

Original Article

The Effectiveness Of Elderly Exercise In Decreasing The Level Of Insomnia

Eri Fauziah¹, Sri Hartati , Kamesywor¹

¹Poltekkes Ministry of Health Palembang, South Sumatra, Indonesia

ARTICLE INFO	ABSTRACT
<p>Article History: Submit : May 20, 2022 Revised : June 13, 2022 Accepted : June 14, 2022 Online : June 30, 2022</p> <p>Keywords: Elderly Exercise, Insomnia, Elderly</p>	<p><i>Background:</i> Aging is not a disease for the elderly and is not an obstacle to being able to maintain productivity and independence in carrying out daily life days. However, entering old age, many experience physical and mental setbacks, which can cause problems with disease, depression, and sleep disturbances. The purpose of this study was to determine the effectiveness of elderly exercise in reducing the level of insomnia in the elderly</p> <p><i>Methods:</i> The research method used is the Quasy Experimental with the design one-group Pretest-Posttest population is the elderly who experience insomnia in Posbindu Pesona UPT Puskesmas Agel Lahat with a sample of 50 respondents They were taken on the total side. Data were collected from respondents by distributing questionnaires before and after counseling to respondents.</p> <p><i>Results:</i> The results showed that the initial observation found that 50 41 respondents (82%) had moderate insomnia after being given the elderly exercise technique. 46 respondents (92%) with mild insomnia and four (8%) with moderate insomnia experienced mild insomnia. The results of the Defendant T-Test showed significant results P = 0.00. This shows the effect of the Effectiveness of the Elderly Gymnastics Technique on the reduction of Insomnia Levels.</p> <p><i>Conclusion:</i> There is a significant difference in the level of insomnia in elderly mothers between before being given the elderly exercise technique and after being given the elderly exercise technique.</p>
<p>👤 <i>Corresponding Autor</i> : Eri Fauziah 🏠 <i>Affiliation</i> : Poltekkes Ministry of Health Palembang, South Sumatra, Indonesia ✉ <i>Email</i> : erifauziah65@gmail.com 🗣 <i>Cite this as</i> : Fauziah, E., Hartati, S., & Kamesywor. (2022). The Effectiveness Of Elderly Exercise In Decreasing The Level Of Insomnia. Journal of Applied Nursing and Health, 4(1), 61-67. https://doi.org/10.55018/janh.v4i1.55</p>	

Introduction

The Elderly is the final stage that every human will experience, although age always increases and

organ function declines so that the elderly can still lead a healthy life. Older adults carry out their daily lives not only by abandoning bad habits that can interfere with health but by



maintaining a healthy lifestyle such as exercise and a diet that every human being must do (Alhenawy, 2020; Kholifah, 2016). A person is said to be elderly if he is 60-74 years old. Aging is not a disease for the elderly and is not an obstacle to maintaining productivity and independence in daily life. Even though entering old age, many experience physical and mental setbacks, which can cause problems with disease, depression, and sleep disturbances (Azizah, 2011).

The elderly needs adequate rest and sleep to maintain physical health. Sleep is part of the body to restore stamina to stay healthy can be considered in the quality of sleep (Abdol Aziz Saleh & Mohamad Al Henawy, 2019). meeting the need for sleep every day in the elderly is generally 6-8 hours per day. According to the World Health Organization (WHO), the prevalence can be estimated at around 11% of the elderly who have difficulty sleeping, which states that the population is 605 million (WHO, 2017). Every year in Indonesia, it can be estimated that around 20%-50% of the elderly report having difficulty sleeping and experiencing severe sleep disorders. The prevalence of sleep difficulties in the elderly is high, which is around 67% of the population in Indonesia which states that out of 238.452 million people in Indonesia, as many as 28.035 million people (11.7%) have insomnia. In East Java, 45% of the elderly also have difficulty sleeping at night (Dinkes, 2013). and have insomnia. The behavior of the elderly who experience insomnia is characterized by anxiety, lack of enthusiasm, red

eyes, and looking very sleepy. This is due to increasing age and decreasing physical function (Aurela, 2021; Smeltzer, 2014; Usiati, 2011).

Insomnia is the inability to meet the needs of sleep, both quality and quantity. Insomnia can cause chronic fatigue, anxiety, or mental or psychiatric disorders. Insomnia can affect the nervous system and cause changes in mental mood, leading to lethargy, weakness in the face of stimuli, and difficulty concentrating. Insomnia is a complaint in meeting the need for sleep or difficulty maintaining sleep (often waking up during sleep) and waking up too early and feeling unwell even though you have slept. The impact of insomnia is: unproductive, unfocused, unable to make decisions, forgetful, grumpy, depressed, and causes the body to be susceptible to disease (Siregar, 2011).

Exercise has been shown to improve sleep quality in the elderly. By exercising, it is expected to be able to sleep faster, wake up less often, and sleep more deeply. One type of exercise that can be done for the elderly is fitness for the elderly. This sports activity will help the body stay fit and fresh because it trains bones to stay strong, encourages the heart to work optimally, and helps eliminate free radicals that roam in the body. Gymnastics for the elderly, in addition to having a positive impact on improving the function of body organs, also increases immunity in the human body after regular exercise (Ministry of Health, 1995).

Based on a preliminary study conducted on the elderly at the UPT Puskesmas Usila Lahat, data were obtained for 287 older adults. Data from all older adults at the UPT

Puskesmas Usila Lahat showed that 50 people experience insomnia. . This makes researchers interested in researching the effectiveness of elderly gymnastics in reducing insomnia levels at Posbindu Pesona UPT Puskesmas Usila Lahat in 2020.

Method

The design of this study was quantitative with *design. Experiment one group pretest post-test*. This research will be conducted at Posbindu UPT Puskesmas Usila Lahat. This research is an experiment in the form of giving elderly exercise treatment to reduce insomnia levels. This technique is called the sampling method or side technique. The sampling technique in this research is *total sampling*. The number of respondents used in this study was 50 Orang. The statistical test used in this study is the dependent *T-Test*

Results

Table 1. Frequency distribution of respondents based on age in the elderly

No.	Age	Total	Percentage
1	> 60 years	43	86
2	< 60 years	7	14
	Total	50	100

Table 2. Frequency distribution of respondents by type Gender

No	Gender	Total	Percentage
1	Male	7	14
2	Female	43	86
	Total	50	100

Table 3. Frequency Distribution of Respondents Based on Elderly

No	Gymnastics	Total	Percentage
1	Yes	50	100
	Total	50	100

Table 4. Frequency Distribution of Respondents Based on Insomnia Levels Prior to Advanced Gymnastics Treatment

No	Level	Total	Percent age
1	Mild	5	10
2	Moderate	41	82
3	Heavy	4	8
	Total	50	100

Table 5. Distribution of Respondents' Frequency Based on Insomnia Level After Treatment of Elderly Gymnastics

No	Insomia Level	Total	Percentag e
1	Mild	46	92
2	Medium	4	8
	Total	50	100



Table. Distribution of Average Behavior of Respondents by Behavior Before and After Actions for Elderly Gymnastics in the Elderly at Posbindu Pesona UPT Puskesmas Lahat

NO	Variable	Mean	SD	SE	N
1	Insomnia Before Action	1.9800	.42809	.06054	50
	Insomnia After Action	1.0800	.27405	.03876	

Gymnastics on Insomnia Levels table 3 distribution of elderly exercise. Most of the respondents who did Elderly exercise were 50 respondents (100%). All types of gymnastics and light sports activities are beneficial for inhibiting the degenerative process or the aging process. Gymnastics for the elderly, besides having a positive impact on improving the function of the body's organs, can also increase immunity in the human body after regular exercise. The fitness level is evaluated by monitoring the heart rate at rest, namely the pulse rate at rest. Research says that the heart rate at rest must decrease for the body to become more fit. The minimal effect that can be obtained by participating in elderly gymnastics is that the elderly always feel happy, always happy, can sleep more soundly, and keep their minds fresh (Daryaman, 2021).

Based on the level of Insomnia of respondents, table 4 distribution of Prior Behavior Action (*Pre-test*), it was found that most of the respondents before the action elderly gymnastics, namely as many as 41 respondents (82 %), experienced moderate insomnia. The theory is in line with Asmadi (2008), which is that Insomnia is a condition where the individual experiences a change in his rest pattern that causes discomfort or interferes with the desired lifestyle. If not treated immediately, the disruption of sleep patterns in the elderly will severely impact and become a chronic sleep disorder. It can have effects such as forgetfulness. Of the many types of therapy, elderly exercise is believed to improve sleep quality in the

Discussion

Based on the age of the respondents in table 1, most of the respondents have an age of > 60 years, as many as 43 respondents (86%). The theory is in line with Luce and Segal (1970). Age is the most critical factor influencing sleep quality. Sleep efficiency (the amount of time sleeping lying down with time lying in bed) is decreasing. Meanwhile, the need for sleep decreases because the hemostatic urge to sleep decreases. These changes coincided with other physical changes (Petran, 2020).

Based on the respondents' occupations, table 2 of the job distribution found that most respondents were female (elderly mothers), as many as 43 respondents (86 %). The gender factor was one factor that affects the level of insomnia, where women are at risk for experiencing insomnia disorders more than men.



elderly. With exercise, it is hoped that you can sleep faster, wake up longer and sleep deeply. One type of exercise that is carried out for the elderly is fitness for the elderly. This sports activity will help the body stay fit and fresh because it trains bones to stay strong, encourages the heart to work optimally, and helps eliminate free radicals circulating in the body. Gymnastics for the elderly, in addition to having a positive impact on improving the function of the body's organs, also affects increasing immunity in the human body after regular exercise.

The treatment of elderly exercise has much influence on decreasing insomnia after being treated for 30-60 minutes. It can be said that giving elderly exercise is effective in reducing the level of insomnia. It can be seen that the mean value of the difference between before and after the elderly exercise in the elderly is 0.90 with a standard deviation of 0,30. The results of the statistical test obtained a p-value = 0.000. There is a significant difference in the level of insomnia in elderly mothers between before being given the elderly exercise technique and after being given the elderly exercise technique. This is following the theory, which states that elderly exercise

is believed to affect reducing the severity of insomnia symptoms. Gymnastics can increase muscle relaxation in the elderly, reducing the severity of insomnia symptoms (Cervin, 2020; Ilham et al., 2021). In studies by Varasse et al., it is said that there is a mechanism for gymnastic activities that can affect sleep. One can come from the theory of thermal regulation, where an increase in body

temperature can activate a heat loss signal that will trigger an increase in blood flow to the skin and an increase in core body temperature, which is controlled by the hypothalamus (de Aguiar, 2020; Robinson et al., 2020). This heat signal is thought to trigger the initiation of the sleep process.

Physical exercise is a type of activity defined as a planned, structured, and repetitive body movement carried out to improve or maintain one or more components of physical fitness. According to Maryam (2012), physical exercise will help increase physical fitness if it is carried out in an exercise zone of at least 15 minutes and carried out for at least three days or as many as five days a week (Pavlin, 2018)

Insomnia is one of the primary disorders in initiating and maintaining sleep among the elderly. Insomnia is defined as a complaint about a lack of quality sleep caused by one of the reasons why it is difficult to get to sleep, often waking up at night and then having trouble getting back to sleep, waking up too early, and not sleeping well (Nassib et al., 2020). Insomnia more or less has an impact on sleep quality, thus causing poor quality sleep. The consequences that can be felt are decreased quality of life, productivity, and safety which can affect work quality (Sharma, 2016). Lack of sleep can also lead to problems in family and marriage because Lack of sleep can make people irritable. If you do not sleep well, your body will feel tired and lethargic when you wake up (Palmer, 2022b, 2022a).

Conclusion

The results of the Dependent T-test, shows that there is a difference in the mean value before and after the elderly exercise technique. ie 0.90 with a standard deviation of 0,30. The results of the statistical test obtained p value = 0.000. So it can be concluded that there is a significant change between before and after the elderly exercise technique action.

References

- Abdol Aziz Saleh, H., & Mohamad Al Henawy, S. (2019). The effect of Qualitative Drills In terms of Bio-Dynamic Analysis on Technical performance level to Front Somersault Tuck in gymnastics. *Assiut Journal of Sport Science and Arts*, 2019(1), 32–54.
- Alhenawy, S. (2020). Effectiveness of Agility Ladder Drills on Some Physical Variables and the Level of Technical Performance of some Dismounts on High Bar Apparatus in Gymnastics. *International Journal of Sports Science and Arts*, 15(015), 126–144.
- Aurela, B. S. (2021). IDENTIFICATION OF SUPPORTING FACTORS AND INHIBITING FACTORS THE ACHIEVEMENT OF GYMNASTICS ATHLETES AT THE EAST JAVA PROVINCE. *Jurnal Prestasi Olahraga*, 4(9), 27–34.
- Azizah, L. M. (2011). *Keperawatan Jiwa (Aplikasi Praktik Klinik)*. Graha Ilmu.
- Cervin, G. (2020). Ringing the Changes: How the Relationship between the International Gymnastics Federation and the International Olympic Committee Has Shaped Gymnastics Policy. *Sport History Review*, 51(1), 46–63.
- Daryaman, U. (2021). Pengaruh Kegel Exercise Terhadap Inkontinensia Urine Pada Lansia. *Jurnal Sehat Masada*, 15(1), 174–179.
- de Aguiar, B. C. (2020). Teaching for Motivation and Awareness in Children's and Youth Gymnastics. *Applied Positive Pedagogy in Sport Coaching: International Cases*.
- Dinkes. (2013). *Pengantar Kesehatan Kerja*. Bidang Yankes Dinkes Kota Pasuruan. <https://yankeskotapas.wordpress.com/2013/04/17/pengantar-kesehatan-kerja/>
- Ilham, T. R., Pujiyanto, D., & Arwin, A. (2021). Pengaruh Latihan Plyometrics (Hurdle Hops dan Ladder Drill) Terhadap Kecepatan Dribbling Futsal Putri Tim Jugador Bonita Rafflesia. *SPORT GYMNASTICS: Jurnal Ilmiah Pendidikan Jasmani*, 2(1), 34–45.
- Kholifah, S. N. (2016). *Buku Keperawatan Gerontik*. Pusdik SDM Kesehatan.
- Nassib, S. H., Mkaouer, B., Riahi, S. H., Wali, S. M., & Nassib, S. (2020). Prediction of gymnastics physical profile through an international program evaluation in women artistic gymnastics. *The Journal of Strength & Conditioning Research*, 34(2), 577–586.
- Palmer, C. (2022a). Aesthetics and symbolism in artistic gymnastics: From martial discipline to ritual practices embodied in performance. In *Training the*

- Body* (pp. 111–125). Routledge.
- Palmer, C. (2022b). Aesthetics and symbolism in artistic gymnastics. *Training the Body: Perspectives from Religion, Physical Culture and Sport*.
- Pavlin, T. (2018). HISTORICAL OVERVIEW OF GYMNASTICS AND (SCHOOL) PHYSICAL EDUCATION IN SLOVENIA. *Science of Gymnastics Journal*, 10(1).
- Petran, D. (2020). Development of Motor Qualities Through the Specific Means of Gymnastics. *Arena-Journal of Physical Activities*, 9, 123–136.
- Robinson, D. B., Randall, L., & Andrews, E. (2020). Physical education teachers' (lack of) gymnastics instruction: an exploration of a neglected curriculum requirement. *Curriculum Studies in Health and Physical Education*, 11(1), 67–82.
- Sharma, A. (2016). *Peripheral Vascular Disease in Primary Care*. CRC Press. <https://doi.org/10.1201/9781315383781>
- Smeltzer, S. (2014). *Textbook of Medical Surgical Nursing* (8th ed.). Lippincott Williams.
- Usiati. (2011). *Keterampilan Keperawatan Dasar, Paket 1*. Erlangga Medical. Series.
- WHO. (2017). *Global Health Observatory (GHO) data*. World Health Organization. http://www.who.int/gho/ncd/risk_factors/blood_pressure_prevalence_text/en/