopausal women.

**Keywords:** Menopause, Progressive Muscle Relaxation, Anxiety, Hamilton Anxiety Rating Scale (HARS).

---

### **BACKGROUND**

Prevalence data from WHO (World Health Organization) in 2017 the number of women in the world entering the menopause phase is estimated to reach 1.94 billion people. The population of women experiencing menopause in the world reaches 894 million people and it is estimated that by 2030 the number of women in the world who are entering menopause will reach 1.2 billion people, meaning that as many as 1.2 billion women will enter the age of over 50 years, and that figure This is three times the 2000 census figure for menopausal women. According to WHO, every year about 25 million women worldwide experience menopause. (Nurwidayanti, 2019).

Some women think menopause is a scary thing, this concern starts with the thought that they will become unhealthy so they feel anxious. Limited information about menopause makes women more worried, afraid and anxious when entering menopause. The physical and psychological changes that occur in menopausal women can interfere with their performance and social life. Feelings of depression or anxiety experienced by individuals, including the menopausal condition experienced by women, encourage women to solve problems by seeking help and support from family and friends. Changes that are happening a lot at this time are physical changes starting from hair, eyes, skin to other physical organs. Targets physical organs such as problems in the breasts and vagina, as well as hot flushes. Even though it is not a disease, this event has an impact on women's lives, especially for women who are active a lot, so that it can be felt as a disturbance, problems arising from these psychological changes cause anxiety in most women (Nua et al., 2019).



## METODE

This study used a quantitative research method with a pre-experimental design with a pre-post test one group design approach. Before the intervention was given, the anxiety score was measured first. Measurements were made using the Hamilton Anxiety Rating Scale (HARS) questionnaire.

### MEASURING INSTRUMENT

This study used the Hamilton Anxiety Rating Scale (HARS) measuring instrument. Anxiety can be measured by measuring the level of anxiety. The HARS scale is a measurement of anxiety based on the appearance of symptoms in individuals who experience anxiety. Each item observed was given 5 levels of scores between 0 to 4. The HARS scale was first developed by Max Hamilton in 1956 to measure all signs of anxiety, both psychological anxiety and somatic anxiety. The HARS consists of 14 question items to measure signs of anxiety (Sholikhatun Ummah, 2018).

## RESULT AND DISCUSSION

### RESULT

This research was conducted in Tegalrejo Village, RT 23 RW 008, Masaran Village, Masaran District, Sragen Regency. This research was conducted from August 22 to September 10 2022 with respondents according to the inclusion criteria and exclusion criteria in postmenopausal women who experience anxiety disorders. The total sample in this study was 25 respondents using a purposive sampling technique where before being given treatment the respondents first measured their anxiety level using the Hamilton Anxiety Rating Scale (HARS) questionnaire. Furthermore, research respondents were given treatment for 3 weeks. After the respondent participated in the activity for 3 weeks, a post-test was carried out using the Hamilton Anxiety Rating Scale (HARS) questionnaire.

#### 1. Characteristics of Respondents

##### a. Characteristics of Respondents by Age

Table 1. Results of Data Analysis

Usia (tahun)	Frequency	Percent	Valid Percent	Cummulative Percent
41-45	10	40%	40%	40%
46-50	15	60%	60%	100%
<b>Total</b>	<b>25</b>	<b>100%</b>	<b>100%</b>	
<b>Mean</b>	<b>1.60</b>			
<b>Lower Limit</b>	<b>41</b>			
<b>Upper Limit</b>	<b>50</b>			

Source: primary data (2022)

Based on the table above, it is known that the characteristics of respondents based on age, the results showed that respondents aged 41-45 years totaled 10 people (40%) and respondents aged 46-50 years totaled 15 people (60%).



**b. Characteristics of Hamilton Anxiety Rating Scale (HARS) Questionnaire Value Category Before and After Progressive Muscle Relaxation Treatment**

**Table 2. Characteristics of the Hamilton Anxiety Rating Scale (HARS) Questionnaire Value Category Before and After Progressive Muscle Relaxation Treatment**

Value Category HARS	Progressive Muscle Relaxation			
	Pre		Post	
	N	(%)	N	(%)
Mild (6-14)	7	28%	19	76%
Moderate (15-27)	18	72%	6	24%
<b>Total</b>	<b>25</b>	<b>100%</b>	<b>25</b>	<b>100%</b>
<b>Mean</b>	<b>1.72</b>		<b>1.24</b>	
<b>Upper Limit</b>	<b>6</b>		<b>6</b>	
<b>Lower Limit</b>	<b>27</b>		<b>27</b>	

Source: primary data (2022)

Based on table 2, it is known that before being given the progressive muscle relaxation treatment, the Hamilton Anxiety Rating Scale (HARS) questionnaire was measured. The result was that with mild category results, there were 7 respondents (28%), while there were 18 respondents (72%). Whereas for those who were given progressive muscle relaxation treatment for 3 weeks, the results were obtained, namely with mild category results there were 19 respondents (76%), while 6 respondents (24%).

**2. Bivariate Analysis**

**a. Data Influence Test**

Test the influence of the data in this study using Wilcoxon because the data obtained is not normally distributed.

**Table 3 Data Influence Test**

Wilcoxon	Mean Rank	Z	Asymp. Sig. (2-tailed).
Pre-Post	6.50	-3.464 <sup>b</sup>	0.001

Source: primary data (2022)

Based on table 3, it is known that the pre and post values obtained a significant result of 0.001 ( $p < 0.05$ ), which means that there is an effect of progressive muscle relaxation on reducing anxiety levels in menopausal women.

**DISCUSSION**

**1. Characteristics of Respondents by Age**

According to the results of the study that the older you get, the menopause increases so that it affects your life patterns such as anxiety. The menopause phase is always accompanied by decreased levels of the hormone estrogen, which affects various symptoms both physically and psychologically. Various risk factors that can arise include: urogenital disorders, cognitive disorders and can cause anxiety. Declining estrogen levels often cause symptoms that interfere with women's lifestyles, including night sweats, burning sensation from chest to face, insomnia, fatigue (tired easily), urinary incontinence (beser). This is in line with the research of Cory'ah et al., (2018), the age of a woman experiencing menopause varies. It depends on various factors such as heredity, general health and lifestyle. However, it can be said that the average woman will experience menopause around the age of 45 to



50 years. Age 45-50 years women experience menopause which is associated with both physical and psychological changes. In the period leading up to menopause, the estrogen produced decreases until the arrival of menopause. Menopause is caused by a reduction in the hormones estrogen and progesterone which will lead to a weakening of the reproductive organs and physical changes in the body, in addition to that, there is a feeling of fear which includes: beauty fades and the worry about losing a husband because sexual desire decreases so that anxiety arises at that time (Widorini et al., 2017).

## **2. Hamilton Anxiety Rating Scale (HARS) Questionnaire Value Category Characteristics Before and After Progressive Muscle Relaxation Treatment**

According to the results of the study, respondents who before being given the progressive muscle relaxation treatment experienced an average of moderate anxiety disorders, then after being given the progressive muscle relaxation treatment, the average experienced a decrease from moderate anxiety disorder to mild anxiety. Mild anxiety in this case includes anxiety related to tension in everyday life, causing the individual to be alert. Such as fear of large animals, sleep disturbances, frequent awakenings at night, scary dreams, burning sensation in the stomach, frequent dizziness. Moderate anxiety in this case includes anxiety that allows individuals to focus on things that are important and override other things. Such as feelings of anxiety, restless sleep, poor memory, waking up early in the morning, leg muscle pain, feeling weak, nausea or vomiting, frequent urination, headaches.

This is in line with research conducted by Rosida et al., (2019) which stated that when you are in an anxious state, some muscles will experience tension thereby activating the sympathetic nerves. The principle of progressive muscle relaxation training is an effort to relieve physical tension through light exercise which will later have an impact on reducing mental tension and combined with autogenic through self-suggestion of positive affirmations. Decreased anxiety can occur through progressive muscle relaxation because it improves blood circulation and can stimulate the release of endorphins. When a person relaxes, beta-endorphins will come out and be captured by receptors in the hypothalamus and limbic system which function to regulate anxiety and act as natural tranquilizers.

## **3. Bivariate analysis**

Based on the researchers' observations from the results of this study, there was a change in the anxiety level of the respondents before and after being given progressive muscle relaxation treatment where before the researchers taught the respondents to do progressive muscle relaxation, they first examined the respondents' anxiety in the first week, the results obtained were 18 respondents with moderate levels of anxiety. , 7 respondents with a mild level of anxiety. In the third week after being given treatment, an evaluation of the respondent's anxiety level was carried out, the results were 6 respondents with moderate anxiety levels, 19 respondents with mild anxiety levels. Respondents who experienced anxiety from the start of the pretest obtained moderate anxiety levels when they were given treatment in the third week, an evaluation of anxiety levels was carried out with the post test, the results showed a change from moderate anxiety to mild anxiety. Respondents who experienced changes in anxiety were more than respondents who did not experience significant changes, which means that there is an effect of progressive muscle relaxation on reducing anxiety levels in menopausal women.

When a person experiences an anxiety response, which is caused by factors that cause anxiety, the brain as the body's main system contains receptors, namely the neurotransmitter gamma-aminobutyric acid (GABA). When GABA is transmitted to the receptor, the neuron is ordered to stop firing. Generalized Anxiety Disorder occurs when GABA is unable to bind accurately to cell receptors. Without the right amount of GABA reception, overextended neurons will cause the person not to



receive enough "stop" messages. The result is that these people will continuously become tense, become too anxious and anxious (Andri, 2018).

The mechanism of action of progressive muscle relaxation to reduce anxiety is a self-management technique based on the sympathetic and parasympathetic nervous systems. The first week, when the muscles have been relaxed, it will normalize the functions of the body's organs. After a person has finished doing relaxation, it can help the body relax, so that it can improve various aspects of physical health and in the central nervous system and autonomic nerves. The central nervous system functions to control the desired movements, for example the movements of the hands, feet, neck and fingers. Meanwhile, the autonomic nervous system functions to control automatic movements, for example digestive and cardiovascular functions (Jumrotin et al., 2018).

Progressive muscle relaxation therapy is a category of meditation that can provide a calming effect due to the relaxing elements contained therein. This sense of calm will then provide a positive emotional response which is very influential in bringing about positive perceptions. Positive perceptions are then transmitted in the limbic system and cerebral cortex with complex levels of connectivity between the left prefrontal hypothalamus brainstem and the right amygdala hippocampus. This transmission causes a balance between the synthesis and secretion of neurotransmitters such as GABA (Gamma Amino Butyric Acid) and GABA antagonists by the hippocampus and amygdala. Positive perceptions received in the limbic system will cause the amygdala to send information to the LC (Locus Coeruleus) to activate autonomic nerve reactions. LC will control the performance of the autonomic nerves into the stages of homeostasis. Controlled autonomic nervous stimulation causes epinephrine and norepinephrine secretion by the adrenal medulla to become controlled. This situation will reduce all manifestations of anxiety disorders (Carisa et al., 2018).

Progressive muscle relaxation exercises can stop the increase in sympathetic nerves and have the effect of a feeling of calming limbs, lightness and feeling of warmth that can spread throughout the body. The changes that occur during and after relaxation affect the work of the autonomic nerves. The emotional response and calming effect caused by this relaxation changes the dominant physiology of the parasympathetic system, in this condition hypersecretion of catecholamines occurs and cortisol is lowered and increases endorphins which are activated by parasympathetic nerves and neurotransmitters such as (Dehydroepiandrosterone) DHEA and dopamine (Mutawalli et al., 2020).

This is in line with research conducted by Annisa et al., (2017) the parasympathetic system has a variety of different work functions from the sympathetic nerves, this can reduce or slow down the internal body, and in the end there is a decrease in heart rate, breathing rhythm, muscle tension, blood pressure, metabolism and hormone production which are the causes of anxiety. Progressive muscle relaxation exercises in facial muscle movements that contract and get stimulation from the many muscles of the mouth. There is an urge when the lips open and close, to inhale and take in lots of oxygen, which is distributed throughout the body in a larger total in the circulatory system and can have an effect on the temperature of the brain which functions to refresh the brain again, this can have an effect on the release of neurotransmitters namely the hormones endorphins, melatonin and serotonin which function to carry emotional states and feelings throughout the body resulting in decreased emotions and anxiety (Ilmi et al., 2017).

## CONCLUSION

Based on the results of research conducted on two five people in Tegalrejo Masaran Village, it can be concluded that the majority of respondents were forty-one to fifty years old with a percentage of sixty percent. Before the treatment was given the initial examination of the questionnaire (HARS) the results were obtained, namely in the mild anxiety category, seven people, moderate anxiety category, eighteen



people. Whereas after the treatment was given a questionnaire examination (HARS) the results were obtained, namely in the mild anxiety category nineteen people, six people in the moderate anxiety category. The results showed that the p value was less than the standard, thus it could be concluded that  $H_0$  was rejected and  $H_a$  was accepted, which means that there is an effect of progressive muscle relaxation on decreasing anxiety levels in menopausal women.

### **THE AUTHOR'S CONTRIBUTION**

All authors contributed fully to this writing.



## REFERENCES

- Andri. 2018. Analisis Praktik Klinik Keperawatan Pada Klien Hipertensi Dengan Inovasi Intervensi Teknik Relaksasi Otot Progresif dan Aroma Terapi Lavender Terhadap Penurunan Tekanan Darah di Instalasi Gawat Darurat RSUD Abdul Wahab Sjahrane Samarinda. Fakultas Kesehatan dan Farmasi. Universitas Muhammadiyah Kalimantan Timur. Samarinda.
- Annisa, E.Q., Heppy, R.D., Purnomo. 2017. Pengaruh Relaksasi Otot Progresif Terhadap Kecemasan Lansia di Panti Werdha Harapan Ibu Semarang Barat. *Jurnal Ilmu Keperawatan dan Kebidanan*.
- Carisa, F., Wahyuni, O.D. 2022. Effect of Progressive Muscle Relaxation on Anxiety Level of Medical Faculty Students in Indonesia. *E-Journal CliniC*. Vol 10(2): 250-256.
- Cory'ah, F.A.N., Wahyuni, I.G.A.P.S. 2018. Hubungan Sindrom *Menopause* dengan Tingkat Kecemasan Ibu *Menopause* Diwilayah Kerja Puskesmas Ubung Kabupaten Lombok Tengah Tahun 2018. *JKAKJ*. Vol 3(1): 8-16
- Ilmi, Z.M., Dewi, E.I., Rasni, H. 2017. Pengaruh Relaksasi Otot Progresif Terhadap Tingkat Stres Narapidana Wanita di Lapas Kelas HA Jember (*The Effect of Progressive Muscle Relaxation on Women Prisoners's Stress Levels at Prison Class HA Jember*). *E-Jurnal*.
- Jumrotin. Suroso. Meiyuntariningsih, T. 2018. Terapi Relaksasi Otot Progresif Untuk Menurunkan Kecemasan Siswi Dalam Menghadapi *Menarche*. *Jurnal Psikologi Indonesia*. Vol 7(1): 79-92.
- Mutawalli, L., Setiawan, D., Saimi, S. 2020. Terapi Relaksasi Otot Progresif Sebagai Alternatif Mengatasi Stress Dimasa Pandemi COVID-19 di Kabupaten Lombok Tengah. *JISIP (Jurnal Ilmu Sosial dan Pendidikan)*. Vol 4(3).
- Nua, E. N., Adesta, R. O. 2019. Hubungan Pengetahuan dan Sikap Ibu Menghadapi *Menopause* Di Wilayah Kerja Puskesmas Beru. *Jurnal Keperawatan Dan Kesehatan Masyarakat*. Vol VI(1): 42-55.
- Nurwidayanti, C. (2019). Studi Deskriptif Tingkat Pengetahuan Tentang *Menopause* Pada Ibu *Premenopause* di Dusun Tunggak. Vol 4(2): 11-12.
- Rosida, L., Imardiani, I., Wahyudi, J.T. 2019. Pengaruh Terapi Relaksasi Autogenik Terhadap Kecemasan Pasien di Ruang Intensive Care Unit Rumah Sakit Pusri Palembang. *Indonesian Journal for Health Sciences*. Vol 3(2). <https://doi.org/10.24269/ijhs.v3i2.1842>
- Sholikhatus, U. 2018. Perbedaan Terapi Bermain Origami Dengan Terapi Bermain Puzzle Terhadap Tingkat Kecemasan Pada Anak Usia Prasekolah (3-6 Tahun) Dalam Menghadapi Hospitalisasi Di RSUD Dr. Soeroto Ngawi. Stikes Bhakti Husada Mulia Madiun.
- Widorini, D.E., Surachmindari., Triningsih, R.W. 2017. Pengaruh Edukasi Terhadap Tingkat Kecemasan pada Ibu Dalam Menghadapi *Menopause* di Kelurahan Oro-Oro Dowo Kota Malang. *Jurnal Ilmu Kesehatan*. Vol 6(1): 14-21.

