

Proposing Development of Community-based Physical Activity Park for Elderly Population of Pakistan

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ABSTRACT

Physical inactivity is known to be as performing less than 150 minutes of moderate- to vigorous-intensity physical activity per week. It poses a substantial risk for not only non-communicable, chronic diseases such as stroke, diabetes etc. but also contributes to the global mortality. Evidence suggests that the usual urban green environment is sturdily related to several health paybacks to the elderly population, which includes not only decreased cardiovascular mortality, Type 2 Diabetes risk, but overall improved physical, emotional, and mental health. It also invokes physical activity for community involvement, natural green curative sensory effect, spiritual boost, and leisure recreation to the elderly. Additionally, parks serve to perform activities like exercise, gardening, brisk walk or simply meditation in the natural environment. Unfortunately, in Pakistan, the urban green spaces like parks are scarce. Most people do not have access to well-designed parks. People over the age of 50 and above seem to be most affected by this deficiency. There is a need for specially designed parks that can address the challenges faced by elderly people while exercising. This study summarises the available evidence for designing special open area space in parks for the elderly population across Pakistan and highlights the need for further work to alleviate the global sickness of physical sedentariness among the elderly.

Key Words: Older adults, Parks, Physical activity, Physical inactivity.

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Physical inactivity is one of the leading causes of disability and poor health outcomes in the older adults. It is related to approximately 3 million deaths per year resulting from 6-10% of major non-communicable diseases like stroke, diabetes, etc.¹ The recent prevalence of physical inactivity is reported up to 80% in Pakistan according to WHO Pakistan country profile statistics.² This staggering number is attributed to COVID-19 pandemic and the lockdown measures. Subsequently, a considerable number of elderly became even more physically inactive and reported sedentary behaviours for approximately ≥ 8 hours (h) in a day.³

The recent evidence has reported overall beneficial effects of walking for the elderly.⁴ According to Centres for Disease Control and Prevention (CDC), at least "150 minutes of moderate-intensity aerobic activity or 75 minutes of vigorous-intensity aerobic activity and two or more days of muscle-strengthening activities per week is recommended."⁵

Furthermore, some studies have also emphasised the need to visit urban green spaces to stimulate health by offering space for physical activity, stress relief, and social interaction among elderly. It also provides nature-based solutions to reduce negative impacts of sedentary lifestyle due to urbanisation and pandemic related challenges for physical activity.⁵

Parks are open green areas that offer leisure activities, serve spaces for social interactions, and provide extraordinary relief to the elderly residents of the community. They are particularly advantageous for those who might be at risk of social isolation and certain non-communicable diseases like stroke, diabetes, etc. A specially designed area for elderly in parks can remarkably reduce not only the frequency of being socially isolated but will run prospects for positive-interactive interface of attachment with the natural environment. Therefore, WHO has listed social participation and outdoor spaces like parks and open spaces as mandatory, especially for the elderly. Indeed, parks can pose as an explicit setting where senior citizens can interact with the other elderly, work out, visit with their families, or get along with their grandchildren, too.⁶

Therefore, park prescription for the elderly will serve as a unique approach to promote to spending time in nature and exercising for better health and well-being. This is why, several park prescription trials have been conducted which were found to produce beneficial effects not only on the quality of life for the elderly but to also improve psychological and cardio-metabolic outcomes.⁷ Optimum design strategies for outdoor

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natural spaces suitable for the elderly should be proposed based on their preferences for physical, physiological, and psychological health.⁸ Studies have suggested specifically-designed physical activity areas with average size, the site and physical activity equipment.⁹ A study observed the impact of providing free exercise outdoor and reported improved health, low depression, and alleged stress rates among the elders who walked in the natural surroundings as compared to those who did not.¹⁰

Another study suggested the preferred duration of park-based activities from 15 to 60 minutes or more for the elderly.¹¹ In addition, the recent evidences suggest that planners while planning, should critically consider different design elements accessible for the elderly, such as restrooms, drinking-water features, good signage, accessibility for wheelchairs, proper lights at night-time, umbrellas, proper walking paths, numerous resting stops, sloping trails with extra shading and less steep, and less dogged tracks for accommodating all kinds of elderly people.¹² Additionally, park placement for elders should be sensibly considered in relation to facilities often used by seniors, such as nearby mosques and public centres.¹³

Preussen Park in Germany is the first one which encourages elderly to exercise, including eight low-impact exercise machines (flexibility machines, leg trainers, and back-massage machines). These machines benefit elderly to easily perform isometric exercises allowing them to build their endurance and balance.¹⁴ Similarly, developed countries like China have a total of 32 geriatric parks with 235 exercise equipments and have greater concern about the health of their senior residents. Resources are being allotted to promote physical activity via "Elder Park," also known as "Geriatric Park" which contains exercise equipment, like a set of pedals, stairs, ramps, and turntables that can help seniors to exercise on balance beams and raised-up footpaths along with stretching muscles and developing stamina. Such exercises will help them to enhance overall coordination, balance, mobility, and strength.¹⁵

There is a dire need in Pakistan of specially-designed parks for elderly people. Pakistan should take clues from countries that have invested in improving quality of life of elderly people through park prescription. It should be tinkered according to the particular needs of the elderly population, keeping in view the weather and sociocultural elements.

It is high time to take the lead in reducing the global burden of disease by promoting physical activity and in turn, healthy ageing. Pakistan should start investing in projects related to the well-being of the elderly population. The need of the hour is to develop specially designed parks for the elderly and to educate and encourage them to incorporate at least 150 minutes of moderate-intensity aerobic activity or 75 minutes of vigorous-intensity aerobic activity and two or more days of muscle-strengthening activities per week in their daily life-routine.

COMPETING INTEREST:

The authors declared no competing interest.

AUTHORS' CONTRIBUTION:

SB, MIT, SR: Substantial contribution to the conception of the work.

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REFERENCES

- Gomes M, Figueiredo D, Teixeira L, Poveda V, Paúl C, Santos-silva A, et al. Physical inactivity among older adults across Europe based on the share database. *Age Ageing* 2017; **46**(1):71-7. doi: 10.1093/ageing/afw165.
- Physical activity Pakistan 2022 country profile. World Health Organization. <http://www.who.int/publications/m/item/physical-activity-pak-2022-country-profile>.
- Rahman ME, Islam MS, Bishwas MS, Moonajilin MS, Gozal D. Physical inactivity and sedentary behaviors in the Bangladeshi population during the COVID-19 pandemic: An online cross-sectional survey. *Heliyon* 2020; **6**(10):e05392. doi: 10.1016/j.heliyon.2020.e05392.
- Julien D, Gauvin L, Richard L, Kestens Y, Payette H. Associations between walking and depressive symptoms among older adults: Do purposes and amounts of walking matter? Results from the VoisiNuAge study. *Mental Health Physical Activity* 2015; **8**:37-43. doi.org/10.1016/j.mhpa.2015.02.001.
- Kabisch N, van den Bosch M, Laforteza R. The health benefits of nature-based solutions to urbanization challenges for children and the elderly-A systematic review. *Environ Res* 2017; **159**:362-73. doi: 10.1016/j.envres.2017.08.004.
- Muller-Riemenschneider F, Petrunoff N, Sia A, Ramiah A, Ng A, Han J, et al. Prescribing physical activity in parks to improve health and wellbeing: Protocol of the park prescription randomised controlled trial. *Int J Environ Res Public Health* 2018; **15**(6):1154. doi: 10.3390/ijerph15061154.
- Müller-Riemenschneider F, Petrunoff N, Yao J, Ng A, Sia A, Ramiah A, et al. Effectiveness of prescribing physical activity in parks to improve health and wellbeing-the park prescription randomised controlled trial. *Int J Behav Nutr Phys Act* 2020; **17**(1):1-14. doi: 10.1186/s12966-020-00941-8.
- Ma X, Tian Y, Du M, Hong B, Lin B. How to design comfortable open spaces for the elderly? Implications of their thermal perceptions in an urban park. *Sci Total Envir* 2021; **768**:144985. doi: 10.1016/j.scitotenv.2021.144985.
- Duan Y, Wagner P, Zhang R, Wulff H, Brehm W. Physical activity areas in urban parks and their use by the elderly from two cities in China and Germany. *Landscape Urban Plan* 2018; **178**:261-9.
- Marselle MR, Irvine KN, Warber SL. Examining group walks in nature and multiple aspects of well-being: A large-scale study. *Ecopsychol* 2014; **6**(3):134-47.

11. Uijtdewilligen L, Waters CNH, Aw S, Wong ML, Sia A, Ramiah A, *et al*. The park prescription study: Development of a community-based physical activity intervention for a multi-ethnic Asian population. *Plos One* 2019; **14(6)**: e0218247. doi: 10.1371/journal.pone.0218247.
12. Sykes KE, Robinson KN. Making the right moves: Promoting smart growth and active aging in communities. *J Aging Soc Policy* 2014; **26(1-2)**:166-80. doi: 10.1080/08959420.2014.854648.
13. Loukaitou-Sideris A, Brozen M, Levy-Storrs L. Placemaking for an aging population: Guidelines for senior-friendly parks. 2014.
14. Vanderbeck RM, Worth N. Intergenerational space. London: Routledge; 2015.
15. Tian P, Kim S, Wang J. Research on the elderly friendly park based on inclusive design concept. *Front Art Res* 2020; **2(6)**:56-61. doi:10.25236/FAR.2020.020610.

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