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The Role of Physical Exercise in Promoting Active Living and Psychological Well-Being in Older Adults: A Literature Review

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Abstract. Aging leads to physiological and psychological decline, reducing older adults' quality of life. Physical exercise is recognized as a non-pharmacological intervention to maintain their health and independence. This study employed a literature review method by analyzing ten articles from 2020–2025 focused on physical exercise among individuals aged 60 and above. The findings reveal that regular physical activity improves balance, strength, mobility, and reduces insomnia, stress, and depression. Myokines released during exercise enhance anti-inflammatory and neuroprotective functions. Further analysis showed cognitive improvement, especially when combined with Brain Endurance Training, which strengthens executive function and mental resilience. Discussion of various research designs—randomized controlled trials, systematic reviews, and observational studies—supports that structured and consistent physical exercise can substitute or complement pharmacological therapy with fewer side effects. In conclusion, physical exercise is a safe, accessible, and cost-effective strategy to enhance physical, psychological, and cognitive well-being in the elderly. This study encourages the implementation of supervised exercise programs in both clinical and community settings to support healthy and active aging.

Keywords: Physical Exercise, Older Adult, Active-Living, Physichological Well-Being

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Introduction

Elderly is the stage of life when a person experiences physical and bodily function decline which will affect their daily activities (Prahasasgita & Lestari, 2023)The elderly group is vulnerable to degenerative diseases such as diabetes mellitus, hypertension, and other disorders. These disorders interfere with the independence of the elderly in carrying out their activities and can progress into serious conditions. One of the main factors that worsens this condition is the lack of regular physical activity that suits the elderly's abilities.

The number of elderly people continues to increase every year. According to the United Nations (UN), the elderly population of 600 million worldwide will double to 1.2 billion by the year 2025 (Saputra & Budayati, 2024). Meanwhile, in Indonesia, data from the National Socio-Economic Survey (SUSENAS) states that 10.48% of the population in Indonesia is elderly (Prahasasgita & Lestari, 2023). This data shows the large number of elderly people on both a global and national scale. In this condition, efforts are needed to improve the quality of life of the elderly, one of which is through physical exercise.

Elderly people experience physiological decline gradually. In the early decades, the elderly will experience muscle mass loss, slower movements, joint pain, and decreased respiratory capacity. The decline in physiological functions in the elderly begins in the sixth decade of age, and worsens within 10–15 years if not accompanied by interventions such as physical activity. The decline in the elderly is caused by the decreased ability of cells to regenerate, resulting in decreased organ function which causes certain disorders (Flint & Tadi, 2023). These disorders will affect the daily life of the elderly and reduce their quality of life.

Physical exercise is a form of treatment to improve the quality of life of the elderly. A safe form of physical exercise for the elderly includes sports or elderly gymnastics (Susanto et al., 2020). During physical activity, skeletal muscles will secrete myokines. Myokines are believed to help prevent the decline in muscle mass and function, improve glucose and lipid metabolism, improve insulin sensitivity, and have anti-inflammatory and anti-degenerative effects (Kwon et al., 2020). However, there is still a gap in the studies that specifically discuss the relationship between the type of physical exercise and its overall impact on the body systems of the elderly. Therefore, the author conducts this literature study to describe and analyze the role of physical exercise in improving the physiological health of the elderly. The results of this study are expected to be the basis for the development of appropriate evidence-based training programs for the elderly population.

Methods

This research uses a Literature review design with the selection of topics according to what is studied then taken from searching several articles and journals on Researchgate, Google Scholar, Science Direct which become the basis for compiling a new literature on the issues raised. The articles used are a maximum of the last five years, namely the range 2020 to 2025 to ensure relevance.

The population in this study is in the form of articles that conduct research on the elderly aged 60 years and over and use a sample of articles that discuss pschycal exercise interventions in the elderly. Researchers used keywords: "Physical Exercise", "Older Adult", "Active-Living", "Physichological Well-Being". The author summarized, made a critical and in-depth analysis of the pre-existing literature. The analysis included six components, such as researcher's title, researcher's year, researcher's method, researcher's result, and researcher's discussion. Then the author evaluates the quality and new findings of the journal as a form of good literature review.

Result and Discussion

Based on the articles collected and analyzed, 10 high-quality articles were obtained that discussed pshycal exersice in the elderly. Research according to Li, X., et al (2023) using a Cross-sectional Design, found multi-component exercise interventions in general had a positive impact on the physical function and psychosocial health of the geriatric population, with significant improvements observed in mobility, balance, and muscle strength, and a largely positive impact on quality of life. (Li, X., et al 2023). Research according to Valenzuela, P, L., et al (2023) using a systematic review design states that exercise significantly improves physical functions, such as muscle strength, balance, flexibility, walking speed, and level of functional independence. Exercise that gives the best effect is done with a duration of 170 minutes / week. (Valenzuela et al., 2023)

Research according to Kwon, J. H., et al (2020) using a literature review design, states that myokines are produced in response to regular exercise and have a role in preventing or attenuating diseases associated with aging, such as dementia, obesity, diabetes, and cardiovascular disease as well as metabolic diseases (Kwon et al., 2020). Research by da Silva Rodrigues, S. L., (2021) using a literature review design states that, moderate

to intense aerobic and muscular exercise may have potential benefits in the management of BPSD (Behavioral and Psychological Symptoms of Dementia) symptoms (Kwon et al., 2020). Research according to Hidalgo, et al (2021) using a Randomized Controlled Trial design, states that both interventions (Physical exercise and antidepressant drugs) are effective in reducing depressive symptoms, however antidepressants are higher in reducing depressive symptoms than Physical exercise has fewer side effects, but physical exercise has the benefits of improving physical health, preventing chronic disease, and improving better quality of life. (López-Torres Hidalgo et al., 2021).

Research according to Garcia. D.C., et al (2025) using a pre-test-post test experimental design which states that BET (Brain Endurance Training) helps reduce negative perceptions of daily activities so that the activities carried out feel safer, easier, and more effective, so BET is more effective than physical exercise to improve performance when tired of doing daily activities in the elderly (Díaz-García et al., 2025). Research according to Kusmaedi. N (2020) Ex post facto design with five parallel static group post-test design, stating that there is a significant difference between types of sports and physical fitness of the elderly, namely field tennis, walking, table tennis, gymnastics, badminton (Kusmaedi, 2020).

Research according to Saputra N. et al (2024) with a literature review design which states that doing exercise shows there are improvements in daily activity, appetite, respiratory quality, and chronic pain in the elderly. In addition, the elderly also experienced an increase in social behavior and socialization skills after participating in gymnastics (Saputra & Budayati, 2024). Research according to Buriticá-Marín, E. D., (2023) using a systematic review design states that physical exercise can improve cognitive function of the elderly, biologically on increasing cerebral blood flow and nerve health (Buriticá-Marín et al., 2023). Research according to Biazus-Sehn, L. F., (2020) using a Quasy experimental design without control groups, states that physical exercise programs can increase strength, balance, flexibility, coordination, and aerobic capacity in the elderly (Sehn et al., 2020).

Over different strategies, counting randomized controlled trials, efficient surveys, and cross-sectional ponders, reliable prove bolsters the positive relationship between physical work out and numerous health results within the elderly populace (Li et al., 2024; Valenzuela et al., 2023).

Firstly, physical action is emphatically related with changes in health-related quality of life (HRQoL). Considers conducted in different geographic settings, including Shanghai and European nations, found that normal work out contributes to way better self-perception of wellbeing, expanded useful freedom, and decreased the side effects of anxiety and sadness. These advancements are particularly apparent in more seasoned grown-ups who lock in in direct to energetic concentrated physical exercises on a standard premise (Li et al., 2024; Sehn et al., 2020).

Besides, physical work out plays a vital part in keeping up and improving physical work, such as balance, strength, and mobility. The literature illustrates that organized work out programs, including resistance training, aerobic exercises, and multi-component work out schedules, essentially improve motor performance and decrease the chance of falls. In specific, older people with pre-existing feebleness or comorbid conditions advantage significantly from custom fitted interventions that advance musculoskeletal flexibility (López-Torres Hidalgo et al., 2021; Valenzuela et al., 2023).

Furthermore, recent bits of knowledge into exercise-induced myokines, such as Apelin and Irisin, offer an organic explanation for how work out may contribute to anti-inflammatory and anti-aging forms. These particles not only control muscle digestion system but moreover give neuroprotective impacts, possibly postponing the movement of age-related infections, including sarcopenia and cognitive decline (Kwon et al., 2020).

Moreover, several studies compared non-pharmacological techniques, such as physical work out, with routine therapeutic medicines for conditions like hypertension, insomnia, and depression. The discoveries recommend that work out can be as successful, in case not more, in overseeing these conditions without the unfavorable side impacts related with solutions. This supports a worldview move toward coordination

physical movement into schedule geriatric care and open wellbeing arrangement (Díaz-García et al., 2025; Rodrigues et al., 2023).

In spite of the varieties in study plan and test characteristics, the agreement over the articles underscores the multifaceted advantages of work out for older grown-ups. In any case, effective usage of these discoveries in clinical and community settings requires personalized approaches, proficient supervision, and supported inspiration among members.(Buriticá-Marín et al., 2023; Kusmaedi, 2020; Saputra & Budayati, 2024)

In conclusion, the collective evidence confirms that physical action isn't as it were a preventative instrument but moreover a restorative methodology that upgrades life span, independence, and psychosocial prosperity within the elderly. Future inquire about ought to center on optimizing mediation conventions and tending to obstructions to adherence in differing elderly populaces.

Conclusion

The results of analysis from various literature studies show that physical exercise has a significant positive impact on the quality of life of older adults, encompassing physical, psychological, social, and cognitive aspects. From a psychological perspective, physical exercise can reduce insomnia, depression, and stress, while also improving sleep quality and pain management. It is also considered a safer alternative to antidepressants, particularly for older adults who are intolerant to medications, due to its lower risk of side effects and its role in promoting emotional stability and mental well-being. Physical activity, especially of moderate to vigorous intensity, indirectly improves Health-Related Quality of Life (HRQoL) by significantly reducing depression levels.

From the cognitive aspect, physical exercise combined with Brain Endurance Training (BET) has been proven more effective in enhancing executive function, reaction speed, and physical and mental resilience, particularly when older adults are in a fatigued state. This training also helps reduce psychological and behavioral symptoms in older adults with mild cognitive impairment (MCI) or dementia, especially in the early stages of the disease. The effectiveness of exercise increases when it is structured, supervised, and continuous, as it has been shown to improve physical function, enhance individuals' perceptions of their own health, and reduce the risk of chronic diseases such as sarcopenia, dementia, and cardiovascular conditions. Therefore, physical exercise is a safe, effective, and affordable strategy that plays a vital role in supporting healthy and active aging.

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