



The Role of Ergonomic Gymnastics for Health Menopause Elderly

Sri Hayati¹, Tukimin bin Sansuwito²

¹ Department of Nursing & Public Health, Faculty of Nursing, Lincoln University College, Malaysia

¹ Department of Nursing, Universitas Adhirajasa Sanjaya, Indonesia

² Lecturer Ph.D. In Nursing and Public Health, Faculty of Medicine, Lincoln University College, Malaysia

Abstract

A nation's longer life expectancy contributes to its high old population, which is further exacerbated by the high physical and mental health issues that plague the elderly. Doing ergonomic exercises, which have been shown to have numerous advantages, particularly in the old, is one way to try and suppress all of the ailments that affect the aged. Exercises that immediately open, cleanse, and activate all body systems, including the cardiovascular, urinary, and reproductive systems, are referred to as ergonomic exercises. These movements also assist the body in controlling and preventing numerous diseases and dysfunctions, ensuring that it remains healthy. From February 2014 to June 2024, a literature search was performed using the keywords "benefits of ergonomic gymnastics for the elderly," "effects of ergonomic gymnastics on the health of the menopause elderly," "efforts to maintain the health of the menopause elderly," and "factors affecting the health of the menopause elderly." A total of ten articles were chosen because they fit the inclusion criteria: title and content relevant to the aims, written in English or Indonesian, full text, and published within the last seven years. From the 10 articles selected for review, information was obtained on the benefits of ergonomic exercise for the elderly, including ergonomic exercise can reduce anxiety levels, can improve sleep quality/insomnia, can reduce chronic pain and muscle weakness, and can improve quality of life in the menopause elderly.

Keywords: Benefits of ergonomic gymnastics, menopause elderly health.

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1. Introduction

The rise in population life expectancy measures a country's development performance. However, this condition will be followed by an increase in the number of aged or old persons suffering from numerous problems[1]. The Elderly is someone whose age has changed, where he has entered the period of late adulthood or old age, and is the final stage of the human life span. The aging process is something that no one can avoid, namely the process of change related to time, which has begun since birth and continues throughout life [2]

It begins at birth and continues throughout life. Aging is not a disease for the elderly. It is not an obstacle to maintaining productivity and independence in everyday life. However, entering old age involves many physical and mental setbacks that can lead to various problems, including activity intolerance, the onset of multiple diseases, depression, and sleep disorders, namely a decrease in REM (Rapid Eye Movement) and NREM (Non-Rapid Eye Movement) sleep quality, which can lead to sleep disorders, one of which is insomnia[3].

Based on the data of the UN agency, World Population Prospects (WPP) in 2022 that the number of elderly people worldwide is 12% of the global population as a whole, but the proportion of individuals over 60 in Southeast Asia reached 142 million people or 8% of the total population[4]. In Indonesia in 2022, the number of elderly people reached 7.56% of the total population. In East Java in 2022, the number of elderly people was 10.40% of the total population[5]. Efforts to maintain the health of the elderly both in the nature of care, treatment, and healthy lifestyle, including ergonomic gymnastics[6].

Ergonomic gymnastics is a physical activity therapy. Ergonomic gymnastics is an exercise inspired by the prayer movement. The prayer movement certainly contains the function of autoregulation and adaptation of the human body with the brain as the controlling center. Exercises like ergonomic gymnastics can directly open, cleanse, and energize every bodily system, including the reproductive, urinary, and cardiovascular systems. Regular ergonomic exercise will help maintain the body's homeostasis, providing a sensation of comfort, joy, and contentment and keeping the intellect fresh. In this stage, the elderly sleep more soundly.

As a result, the quality of fulfilling one's sleep needs improves[7].

Engaging in ergonomic fitness is a convenient and efficient approach to preserving a healthy physique. Ergonomic exercise treatment is preferred above other workouts due to its highly effective, efficient, and logical motions. Humans have practiced these movements throughout history, making them a reliable choice. When done correctly, ergonomic workouts can stimulate and open every system in the body, including the circulatory, urinary, and reproductive systems. Additionally, the body is able to maintain health through these motions by controlling and warding off a variety of illnesses and functional abnormalities[8].

2. Materials and methods

Literature searches were conducted from February 2016 to June 2024, using online journal databases including Ebsco, Pubmed, Proquest, ScienceDirect, and Google Schooler/Google Scholar using the keywords “Benefits of

Ergonomic Gymnastics for the Menopause Elderly”, “Effect of Ergonomic Gymnastics on Elderly Menopause Health”, “Efforts to Maintain Menopause Elderly Health”, “Factors that affect Menopause Elderly Health” obtained 58 articles. Researchers selected titles and abstracts related to the benefits of Ergonomic Gymnastics for Elderly Health and found 10 articles. A total of ten articles were chosen because they fit the inclusion requirements, specifically the title and content relevant to the objectives published during the last ten years.

3. Results and Discussions

3.1 Result

All 10 articles chosen for examination were quantitative studies. The publications were thoroughly examined, starting from the abstract, to gather information about the advantages of ergonomic exercise for the health of elderly individuals. The results can be seen in Table 1 below.

Table 1: Result of Article Analysis

Author / Year	Scope of Problem / Objective	Research methods	Research result
Kikin Priyanti, Asti Nuraeni,	Hypertension is	This research is of the type	The statistical test used is the paired test
Achmad Solechan 2016[9]	frequent illnesses found in elderly people could result Various complications. Management of hypertension which is done with provide therapy has benefits relaxation for the elderly body, One of which is sport in a way Ergonomics exercises.	True Experiment Research namely grouping members of the group first experiment and second experimental group by involving more from one variable independent, that is treatment is carried out on more than one group with the form of treatment in a different way Random. In this design conclusions regarding effects differences between treatments one with another can achieved without using control group	t-test and Independent t-test. From the test results paired t-test obtained the p-value of pressure systolic blood of elderly groups and the elderly individual = 0.000 and p-value blood pressure diastole of group elderly and individual elderly = 0.000, then Ha is accepted, and Ho is rejected, meaning there is the influence of ergonomic exercise groups and individuals against a decline blood pressure in the elderly. From the test results Independent t-test systolic blood pressure and diastole in both groups was p value 0.000. And judging from the mean, there is the difference between ergonomic exercises groups with individual shows more group ergonomic exercises effective.
Richi Da Silva, Roni Yuliwar, Novita Dewi /	Tera Gymnastics has	Research design	After conducting the research, the results were obtained

<p>2018[10]</p>	<p>many benefits, wrong one of each the movement has health benefits Physical and mental. Period Elderly is a period range cover Someone's life. Physical decline occurs and psychologically Gradually. Research purposes This is knowing relationship between gymnastics tera with quality and quantity sleeping elderly woman.</p>	<p>using research <i>descriptive correlation</i>. Approach <i>cases controls that concerns</i> what are the risk factors studied with using approach <i>Retrospective</i>. Population in this study, there were 134 seniors with 50 seniors on tera di gymnastics group Gajayana Stadium, Malang and 84 elderly people at Posyandu Permadi RW 02 Dinoyo Tlogomas Village Malang. Sample pada This study consisted of 30 people. With division do tera exercises 15 people and those who don't do tera exercises 15 person.</p>	<p>chi-square test found $p = 0.000 < \alpha = 0.05$, then H_0 is rejected so it can be It is said that there is a relationship between quantities sleep with tera exercises. Analysis results shows that there are differences significant between quality and quantity values sleeping after the elderly woman who did tera gymnastics and elderly women who do not do tera exercises.</p>
<p>Yunita Malo, Nial Lukita Ariani, Dudella Desnani Firman Yasin / 2019 / [11]</p>	<p>Joint pain is marked by its existence / swelling of the joints, there is redness, it feels hot, screaming cause it to happen disruption to the system Motion. In this condition The elderly are often disturbed, if more joints who is attacked. Gymnastics Ergonomics is wrong one effort for Reduce joint pain</p>	<p>Research design using pre-design experiment with one pre-test and post-test groups design. Retrieval technique sample in this study is simple random sampling.</p>	<p>Data analysis method in this research namely the Marginal Homogeneity Test statistical test ($p \leq 0.05$). The research results prove it that joint pain before doing exercise ergonomics are mostly included severe uncontrolled pain scale category as many as 29 people (64.4%). Joint pain after conducting namergonomics Most fall into categories 32 people (71.1%) had no pain. Results Marginal Homogeneity Test statistical test obtained a significant value of 0.000 (p Value ≤ 0.05) which means there is an influence Ergonomic exercises on joint pain scale in elderly women.</p>
<p>Susilo Rini, Fauziah Hanum NA / 2016 / [12]</p>	<p>During perimenopause, hormone progesterone and estrogen is still high, but getting lower when entering time perimenopause and Postmenopausal. Condition</p>	<p>Research design Use Quasi-experiment, with research design nonequivalent control group design. Engineering sampling use</p>	<p>Statistical test of the difference between two means Paired T-test with hypothesis testing and level of significance 95% ($\alpha = 0.05$). Research results decreased complaints of urogenital atrophy in the group the experiment is 5.78% greater than with the control group. In conclusion namely, there is a decrease in complaints</p>

	<p>this is related to the function of the ovaries continues to decline, causes hormones estrogen and progesterone reduced in the female body, so causing complaints Which are called estrogen deficiency syndrome (menopausal syndrome) is wrong the only one is a complaint atrophyurogenetica. Complaints can be dismissed with use movement exercises body is one of them using gymnastics ergonomic.</p>	<p>purposive sampling with number of samples on experimental group 23 and control group 21. Instrument for assessing effects of gymnastics therapy ergonomics is a sheet observation.</p>	<p>of atrophy urogenital in post-perimenopause mothers given ergonomic exercises.</p>
<p>Eka Nur So'emah, Agus Haryanto, Amar Akbar / 2017/[13]</p>	<p>Hypertension is a disease the most common found in society which can decrease quality of life and life-threatening. Hypertension is disease group heterogeneous as it can be influence anyone from various groups ages and various classes economics. There are two therapy for hypertension, namely pharmacological and non-pharmacological Pharmacology. One non-pharmacological therapy is doing gymnastics ergonomics. Purpose of This research is for see the effects of gymnastics ergonomics blood pressure on hypertension sufferers</p>	<p>This research method use one group pre-test - post-test design. Sampling technique that is used is purposive sampling, with hypertensive patient population and the number of samples as many as 20 in the group treatment, and 20 on appropriate control group criteria. Data collection using an ordinal scale and instruments used is a sheet observation.</p>	<p>Analysis using the Paired T-statistical test and Independent T-test SPSS 17 get a p-value of $0.00 < 0.05$. Gymnastics Ergonomics is one of the therapies effective, easy to do, and useful. Because ergonomic exercise can make it happen the body relaxes, and the blood vessels become vasodilation resulting in blood flow and supply oxygen runs smoothly.</p>
<p>TitihHuriah, Ema Waliyanti, Afiani Septina</p>	<p>Epidemiological data shows there is</p>	<p>This research method is intervention study in the form of</p>	<p>The data analysis used is the t test, Wilcoxon and Mann Whitney. The result of</p>

<p>Rahmawati, Yuliana Mzi /2018/[14] Matoka</p>	<p>increased prevalence chronic pain and muscle weakness in advanced age. Non-modality therapy pharmacology management components Very multimodal important in overcoming pain, including therapy physical activity, namely gymnastics Ergonomic. This research aims to understand the effects of therapy ergonomic exercise activities against downscaling joint pain and increased muscle strength Padalansia with degenerative joints.</p>	<p>quantitative research with Design Quasy Experiment Design, Pretest-Posttest Control Group Design. Sample on in this study, there were 50 elderly people with 17 elderly people each as intervention group and 33 elderly as a group control. Retrieval samples using the technique purposive sampling.</p>	<p>after 4 weeks of gymnastics intervention ergonomically, there is an effect of activity therapy Ergonomic exercises against scaling down degenerative joint pain in the elderly joints with a P value of 0.0001 ($\alpha < 0.05$) and increased pushing muscle strength (P value 0.0001) and increased muscle strength pull (P value 0.002). The conclusion is that There is a therapeutic effect of exercise ergonomics to reduce joint pain and increased muscle strength with age progresses to degenerative joints.</p>
<p>Indrajeet Singh Gambhir, Sankha Shubhra Chakrabarti, MBBS, AmitRaj Sharma, Dharam Prakash Saran /2014 /[15]</p>	<p>Elderly population in India grow quickly due to increased standards general medical care, more relationships between sleep and health. Identify insomnia lead to enhancement chronic disease management age-related and quality improvement elderly life. This research aim to see elderlyIndia north, in connection with insomnia and to find correlation between insomnia and characteristics such as type gender, education, job, and place stay.</p>	<p>This research is observational use Chi-square test, with using a questionnaire standard on 304 men and 200 male elderly Indian patients who came to the clinic geriatrics at Sir Hospital Sunderlal at India Institute Medical science, Banaras Hindu University, to learn prevalence and nature insomnia in the population This. The average age of the group study was 66.47 (± 6.855) year. Distribution of insomnia in various groups (based on gender, work, residence, use of forming agents habits, depression)</p>	<p>Statistically significant, namely increased age and insomnia ($p \frac{1}{4} 0.035$) but there is no gender difference significant ($p \frac{1}{4} 0.173$). Early insomnia found to be a pattern of insomnia most commonly identified (39% of the total affected). Most cases were chronic insomnia (89.45%) and related with multiple comorbidities (100%). Cardiovascular disease is a comorbidity the most common (27.3% of patients with insomnia). Furthermore, positive correlation and Statistically significant was found between insomnia and place of residence ($p \frac{1}{4} 0.034$), habit-forming substance use ($p \frac{1}{4} 0.045$) and depression ($p < 0.001$)</p>
<p>Muhammad Azwan Azri, Akehsan Dahlan,</p>	<p>Objectives of research this is to identify</p>	<p>This research method is cross-sectional study with</p>	<p>The sample consisted of 185 men and 146 men Woman. Age between 60-97 years. 189</p>

<p>Mohamad Ghazali Masuri, Khairil Anuar Md Isa / 2016 / [16]</p>	<p>sleep quality and factors factor affecting sleep quality in people old at the Institution.</p>	<p>use strategy convenience sampling of 8 flyover agency funded by the government Malaysia. The participants are 331 elderly aged 60 years to the top.</p>	<p>respondents aged between 60-69 years with a median age of 64.00 and IQR of 60.00-66.00. In the normal group, there were 74 people with a median of 65 years and IQR 62.00-70.00. On group disorders neurocognitive, there were 64 people with median 67 years and IQR 63.00-74.00. The dementia group contained 193 people with a median of 70 years with an IQR of 63.50-77.00 years Sleep Quality Index Score Pittsburgh (PSQI) ranges from 0 to 16 with a median score of 6.00 (IQR 3.00-7.00). A score above five indicates quality bad sleep. The conclusion is from all three groups got the same score namely 6.00 means having quality sleep bad.</p>
<p>Nurzaharah Bint Sajin, Akehsan Dahlan, Syamsul Anwar Sultan Ibrahim / 2016 / [17]</p>	<p>Activities can health through biopsychosocial mechanisms complex and interconnected Relate to balance rhythm life. This research aims to identify benefits of activities and time influencing leisure quality of life among Malay parents institution.</p>	<p>Time free influence Research methods research is cross-sectional longitudinal. This approach is for explore it fully participant perspective and develop idiographic understanding about life experiences participants have perspective and insight in-depth about the material lesson</p>	<p>This Various factors for parents to interpret pleasure and happiness them by doing leisure activities, recreational activities and social activities</p>
<p>Daniela Bragantini, Borge Sivertsen, Philip Gehrman, Stian Lydersen, Ismail Cuneyt Guzely/2019/[18]</p>	<p>The aim of this study to compare your level of anxiety between individuals experiencing symptoms different insomnia.</p>	<p>The design of this research is case-control study. This research is Study Nord Health-Trondelag (HUNT studies, Norway) which includes data from 3 cohorts. Sample totaling 7933 people, with 4317 insomnia and 3616 control. How to The measurement is symptoms anxiety assessed using scale Anxiety and Depression</p>	<p>The level of anxiety is more significant in insomnia (M=2.5, SD=2.4) compared with controls (5.5, SD =3.7, Pb.001). Anxiety levels also vary drastically significance between various insomnia symptoms (Pb.001). Participants reported all 3 symptoms insomnia had the highest anxiety score (M=6.8, SD=4.3)</p>

		Hospital, meanwhile insomnia symptoms were assessed according to the Manual Core Diagnostics and Statistics Mental Disorders, Edition Fourth, nocturnal symptoms. Anxiety level 4,317 individuals reported at least 1 symptom insomnia compared with 3616 controls reported no symptoms.
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3.2 Discussions

From the literature review, information was obtained that there are many benefits of ergonomic exercise for the health of the menopause elderly. The benefits are that ergonomic exercise can reduce the occurrence of insomnia in the menopause elderly, can reduce anxiety levels in the menopause elderly, and can suppress the occurrence of hypertension in the elderly.

Ergonomic exercises aim to restore the position and flexibility of the nervous system and blood flow. Ergonomic exercise is able to maximize oxygen supply to the brain, is able to maintain the body's freshness system and the system for removing negative energy from the body. Ergonomic exercise consists of movements that resemble prayer movements, so that elderly people can easily apply these exercise movements[19].

According to Thoussan, relaxation exercises combined with controlled breathing exercises and a series of contractions and relaxations of muscle groups can stimulate both physical and psychological relaxation responses. This response is due to the stimulation of the activity of the autonomic nervous system parasympathetic nucleira fe which is located in the lower half of the pons and in the medulla, resulting in a decrease in body metabolism, pulse rate, blood pressure and respiratory frequency and an increase in serotonin secretion making it easier to fall asleep [20].

According to research conducted by Eka, et al, it is stated that ergonomic exercise is a therapy that is effective, easy to do and useful. Because ergonomic exercises can relax the body and vasodilate blood vessels so that blood flow and oxygen supply become smooth, thereby reducing hypertension in the elderly[13].

4. Conclusions

Ergonomic exercise provides many benefits for the elderly and it is hoped that all elderly people can do this exercise according to the instructions that have been set. It is hoped that there will be further research regarding the benefits of ergonomic exercise in the menopause elderly.

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