Progressive Muscle Relaxation Training on Reducing Anxiety in Chronic Disease Patients in the Elderly

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Abstract: Hypertension is a condition experienced by a person with an increase in blood pressure above normal consistently where the systolic pressure is above 140 mmHg and the diastolic pressure is above 90 mmHg. One of the anxiety management methods is by psychotherapy. One of the anxiety management methods with psychotherapy methods is by conducting progressive muscle relaxation therapy. Progressive Muscle Relaxation is a relaxation technique to get a feeling of relaxation, so that it can reduce anxiety and stress. The purpose of the study was to determine the application of Progressive Muscle Relaxation therapy to reduce anxiety in people with hypertension. This study used the quasi-experimental deshain method (quasi-experimental design), with the design used being the one group pretest and post test design. This design does not use a comparison group (control), but uses the first observation (pretest) which allows testing the changes that occur after treatment or post test. The number of respondents was 26, obtained a p value of 0.000 ($p < 0.05$). So it can be concluded that there is a difference in the average value of the pre-test & post-test anxiety levels, so that there is an effect of progressive muscle relaxation therapy on the anxiety of the elderly with chronic diseases at the Melati integrated health service post.

Keywords: hypertension; anxiety; progressive muscle relaxation

INTRODUCTION

In general, specific problems that occur in old age are the emergence of physical, mental and social problems as a consequence of the aging process that occurs, reduced social interaction with the environment due to starting productivity, changes in social values of society (decreased attention so that they are marginalized from community life and become neglected), and the need for health services, especially for degenerative disorders that require high costs (Directorate General of Public Health Development, Ministry of Health of the Republic of Indonesia, 2005). Chronic diseases are increasing day by day and need special attention because of the various impacts they cause. Evidenced by the results of Basic Health Research data (2018) non-communicable diseases have increased since 2013, namely strokes aged >15 increased by 56%, diabetes mellitus (DM) increased by 23%, hypertension at age >18 increased by 32%, and obesity increased by 47% (Badan Penelitian dan Pengembangan Kesehatan, 2018).

Funded by the Asia-Pacific Observatoryon Health Systems and Policies, this scoping review seeks to synthesize the received knowledge on careintegration for the elderly in four Asian societies

representing varying socioeconomic and health-systemcharacteristics: Singapore, Hong Kong, Malaysia, and Indonesia (He & Tang, 2021). Elderly cadres are volunteers from the community who are tasked with helping to smooth health services. The existence of cadres is often associated with routine services at the integrated health post, where cadres will be on duty both before the opening day of the integrated health post and even after the opening day of the integrated health post. Through integrated health post activities, health cadres together with health workers can carry out various preventive and promotive efforts as an effort to manage elderly health problems in the community (de Lorent et al., 2016).

Promotive and preventive efforts are important factors to be carried out as an effort to reduce anxiety levels in the elderly in dealing with chronic diseases that are suffered (Teknik et al., 2023). Researchers chose progressive muscle relaxation therapy as one of the skills that will be given to cadres and the elderly because this progressive muscle relaxation therapy has several advantages including being useful for reducing muscle tension, anxiety, neck pain, headaches, back pain, lowering systolic and diastolic blood pressure and reducing stress in the elderly, reducing anxiety and depression by increasing self-control (Royani et al., 2020). The PMR has a significant influence on psychologi calresponses and mental changes simultaneously. Physiologi-cally, PMR can reduce heart rate frequency, reduce oxygendemand and the brain will receive oxygen supply optimally.Likewise study on the effect of PMR on the anxiety of can-cer patients showed that there were significant differencesin anxiety scores in the second measurement between inter-vention and control groups (Bostani et al., 2020).

METHOD

This study used a quasi-experimental design, with the plan used being a one group pretest and posttest design. This design does not use a comparison group (control), but uses the first observation (pretest) which allows testing the changes that occur after the treatment or posttest. The method used in this study was through the provision of progressive muscle relaxation training for 1 day in a period of 3 months. The sample used was 10 elderly Posyandu cadres Melati in RW IV Madegondo Village. The materials provided in this training include: 1) introduction to progressive muscle relaxation (definition, preparation, equipment needed), 2) Benefits of Progressive Muscle Relaxation, 3) Problems that may arise and how to handle them, and 4) Progressive Muscle Relaxation Procedure (Indications, Contraindications, Breathing Exercises, 1-1 Progressive Muscle Relaxation Movements). The training method provided in this study was in the form of providing material accompanied by lecture and question and answer methods and assessing pre-tests and post-tests after being given training to assess the level of anxiety of the elderly in dealing with chronic diseases. Breathing exercises were also given continuously progressive muscle relaxation by giving examples 3 times of each movement, and re-

demonstration of progressive muscle relaxation. Evaluation was carried out to identify the skills of cadres in performing progressive muscle relaxation, where in this case the pre-test (first evaluation) and post-test (second evaluation) techniques were used. The technique used in the evaluation activity was to observe progressive muscle relaxation movements from movements 1-13 carried out by cadres after being given material by the speaker (pre-test/first evaluation). Furthermore, progressive muscle re-relaxation was carried out by the speaker followed by the cadre, and then a second observation was carried out as a form of the second evaluation (post-test).

RESULTS

The results of the study conducted by researchers entitled "Progressive Muscle Relaxation Therapy on Anxiety with Chronic Diseases in Madegondo Village". This study was conducted at the Melati integrated health service post in Madegondo Village with 26 elderly respondents. This study was conducted by filling out the Hamilton Rating Scale (HARS) anxiety level questionnaire and providing progressive muscle relaxation therapy.

A. UNIVARIATE ANALYSIS

Table 1. Results Obtained from Univariate Analysis

No.	Variable	Amount	Percentage
1.	Age		
	Old age (55-64 years)	24	92.3%
	Old age over (65-74 years)	2	7.7%
	Total	26	100.0%
2.	Gender		
	Female	20	76.9%
	Male	6	23.1%
	Total	26	100.0%
3.	Education		
	Primary School	4	15.4%
	Junior High School	6	23%
	High School	11	43.3%
	College	5	18.3%
	Total	26	100.0%

4.	Occupation		
	Not working	5	18.3%
	Trader	6	23%
	Laborer	5	18.3%
	Private employee	10	40.4%
	Total	26	100.0%
5.	Pre test		
	Severe anxiety	2	3.8%
	Moderate anxiety	14	53.8%
	Slight anxiety	10	42.4%
	Total	26	100.0%
6.	Post test		
	Moderate anxiety	5	19.3%
	Mild anxiety	21	80.7%
	Total	26	100.0%

Based on the table above, it shows that the number of elderly people is more dominant, namely 92.3% with a total of 24 elderly people from a total of 26, the number of women is more, namely 7.6% compared to the number of men, namely 23.1%, the highest high school education is 43.3% while the lowest is elementary school with a total of 15.4%, for the rest, junior high school and college are 23% and 18.3% respectively, the most jobs are private employees with a total of 40.4%, while the least jobs are unemployed and laborers, namely 18.3%, before the training was carried out, severe anxiety was 3.8%, moderate anxiety was 53.8% and mild anxiety was 42.4%, the number of mild anxiety after progressive muscle relaxation was 80.7% and moderate anxiety was 19.3%.

B. BIVARIATE ANALYSIS

Before determining the statistical test to determine the effect of the intervention of the Effect of Progressive Muscle Relaxation Training on Reducing Anxiety in Chronic Disease Patients in Madegondo Village, Sukoharjo Regency on changes in the frequency of anxiety, a normality test was first carried out on each group with the results seen in the Shapiro Wilk column. The results of the normality test obtained normally distributed data with a p value of 0.163> 0.05. So that the paired t test can be used.

	value	mean	min	max	P *value*
Anxiety	Pre test	19.00	18.53	21.47	0.000

Post test	11.92	9.91	11.93

The p value was obtained 0.000 (p < 0.05). So it can be concluded that there is a difference in the average value of the pre-test & post-test Anxiety Level, so that there is an effect of progressive muscle relaxation therapy on the anxiety of the elderly with chronic diseases at Melati integrated health service post.

DISCUSSION

In terms of age variables, the research results show that the average age of respondents is 55-64 years and there are 2 old ages over 65-74 years. The youngest and oldest respondents were in the control group, namely 20 years and 70 years. This result is different from the study conducted by Costi et al. that the average age of respondents was 65.4 years. 10 There was no relationship between the treatment group and the control group (Costi et al., 2010) (Wicaturatmashudi et al., 2020).

The majority of respondents were male, namely 20 people (76.9%) in the treatment group and 6 people (23.1%) in the control group. This result is in line with research conducted which stated that 56.7% of respondents were male. Bivariate analysis showed a significant relationship between gender and stress in the control group (p value 0.046) but there was no relationship in the treatment group (Costi et al., 2010).

In the education variable, the research results showed an average of 4 respondents (15.4%) in elementary school, 6 respondents (23%) in junior high school, 11 respondents (43.3%) in high school, and 5 respondents (18.3%) in tertiary education. From the results of previous studies, the level of education of respondents where most of them have low education, then this condition can cause a lack of understanding of hypertension, the higher a person's education, the easier it will be for someone to receive information so as to improve the quality of life and increase the breadth of knowledge (Raziansyah & Sayuti, 2022).

In the Employment variable, 5 respondents (18.3%) were found to be Unemployed, 6 respondents were Traders (23%), 5 respondents were Laborers (18.3%) and 10 respondents were Private Employees (40.4%). The results of the study based on the socio-economic level of respondents showed that the majority of the socio-economic level of respondents was at a low socio-economic level, namely 56 respondents (61.5%). In line with research if hypertension is significantly associated with low socio-economic status and employment (Syisnawati et al., 2017).

In the pre-test variable, 2 respondents (3.8%) experienced severe anxiety, 14 respondents (53.8%) experienced moderate anxiety, and 10 respondents (42.4%) experienced mild anxiety. In the post-test variables, there was a change, moderate anxiety 5 respondents (19.3%) and mild anxiety 21

respondents (80.7%). The average stress value decreased in the treatment and control groups. The lowest stress value in the treatment group before and after the PMR intervention had the same value, namely 30, and the highest after treatment also had the same value, namely 37. Likewise in the control group, there was a similar pattern where the lowest and highest stress values experienced by respondents before and after the intervention were the same, namely 31 before and 36 after the intervention (Wicaturatmashudi et al., 2020).

The p value was obtained 0.000 ($p < 0.05$). So it can be concluded that there is a difference in the average value of the pre-test & post-test Anxiety Level, so that there is an effect of progressive muscle relaxation therapy on the anxiety of the elderly with chronic diseases at Melati integrated health service post. The results of previous studies showed that the average anxiety of patients after PMR therapy was 45.00 with a standard deviation of 3.091. PMR has a significant relationship with decreased anxiety in PGK patients undergoing hemodialysis.(Yolanda, 2017). Our study provides evidence for the effectiveness of three commonly used approaches PMR, deep breathing, and guided imagery for stress relaxation, confirming previous research demonstrating their benefits in inducing psychological and physiological states of relaxation, and offering a direct comparison of stress reduction strategies (Toussaint et al., 2021)

CONCLUSION

PMR has a positive effect in reducing anxiety in elderly people with chronic illness. Similar studies are needed to document this specific relaxation technique as a primary tool for improving mental health in the elderly population dealing with chronic illness.

Conflict of Interest

The author declares no conflict of interest.

Acknowledgment

Thank you to Universitas 'Aisyiyah Surakarta for providing financial support and Melati integrated health service post granting permission to conduct this research.

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