



Original Research

TERA GYMNASTIC TO DECREASE ANXIETY IN ELDERLY

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ABSTRACT

Introduction: The most common mental problem in the elderly is anxiety. The elderly is anxious due to lack of activity and rest. Elderly need activities that diverse, interesting, and easy to practice. Tera gymnastics therapy is type of exercise, easy to apply and does not require a lot of time. Tera gymnastics can be applied to the elderly as an interesting and easy alternative to exercise. The purpose of this study was to explain the effect of tera exercise on reducing anxiety in the elderly.

Method: This study uses pre-experimental design with one group pre-post-test model. The study population was 43 elderly people who were in Boladangko Village, Central Sulawesi. The sample was 40 respondents with purposive sampling technique. The inclusions are 1) the elderly do not experience physical limitations 2) aged more than 60 years. Data collection using Depression Anxiety Stress Scale (DASS). The data analyzed by Wilcoxon test.

Results: The results showed that most of the 37(92.5%) respondents stated that their anxiety was reduced. The results showed that 29(78.37%) respondents decreased 1 level of anxiety level, while the rest decreased 2 levels of anxiety level. The results of Wilcoxon test obtained Pvalue=0.009 indicating significant effect of giving tera exercise to the anxiety of the elderly.

Conclusions: There is an influence between tera gymnastics and elderly anxiety, indicating that tera gymnastics can be applied to elderly as alternative to increasing elderly activities. Future research is expected to increase duration and combined with other methods to support better training.

Keyword: anxiety; elderly; tera gymnastic

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1. INTRODUCTION

The aging process is a natural course of human life. Humans who undergo the aging process (elderly) experience physical, mental, psychosocial and spiritual disorders. One of the psychosocial problems that arise in the elderly is anxiety. Anxiety is a feeling of excessive and unclear worry (Dinakaramani, S., & Indati, A, 2018). Anxiety has the effect of decreasing physical activity and functional status, self-perception of poor health that needs to be addressed. Overcoming anxiety in the elderly requires more effort. The physical limitations of the elderly make them unable to carry out activities that are difficult and take a lot of time (Guslinda, G., Fridalni, N., &

Minropa, A, 2020). Tera gymnastics is an activity that does not take much time and is easy to do. Therefore, tera gymnastics can be used as an alternative activity for the elderly and can reduce the stress of the elderly (Pradana, S. A. Z, 2018).

The elderly population in the world is currently around 901 million people. Indonesia experienced an increase in the number of elderly people from 18 million people (7.56%) in 2010, to 25.9 million people (9.7%) in 2019, and it is estimated that the number of elderly people in Indonesia in 2020 will reach 28.8 million people or about 11% of the total population of Indonesia. In 2021, elderly people in Indonesia are estimated to reach 30.1 million people (Nurhayati, F., Farida, I., Ritianingsih, N., & Susmadi, S, 2019). In

Central Sulawesi Province, the elderly population in 2000 was recorded at 126,208 people (5.8% of the total population), then increased to 174,900 people (6.6%) in 2010. This number increased again to 209,700 people (7.3. %) in 2015 and is predicted to reach 260,900 people (8.4%) in 2020 (BPS, 2016). Especially in Palu City, in 2000 the number of elderly people was recorded at 8,968 people or around 3.39% of the total population. This number increased to 16,958 people (5.02%) in 2010, then increased to 18,469 people (5.02%) in 2015 and will reach 21,225 (6.01%) in 2020 (Saputra, R. E. (2021).

Physical and mental problems in the elderly are an unavoidable and complex condition. Physical limitations make the elderly lazy to do activities and tend to lock themselves in a room or isolate themselves from the environment (Tobing, C. P. R. L., & Wulandari, I. S. M, 2021). This makes the mental health of the elderly decline. The decline in mental health occurs because the activities of the elderly are not fulfilled so that negative thoughts often arise (Shofiyulloh, A, 2021). Previous research belongs to Sonza (2021) stated that when alone, most of the elderly think that no one cares about them, no one loves them, and thinks that they will not live long. These negative thoughts ultimately make the elderly become anxious (Dewi, N. P. R. I., Lestari, N. K. Y., & Dewi, N. L. P. T, 2020). Anxiety in the elderly in the chronic phase will lead to health problems

Overcoming the anxiety of the elderly is not easy, many methods of physical and cognitive activity have been tried but are not applicable. This is because the method is too difficult, too expensive, and time-consuming, so that the elderly cannot continue (Nasution, L. N. P., Pangaribuan, R., & Tarigan, J. 2021). The method of physical activity is the method most often applied to the elderly. The hope is that physical activity will not only overcome anxiety, but also improve the physical health of the elderly. One of the physical activities that may be done is tera gymnastics. Tera gymnastics is a simple exercise that doesn't take much time. The tera exercise procedure is easier to memorize than other exercises. The action of tera gymnastics does not require a lot of complex movements that burden the body and joints. The key to tera gymnastics is simple movements and breathing that make the body fit and relaxed (Selwir, E. W., Rahayu, W., & Rosdiana, Y, 2018). Based on this, it is possible to apply tera gymnastics as an activity for the elderly. Therefore, it is necessary to prove the application of tera gymnastics as an alternative to physical activities to help the elderly overcome their anxiety.

2. METHODS

2.1 Design

This study uses a pre-experimental design with a one group pre-post test model

2.2 Population and sampling

The study population was 43 elderly people who were in the area of Boladangko Village, Kulawi District, Central Sulawesi. The research sample was

40 respondents with purposive sampling technique. Inclusion criteria include 1) the elderly do not experience physical limitations 2) aged more than 60 years 3) mentally healthy

2.3 Variable

The independent variable was Tera Gymnastic. The dependent variable in this study was Anxiety.

2.4 Instrument

Data collection using an instrument in the form of an anxiety questionnaire Depression Anxiety Stress Scale (DASS). This questionnaire consists of 42 question items. Based on the results of the validity and reliability tests conducted by Damanik (2011), it was found that from 42 DASS items, 41 items were valid and 1 item was invalid (with 25 respondent and $r\text{-table} = .396$). In the research process, the researcher discarded invalid items. For the reliability test, the Cronbach alpha value ($\alpha = .9483$) means that this questionnaire is declared reliable. Each question is scored and totaled. The total value shows the level of anxiety which is divided into 3, namely severe, moderate, mild.

2.5 Procedure

The researcher asked for a research recommendation letter to STIKes William Booth. After getting approval from STIKes William Booth, it was then given to the head of Boladangko village, Kulawi region, Central Sulawesi. After obtaining research approval, the researcher gave permission to the research sample by submitting an informed consent sheet. The researcher asked the sample to sign the informed consent form. After being approved, then the anxiety measurement was carried out using the DASS questionnaire. After getting the results, the Tera Gymnastics is carried out by trained personnel. The Tera exercise is carried 15 minutes per session and 2 times per week. Each session consists of 5 minutes of warm-up, 5 minutes of main movement, and 5 minutes of cooling down. Implementation carried out 4 weeks. After 4 weeks, the anxiety of the research sample was re-measured with the DASS questionnaire. As long as the activity is carried out there is no sample drop out

2.6 Analysis

This research has passed the ethical test with the ethics test certificate number 29/STIKES-WB/ETIK/VIII/2021. The data from this study were analyzed using the Wilcoxon test using SPSS version 21.

3. RESULTS

Based on Table 1 shows that most of respondents are female (75%). Almost all (90%) participant between 60-70 years old. Most (60%) of respondents had junior high school education. Based on Table 2 shows that most of respondents (75%) experience moderate anxiety, and few of them (10%) experience mild anxiety.

Based on cross table data that has been tested with Mann Whitney (on Table 3), the results showed that the number of respondents who experienced a

Table 1 Distribution of Frequency based of Demography Data

Characteristic	Criteria	Frequency	Percentage
Sex	Male	10	25%
	Female	30	75%
	Total	40	100%
Age	60 – 70 y.o	36	90%
	71 – 80 y.o	4	10%
	Total	40	100%
Education	Elementary school	4	10%
	Junior High School	24	60%
	Senior High School	12	30%
	Total	40	100%

Table 2 Distribution of Anxiety Level based on Pre-Test

Criteria	Frequency	Percentage
Mild Anxiety	4	10%
Moderate Anxiety	30	75%
Severe Anxiety	6	15%
Total	40	100%

Table 3 Cross tabulation of Anxiety Level on Pre-Test and Post-Test

Criteria	Pre Test		Post Test	
	Frequency	Percentage	Frequency	Percentage
Mild Anxiety	4	10%	22	55%
Moderate Anxiety	30	75%	18	45%
Severe Anxiety	6	15%	0	0
Total	40	100%	40	100%
Negative Rank	32			
Ties	8			
Positive Rank	0			
P Value	P = 0.009			

decrease in anxiety was 32 respondents and 8 respondents did not change. the P value is at 0.009 which supports that there is a change between before and after the intervention. The results of the questionnaire measurement after the intervention also showed that, the majority (55%) of anxiety after the tera exercise was at the level of mild anxiety. Based on the results of these measurements, it can be concluded that tera exercise has an impact on decreasing the level of anxiety in the elderly.

4. DISCUSSION

Anxiety of The Elderly before The Intervention of Tera Gymnastics

Based on the data in table 2 shows that all the elderly experience anxiety. The majority of elderly anxiety is at a moderate level. Anxiety in the elderly is a common condition. This anxiety is caused by various factors such as decreased physical function, decreased social function, and other factors. Physical function is often the main basis for anxiety in the elderly. a decrease in physical function will have an impact on decreasing the activity of the elderly which then has an impact on changing roles (Ningrum, T. P., Okatiranti, O., & Nurhayati, S, 2018).

Changes in roles will make changes in social status. Chronic conditions in these problems will

make the elderly close themselves from the social environment which has an impact on the emergence of feeling disorders (Lee, H. K., & Lee, K. H, 2021). Negative thoughts arise because the elderly feel helpless, ignored, or not considered (Sri Kusumadew, 2020). The complexity of problems in the elderly is a major factor in the emergence of anxiety in the elderly, so it can be said that anxiety in the elderly is a natural thing to happen.

Anxiety of The Elderly after The Intervention of Tera Gymnastics

Based on the data in table 3 shows that the level of anxiety in the elderly decreased after being given tera gymnastic therapy. Based on these data, the highest level of anxiety is at the low level. Changes in the level of anxiety in the elderly after tera exercise showed significant changes. Interventions on elderly activities by increasing their activities will have an impact on changes in many things such as: in their social relationships, lifestyle, daily activities, and roles (Dinakaramani, S., & Indati, A, 2018).

New activities also make the elderly curious and interested in it. This certainly has a positive impact on the elderly (Guslinda, G., Fridalni, N., & Minropa, A, 2020). The elderly who had many interesting activities will have less time to develop their negative

thoughts. Negative thoughts will decrease as the activity of the elderly increases (Da Silva, R., Yuliwar, R., & Dewi, N, 2018). Therefore, it is important for the elderly to be able to have good activities to reduce their anxiety

The Effect of Tera Gymnastic on Anxiety in Elderly

Based on table 3, it shows that there are significant changes in 32 elderly who experienced a decrease in anxiety levels after doing tera gymnastics. The elderly are individuals who are full of limitations. Decreased body function in the elderly makes the elderly lazy to do activities (Platini, H., Pebrianti, S., & Maulana, I, 2019). This laziness in the elderly will make all roles and social relationships disrupt. In chronic conditions, it will have an impact on the emergence of negative thought patterns that have an impact on the anxiety of the elderly (Pratiwi, P., & Muflihatin, S. K, 2021).

The basis for overcoming this anxiety is to provide elderly activities. but in reality the elderly are difficult to be invited to do activities, especially sports. Many sports cannot be done routinely by the elderly because of their limitations. It takes a special sport that is easy for the elderly to do and certainly interesting to do (Tobing, C. P. R. L., & Wulandari, I. S. M, 2021). Tera gymnastics can be one of the sports that are applied. Tera gymnastics is a light exercise activity that does not take much time and is simple (Rofika, A., & Yuniastuti, A, 2018). Tera gymnastics focuses a lot on breathing and simple body movements that are very possible to do in limitations (Putri, Y. S., & Bakti, A. P, 2019).

Previous research has shown the application of tera gymnastics to people with physical limitations is considered possible. Tera gymnastics increase the activity of the elderly, increasing their activity makes them no longer feel alone, feel unnoticed, or other negative thoughts. In addition, gathering activities during tera gymnastics help the elderly to socialize. Both of these things support the elderly to reduce their feelings of stress. Furthermore tera exercise can increase the rate of blood flow and oxygen flow in the body. Increased blood flow and oxygen will help the body's cell metabolism improve. this will help the elderly stay fit and healthy.

In addition, tera exercise will help improve the elderly in training their joints and muscles. further impact will make the elderly more comfortable in their activities. Improving the physical condition and ability of the elderly will make the elderly able to meet their needs so that stress can be reduced. (Pradana, S. A. Z, 2018). Therefore, it can be concluded that tera gymnastics can be done in the elderly to increase their activities so that the elderly do not have time to develop negative thoughts that arise.

Based on table 3, it was found that there were 8 elderly people who did not experience stress reduction. This can happen due to several internal and external factors. Previous research has suggested that conditions related to age, pain level, mobility,

discipline, and ability to follow therapy will have an impact on outcomes. It was found that the older elderly would perform inappropriate movements. In addition, the elderly who have limited mobility and severe pain will affect the elderly's desire to move (Rofika, A., & Yuniastuti, A, 2018). In further research, it was found that the elderly were psychologically unable to carry out the therapy because they were often late which resulted in the therapy not being carried out properly (Selwir, E. W., Rahayu, W., & Rosdiana, Y, 2018). In this condition, further monitoring of the activities and therapy of the elderly is required.

5. CONCLUSION

This study concludes that tera exercise can be used to increase the activity of the elderly. an increase in the activity of the elderly will have an impact on decreasing the anxiety of the elderly. so that there is an influence between giving tera exercise to the level of anxiety in the elderly.

6. REFERENCES

- Damanik, E. D. (2011). The measurement of reliability, validity, items analysis and normative data of Depression Anxiety Stress Scale (DASS).
- Darmawan, T. C. (2021). Combination of Storytelling and Music Therapy to Reduce Stress in Children with HIV/AIDS and Discrimination in Surabaya. *Journal of Health Sciences*, 14(1), 14-20.
- Da Silva, R., Yuliwar, R., & Dewi, N. (2018). Hubungan Antara Senam Tera Dengan Kualitas Dan Kuantitas Tidur Lansia Wanita Pada Kelompok Senam Tera Di Stadion Gajayana Malang. *Nursing News: Jurnal Ilmiah Keperawatan*, 3(3).
- Dewi, N. P. R. I., Lestari, N. K. Y., & Dewi, N. L. P. T. (2020). KORELASI TINGKAT STRES DENGAN KUALITAS TIDUR LANSIA: CORRELATION BETWEEN STRESS LEVELS AND SLEEP QUALITY ON ELDERLY. *Bali Medika Jurnal*, 7(1), 61-68.
- Dinakaramani, S., & Indati, A. (2018). Peran kearifan (wisdom) terhadap kecemasan menghadapi kematian pada lansia. *Jurnal Psikologi*, 45(3), 181-188.
- Yang, E., Schamber, E., Meyer, R. M., & Gold, J. I. (2018). Happier healers: randomized controlled trial of mobile mindfulness for stress management. *The Journal of Alternative and Complementary Medicine*, 24(5), 505-513.
- Guslinda, G., Fridalni, N., & Minropa, A. (2020). Faktor yang Berhubungan dengan Tingkat Kecemasan Lansia pada Masa Pandemi Covid 19. *Jurnal Keperawatan*, 12(4), 1079-1088.
- Holman, D., Johnson, S., & O'Connor, E. (2018). Stress management interventions: Improving subjective psychological well-being in the workplace. In *Handbook of well-being*. DEF Publishers.

- Lee, H. K., & Lee, K. H. (2021). Psychosocial Stress, Memory, and Successful Aging of the Community-Residing Elderly. *Journal of agricultural medicine and community health*, 46(2), 89-97.
- Nasution, L. N. P., Pangaribuan, R., & Tarigan, J. (2021). PEMENUHAN KEBUTUHAN AKTIVITAS FISIK PADA HIPERTENSI DENGAN SENAM TERA DI UPT PELAYANAN SOSIAL LANJUT USIA BINJAI TAHUN 2021. *Journal of Health Science and Physiotherapy*, 3(2), 38-53.
- Ningrum, T. P., Okatiranti, O., & Nurhayati, S. (2018). Gambaran Tingkat Kecemasan Tentang Kematian Pada Lansia Di BPSTW Ciparay Kabupaten Bandung. *Jurnal keperawatan BSI*, 6(2), 142-149.
- Nurhayati, F., Farida, I., Ritianingsih, N., & Susmadi, S. (2019). Application of Stress Management in the Elderly People. In *INTERNATIONAL CONFERENCE ON INTERPROFESSIONAL HEALTH COLLABORATION AND COMMUNITY EMPOWERMENT* (Vol. 1, No. 1, pp. 285-288).
- Platini, H., Pebrianti, S., & Maulana, I. (2019). Tera Gymnastic Effective for Patient with Hypertension. *Jurnal Keperawatan Padjadjaran*, 7(3), 218-223.
- Pradana, S. A. Z. (2018). *Pengaruh Senam Tera Terhadap Penurunan Tingkat Kecemasan (Ansietas) Pada Lansia Di Panti Tresna Werdha Hargo Dedali Surabaya* (Doctoral dissertation, Universitas Airlangga).
- Prasetyo, W., Nancye, P. M., & Sitorus, R. P. (2019). Pengaruh relaksasi Benson terhadap tingkat insomnia pada lansia di griya usia lanjut st. Yosef surabaya. *Jurnal Keperawatan*, 8(2), 34-42.
- Pratiwi, P., & Muflihatini, S. K. (2021). Pengaruh Senam Tera Terhadap Tekanan Darah Dan Kadar Glukosa Darah Sewaktu Pada Lansia Di PSTW Nirwana Puri Samarinda. *Borneo Student Research (BSR)*, 3(1), 248-253.
- Putri, Y. S., & Bakti, A. P. (2019). PENGARUH SENAM TERA TERHADAP NYERI SENDI LUTUT DI POSYANDU LANSIA USIA 60-69 TAHUN KAKAK TUA RW 08 KELURAHAN TANDES SURABAYA. *Jurnal Kesehatan Olahraga*, 7(2).
- Rofika, A., & Yuniastuti, A. (2018). Effectiveness of tera gymnastics and healthy heart gymnastics on blood pressure among elderly with hypertension in Sinomwidodo Village, Tambakromo Subdistrict, Pati District. *Public health perspective journal*, 3(1).
- Ropei, O., & Handayani, N. (2021). The life experiences of hypertension patients in participating tera gymnastics therapy at rw 18 kelurahan padasuka in cimahi west java. *Jurnal Keperawatan Komprehensif (Comprehensive Nursing Journal)*, 7(Special Edition).
- Saputra, R. E. (2021). *Gambaran Tingkat Stress Lansia di Panti Sosial Lanjut Usia Harapan Kita Palembang* (Doctoral dissertation, Universitas Katolik Musi Charitas).
- Santoso, N. P. B., Kuncoro, B., Herrywansyah, H., Sudarsono, S., & Iskandar, I. (2022). Utilization of Housing Roads as Supporting Recreational Sports. *International Journal of Multicultural and Multireligious Understanding*, 9(1), 473-476.
- Selwir, E. W., Rahayu, W., & Rosdiana, Y. (2018). PENGARUH SENAM TERA TERHADAP TINGKAT STRES PADA LANSIA DI WILAYAH POSYANDU LANSIA DESA LANDUNGSARI KECAMATAN DAU KABUPATEN MALANG. *Nursing News: Jurnal Ilmiah Keperawatan*, 3(3).
- Shofiyulloh, A. (2021). *Efektifitas recreational therapy senam tera terhadap kecemasan pada wanita dewasa korban erupsi Gunung Semeru (Studi di Desa Supiturang Lumajang)* (Doctoral dissertation, STIKes Ngudia Husada Madura).
- Sonza, T., Badri, I. A., & Erda, R. (2020). Hubungan Tingkat Kecemasan Dengan Tingkat Kemandirian Activities of Daily Living Pada Lansia. *Human Care Journal*, 5(3), 688.
- Sri Kusumadew (2020) Model Sistem Pendukung Keputusan Kelompok Untuk Penilaian Gangguan Depresi, Kecemasan Dan Stress Berdasarkan DASS-42. *Jurnal Teknologi Informasi dan Ilmu Komputer (JTIK)* Vol. 7, No. 2, April 2020, hlm. 219-228
- Tobing, C. P. R. L., & Wulandari, I. S. M. (2021). Tingkat Kecemasan Bagi Lansia Yang Memiliki Penyakit Penyerta Ditengah Situasi Pandemi Covid-19 Di Kecamatan Parongpong, Bandung Barat. *Community of Publishing In Nursing (COPING)*, 9(2), 135-142.
- Yu, B., Funk, M., Hu, J., Wang, Q., & Feijs, L. (2018). Biofeedback for everyday stress management: A systematic review. *Frontiers in ICT*, 5, 23.