



Strategies for Promoting Physical Activity in Older Adults: A Scoping Review

*Sri Suwarni^{1,2}, Agus Kristiyanto³, Sapja Anantanyu⁴, Anik Lestari⁵, Saifudin Zuhri²

¹ Doctoral Program in Development Extension/Community Empowerment Studies, Sebelas Maret University, Surakarta, Indonesia

² Surakarta Health Polytechnic, Surakarta, Indonesia

³ Faculty of Sports Science, Sebelas Maret University, Surakarta, Indonesia

⁴ Faculty of Agriculture, Sebelas Maret University, Surakarta, Indonesia

⁵ Faculty of Medicine, Sebelas Maret University, Surakarta, Indonesia

srisuwarni@student.uns.ac.id

Abstract. Background: Active physical activity provides benefits for health, especially for the elderly, but there are still many older adults who do not utilize their body's ability to do physical activity. Increasing age causes the elderly to experience a decrease in functional ability so this condition becomes one of the factors in reducing their physical activity. The World Health Organization (WHO) states that the elderly are the least physically active so they are vulnerable to non-communicable diseases. According to global statistics, only 48% of the elderly meet WHO recommendations for active physical activity. This study aimed to identify the various efforts and literature coverage of previous research on physical activity promotion strategies for the elderly. Methods: Scope review by searching for articles with the theme of physical activity promotion for the elderly from four online databases namely Scopus, Pub-med, Springer-link, and Science Direct published from 2020 to 2024. Inclusion criteria included healthy community-dwelling older adults aged 60 years and above, randomized controlled trials (RCTs) from quantitative studies, significant results, and open-access articles in English. Thematic analysis was used to summarize the results. A scoping review was conducted using the PRISMA flow chart method. Results: 559 articles were identified from the online search. Most of the articles addressed the promotion of condition-specific physical activity, subjects' age was less than 60 years, or non-RCT methods were used. Four articles met the inclusion criteria and were included in the research scoop. One article related to physical activity promotion for older adults by comparing the results of physical activity interventions with successful aging education, using multimodal, and two articles compared direct and Web-based interventions. Conclusions: Physical activity promotion strategies for older adults are effective by providing a variety of individual or combined interventions that are easy to understand, and sustainable followed by monitoring and evaluation, mentorship, cost-effective and community-based, and intervention delivery techniques that are carried out directly together in a group. Strategies using the interactive web and live modalities or recorded and individual modalities are acceptable to improve elderly physical activity.

Keywords: Physical activity, Promotion strategies, Older adults, Scoping review.

1 Introduction

Physical activity is an activity that involves the body's musculoskeletal system. Physical activity is an effective way to maintain and improve the health status of the elderly [1]. The decline in organ function experienced by the elderly due to age will be increasingly progressive [1], so it is necessary to take control measures to reduce dependence rates. The decline in ability due to age has an impact on the elderly to be physically inactive. The facilities available to fulfill the needs of life and the culture of respect and devotion of children to parents so that they tend to “pamper” the elderly in physical activities are obstacles for the elderly to maximize their ability to be physically active. This will have a physical impact on the functional abilities and the endurance of the elderly will decrease. Degenerative progressivity and complaints of various non-communicable diseases in the elderly increase.

Based on existing facts, routine physical activity is very important [2] to improve the physical, cognitive, and functional health status of the elderly and reduce the risk of frailty [3]. Various active physical activities can be done according to the ability of the elderly to maintain their health and body performance, such as doing morning walks, cycling, gymnastics, swimming, animal husbandry, gardening, and cooking regularly and regularly. World Health Organization (WHO) data shows that nearly 31% of the world's adults are physically inactive [4]. The global target set to reduce the level of physical inactivity is 10% by 2025 and 15% by 2030 (base figure in 2010) [5]. Efforts to activate the elderly in physical activity have the support of the international world marked by the launch of the WHO action plan on June 4, 2018, in Lisbon Portugal with the WHO Global Action Plan on Physical Activity and Health 2018-2030: More active people for a healthier world. This program contains guidelines and steps that countries can take to reduce sedentary rates [4]. WHO supports the implementation of the action plan by campaigning for advocacy to promote physical activity with the Global Action Plan on Physical Activity 2018 - 2030 and the slogan Let's Be Active: Everyone, Everywhere, Every day [6].

Regular physical activity will prevent and control non-communicable diseases (NCDs) [7] such as heart disease, stroke, diabetes, breast cancer, and colon cancer. In addition to the physical impact, active physical activity also affects psychological health conditions such as reducing depression and maintaining one's cognitive abilities [4]. The importance of being physically active means that promotional efforts for the elderly to increase their participation actively and independently need to be carried out. Elderly participation in active physical activity has a good impact on the elderly in living their old age, and family can even provide opportunities for economic activity. This will further increase the self-efficacy of the elderly for themselves and society because of their role [1]. The right promotional strategy to increase the participation of active elderly in physical activity will shape the character of the elderly [8] towards independence in various sides of living life and successfully becoming a demographic bonus for the country. However, many factors influence the elderly to be inactive [1; 9].

Health education interventions are most successful in helping older adults increase and maintain high levels of physical activity. Some effective strategies that have been utilized include health counseling [13], self-efficacy and self-regulation strategies [14], booklets [15], physical activity workshops [20], and the use of activity monitors [12].

The strategy of providing combined or combined interventions is likely to be more effective than individualized for increasing the physical activity of older adults.

2 Methods

2.1. Research design

In this article, the method used in the systematic review is Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).

This study is a systematic review by searching for articles in 4 databases namely Scopus, Springer-link, Pub-med, and Science Direct, by entering the following keywords: “promotion of active physical activity for the elderly OR efforts to increase physical activity of the elderly OR health promotion model of physical activity of the elderly OR health promotion model to increase physical activity of the elderly”.

2.2. Inclusion criteria

Inclusion criteria for this study included healthy community-dwelling older adults aged 60 years or older, randomized controlled trials (RCTs) from quantitative studies, significant results, and open-access articles in English.

2.3. Exclusion criteria

Exclusion criteria in this study were incomplete articles and articles published in languages other than English.

2.4. Data Extraction

The researcher extracted information from six articles. The materials presented were: title, author, year, sample size, intervention promoted, and study results.

2.5. Data synthesis

Thematic analysis was used to summarize the results.

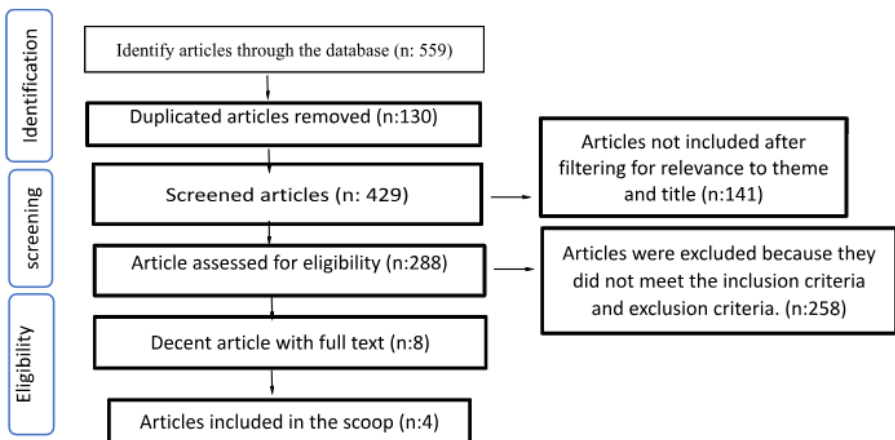


Figure 1 Prism Flowchart

3 **Results and Discussions**

The process of searching and selecting articles to be synthesized and processed for review using the PRISMA flow chart is presented in Figure 1. The initial search process resulted in 559 articles. Then removing duplicated and deleted articles (n: 130) was carried out so that 429 articles remained. After checking the relevance of the theme and title there are 288 articles. The next step was to filter according to the inclusion and exclusion criteria resulting in four articles in this scoping review.

3.1 **Results**

Charateristics od The Study Data

Table 1. Summary of articles on physical activity promotion for older adults

Please note that the first paragraph of a section or subsection is not indented. The first paragraphs that follows a table, figure, equation etc.

Interpretation of results

Sustainable Development Goals (SDGs) are a United Nations (UN) agenda proposed by various countries on 25 September 2015 with the ultimate goal of ending poverty, protecting the planet Earth and ensuring prosperity for all mankind. SDGs is a replacement agenda for the Millennium Development Goals (MDGs) which will run from 2015-2030. It contains 17 goals with 169 measurable achievements. These 17 goals are expected to be achieved by 2030. Sustainable Development Goals (SDG's) are a set of development goals designed to protect financial security and related living standards in society, including education. Sustainable Development Goals (SDG's) can be influenced by education. The goals of this SDG program can be achieved through education; The growth of education in Indonesia supports the achievement of 17 SDGs goals, including the formation of a nation with adequate and high-quality education [3].

3.2 **Discussions**

Efforts to promote increased physical activity use media in health promotion, including WEB media [16; 18], recordings [16], and hard file materials distributed to the elderly or delivered directly. Various models and strategies can be used to promote physical activity to the elderly. Interventions can take the form of physical activity, consultation, incorporating role-play and talk-in-interaction and focusing on 3 key skills: coping, control beliefs, and manageability web-based sessions [18], multimodal intervention combining evidence-based strategies of physical activity (PA) education, and coaching [19], which can be done in person or through online media such as the web. Sharing knowledge and motivation about the benefits and risks of doing physical activity in the intervention to ensure the commitment of the elderly to remain physically active. Monitoring and evaluation affect the commitment and continuity of physical activity implementation of the elderly, especially if there are incentives or prizes. Motivation will also increase if there are facilities that make it easy to access, and build a community for implementing physical activity in the elderly together.

4 Conclusions

The WHO Global Action Plan on Physical Activity recommends policies that promote physical activity for countries and communities and ensure that everyone has more opportunities to engage in regular physical activity. Recommendations include policies to access walking, cycling, and non-motorized transport; that increase opportunities for physical activity in schools, workplaces, childcare centers, and health care delivery; and increase the accessibility and availability of community sports and public open spaces [4]. In Indonesia, the government promotes Healthy Living Community Movement (GERMAS) activities to instill a culture of healthy living and leave unhealthy habits including steps to do physical activity. The benefits of doing physical activity for the elderly are reducing the risk of death from any cause, the risk of death from cardiovascular disease, hypertension, site-specific cancer, type-2 diabetes, and falls, and improving mental health, cognitive health, sleep, and body fat measurements [4]. However, several factors influence the elderly sedentary lifestyle, including the deterioration of functional abilities, complaints or diseases that are felt and interfere with physical activity, and facilitations that make it easier to fulfill life needs without having to move a lot. The efforts to promote physical activity for the elderly are important to do with the support of policymakers, families, health workers, and the local social environment.

Various ways, methods, strategies, duration, and intensity can be done and developed to promote physical activity in the elderly. The four articles included in this research show, that all the interventions provided are acceptable and significant in increasing the activeness of the elderly to do physical activity. The level of success can be influenced by intervention materials that are easy to understand, continuity in monitoring and evaluating interventions, mentorship, and intervention delivery techniques that are carried out directly and together, or many people will further motivate the activeness of the elderly. The intervention can be individual or combined.

Many efforts have been made to increase the activeness of the elderly in physical activity, including in the form of appeals, declarations, and implementation of activities, facilitation, and counseling from policymakers to the community on the importance of doing physical activity for the elderly [10]. In addition, it is also important to conduct research and analysis on influential factors, and the benefits felt by the elderly after being active in physical activity [11]. Strategies, materials, and monitoring [12] evaluating the provision of interventions have a significant impact on increasing the active participation of the elderly in physical activity.

Acknowledgments. This research was supported by the Ministry of Health of the Republic of Indonesia as a donor of funds.

References

1. [1] McPhee, J. S., French, D. P., Jackson, D., Nazroo, J., Pendleton, N., & Degens, H. (2016). Physical activity in older age: perspectives for healthy aging and frailty. *Biogerontology*, 17, 567-580.
2. [2] Task Force on Community Preventive Services. (2002). Recommendations to increase physical activity in communities. *American journal of preventive medicine*, 22(4), 67-72.
3. [3] Dohrn, I. M., Gardiner, P. A., Winkler, E., & Welmer, A. K. (2020). Device-measured sedentary behavior and physical activity in older adults differ by demographic and health-related factors. *European Review of Aging and Physical Activity*, 17, 1-11.
4. [4] WHO (2024). Physical activity; diakses 15 Oktober 2024; [https://www.who.int/news-room/fact-sheets/detail/physical-activity#:~:text=Levels%20of%20physical%20inactivity%20globally&text=A%20recent%20study%20\(1\)%20found,intensity%20physical%20activity%20per%20week](https://www.who.int/news-room/fact-sheets/detail/physical-activity#:~:text=Levels%20of%20physical%20inactivity%20globally&text=A%20recent%20study%20(1)%20found,intensity%20physical%20activity%20per%20week).
5. [5] Pramanik P (2024); Global physical inactivity rises, challenging 2030 reduction targets; diakses 16 oktober 2024; <https://www.news-medical.net/news/20240627/Global-physical-inactivity-rises-challenging-2030-reduction-targets.aspx>
6. [6] WHO; Global Action Plan On Physical Activity 2018-2030
7. [7] Piercy, K. L., Troiano, R. P., Ballard, R. M., Carlson, S. A., Fulton, J. E., Galuska, D. A., ... & Olson, R. D. (2018). The physical activity guidelines for Americans. *Jama*, 320(19), 2020-2028.
8. [8] Task Force on Community Preventive Services. (2002). Recommendations to increase physical activity in communities. *American journal of preventive medicine*, 22(4), 67-72.
9. [9] Ageuk; one step at a time; diakses 29 oktober 2024 dari www.lotterygoodcauses.org.uk
10. [10] Manini, T. M., & Pahor, M. (2009). Physical activity and maintaining physical function in older adults. *British journal of sports medicine*, 43(1), 28-31.
11. [11] Fox, K. R., Stathi, A., McKenna, J., & Davis, M. G. (2007). Physical activity and mental well-being in older people participating in the Better Ageing Project. *European journal of applied physiology*, 100, 591-602.
12. Mendoza L, Horta P, Espinoza J, Aguilera M, Balmaceda N, Castro A, Ruiz M, Díaz O, & Hopkinson NS (2015). Pedometers to enhance physical activity in COPD: a randomized controlled trial |. *Eur Respir J*, 45, 347-354. 10.1183/09031936.00084514
13. Morey MC, Ekelund C, Pearson M, Crowley G, Peterson M, Sloane R, Pieper C, McConnell E, & Bosworth H (2006). Project LIFE: A partnership to increase physical activity in elders with multiple chronic illnesses. *Journal of Aging and Physical Activity*, 14(3), 324-343. 10.1123/japa.14.3.324
14. Stathi A, Withall J, Thompson JL, Davis MG, Gray S, De Koning J, Parkhurst G, Lloyd L, Greaves C, Laventure R, & Fox KR (2020). Feasibility Trial Evaluation of a Peer Volunteering Active Aging Intervention: ACE (Active, Connected, Engaged). *The Gerontologist*, 60(3), 571-582. 10.1093/geront/gnz003
15. Shields CA, Fowles JR, Dunbar P, Barron B, McQuaid S, & Dillman CJ (2013). Increasing Diabetes Educators' Confidence in Physical Activity and Exercise Counselling: The Effectiveness of the "Physical Activity and Exercise Toolkit" Training Intervention. *Canadian Journal of Diabetes*, 37(6), 381-387. 10.1016/j.cjcd.2013.08.265
16. Granet, J., Peyrusqué, E., Ruiz, F., Buckinx, F., Abdelkader, L. B., Dang-Vu, T. T., ... & Aubertin-Leheudre, M. (2023). Web-based physical activity interventions are feasible and beneficial solutions to prevent physical and mental health declines in community-dwelling older adults during isolation periods. *The Journals of Gerontology: Series A*, 78(3), 535-544.

17. Newton Jr, R. L., Beyl, R., Hebert, C., Harris, M., Carter, L., Gahan, W., & Carmichael, O. (2022). A physical activity intervention in older African Americans: the PAACE pilot randomized controlled trial. *Medicine and science in sports and exercise*, 54(10), 1625.
18. Wu, Y. C., Shen, S. F., Chen, L. K., & Tung, H. H. (2024). A Web-Based Resilience-Enhancing Program to Improve Resilience, Physical Activity, and Well-being in Geriatric Population: Randomized Controlled Trial. *Journal of Medical Internet Research*, 26, e53450.
19. Cabral, D. F., Santos, V. S., Pereira, O. T., Silva, M. J., Pascual-Leone, A., Rundek, T., ... & Gomes-Osman, J. (2021). Feasibility and preliminary efficacy of a multimodal approach to increase physical activity in older adults with memory complaints: the education for action study. *Journal of aging and physical activity*, 30(2), 204-216.
20. Groessl EJ, Kaplan RM, Castro Sweet CM, Church T, Espeland MA, Gill TM, Glynn NW, King AC, Kritchevsky S, Manini T, Rushing J, & Pahor M (2016). Cost-effectiveness of the LIFE Physical Activity Intervention for Older Adults at Increased Risk for Mobility Disability. *Journals of Gerontology - Series A Biological Sciences and Medical Sciences*, 71(5), 656–662. 10.1093/gerona/glw001

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

