

Investigating the Role of Social Functions of Parks on Adherence to Physical Activity of Elderly People During an Epidemic Disease (COVID-19)

Amin Azimkhani¹, Habib Honari², Mutlu Türkmen³, Javad Gholamian⁴, Vahid Saatchian⁵, Reyhane Salari⁶

¹Imam Reza International University, Mashhad, Iran; ²Sports Management Department, Allameh Tabataba'i University Tehran; ³Bayburt University; Bayburt, Türkiye; ⁴Faculty of Physical Education and Sport Sciences, Ferdowsi University of Mashhad, Mashhad, Iran; ⁵ Imam Reza International University, Mashhad, Iran; ⁶Imam Reza International University, Mashhad, Iran.

Abstract

Introduction: The importance of desirable physical activity as a deterrent and risk factor for the elderly is well known. The present study was conducted to investigate the role of parks' social functions on adherence to physical activity in elderly people in Mashhad During epidemic disease (COVID-19). **Method:** This cross-sectional study was performed using a structured interview technique and a multi-part questionnaire on 100 elderly people. Sampling was done in two stages using a systematic random method. **Results:** Based on the results, it was found that there is a positive and significant relationship between the social function of parks and its components with adherence to physical activity in the elderly ($P < 0.05$) and well as 18% of adherence to physical activity changes is related to the social function of parks. **Conclusion:** The findings of this study showed that many factors are affecting physical activity in elderly people, which understanding these factors help educators and other health professionals in designing appropriate intervention programs. Maintaining regular PA during self-isolation is important for the prevention of future chronic health conditions due to a sedentary lifestyle. During crises, functional medical care and vital societal services are of the highest priority.

Keywords: Social functions, Parks, Adherence to physical activity, Elderly people, COVID-19.

Introduction

In response to the aging population in the world, the World Health Organization has developed a global strategy and action plan for aging and well-being (1). Recently, it has also redesigned health system in the elderly to emphasize the capacity of individuals and the interactions between the environment and the elderly people which has increased their physical abilities and is a vital factor in maintaining their independence

(2). Physical activity (PA) is inversely associated with risk of all-cause mortality and cardiovascular disease (CVD) events in old age. Most of what is known about this relationship is based on studies using single measures of PA. However previous studies suggest that initiation or maintenance of an active lifestyle can reduce mortality risks in old age (3). While PA in the elderly is more known for its impact on the prevention of chronic diseases, it has also been shown that it can improve other factors such as physical, psychological

and social health (4). Regular physical activity in clubs, entertainment and social places is a hopeful strategy for promoting health in old age as well (5).

Epidemic virous and PA

PA also has a major role in mental health and cognitive function because exercise has positive effects in preventing and alleviating depressive symptoms, lessening anxiety, improving learning, and is beneficial for cognitive functioning in older adults. With limited social activities due to mandated restrictions, organized sporting activities will vastly decrease during the virus outbreak. Consequently, continued PA is invaluable for maintaining good physical and mental health when tackling current challenges imposed upon us by COVID-19. Early reports on COVID-19 show that individuals of an older age with multiple comorbidities are more prone to developing severe complications following infection by COVID-19 and have an increased risk of mortality (6). According to the types of exercises with different intensities in response to the immune system. Moderate-intensity PA increases stress hormones, leading to excessive reduction in intercourse. Twenty to thirty percent reduction of upper respiratory tract infections is reported in individuals performing moderate levels of PA in their daily life. However, prolonged high intensity PA leads to immunosuppression (7). As the world struggled with Covid-19, the world of sports faced an unprecedented crisis. Sports activities that bring communities together are also closely linked to very important human health problems (8). This is because the Coronavirus epidemic is increasingly global and interdependent in almost every corner of the globe, and has the potential to go far beyond the psychological and economic limits (9-11).

Social functions of the parks

It is found that there is a stronger association between social participation and health among older people than younger ones. Social participation refers to the engagement in recreation, socialization, cultural, educational and spiritual activities and is an important feature of social capital (12). According to received

reports in 2010, 55% of adults aged 50 and over in the world do not meet the least recommended PA requirements (1). Meanwhile, the weekly sport participation among Canadian elderly people was only about 12% (2) and the monthly sport participation in the UK in the aged 65 to 74 years old and the elderly over 75 years old was 36.4% and 16.7% respectively (13). On the other hand, the environment has adequate potential to affect public health and hygiene through changing PA patterns. parks and amusement places have the potential to provide some advice related to PA by providing extensive opportunities for performing low-cost, near-home and enjoyable physical activities. Parks and gardens include facilities such as playgrounds and natural opportunities such as turf fields and walking paths, and provide many benefits such as increasing PA and improving health for individuals and the community (14). Social impacts, physical limitations, keeping up with the Joneses and competition with friends, access problems, comprehension of benefits of doing Physical activities and personal motivation and beliefs (15). Green open spaces, in addition to their environmental benefits, have the potential to increase people's physical activity levels. With apt designs, parks offer a multi-sensorial environment that stimulates and improves mental health (12).

In this regard, in order to promote the social participation of the elderly in sport places, especially parks and gardens, the need to pay attention to social functions resulting from the presence of these spaces is considered important. The elderly should be given more attention as high-risk groups during the outbreak of epidemics. As a result, the present study seeks to investigate the role of park social functions on the development of sports participation in the elderly with an emphasis on coronary heart disease.

Method

This study was conducted during the years 2020 with the aim of investigating the role of social function of parks on adherence to physical activity among the elderly people of Mashhad city (The second metropolis of Iran). The number of elderly people was 100, all of whom were physically active in the parks of Mashhad,

and none of them suffered from any acute and severe illness, and were willing to participate in this study with the knowledge of the research objectives. In this research, anyone who was at least 65 years old was considered as an elderly person. Sample size assuming that 50% of elderly people have a desirable physical activity with a strength of 80% and a difference of 5% (45% -55%) and a reliability level of 95%, 100 participants were determined. To conduct research, the consent of the Municipality Ethics Committee of Mashhad was obtained. Educated interviewers and a structured questionnaire containing different parts were used to conduct the interview and a number of questionnaires were collected by the research team to ensure the accuracy of the interviewers' performance in a completely randomized and periodic manner.

questionnaire of Social Function of Parks: This scale has 12 items that assessed the social function of parks in relation to elderly people. To assess the internal consistency of this scale, Cronbach's alpha test was used. Its alpha was 0.83. The questionnaire consisted of three components of social cohesion, social security and social pleasure, which were designed based on the Likert scale of 5 values.

Adherence to physical activity: This scale was based on the research done by Daisy Wondon et al., 2017, and had nine grades that assessed adherence to physical activity in older people. The content validity method was used to determine the validity of data collection tools. Data analysis was performed using SPSS 22 software.

Results

Based on the results, the highest age range of subjects related to ages 55 to 60 years, with 50% of samples contained, and based on marital status as 87% of those surveyed were married and also based on years of visiting the park, most frequency belonged to people who over 7 years (42%) are engaged in parks and gardens in physical activity. In the following the relationship test between social functions of parks and its components with adherence to physical activity was done.

As shown in Table 2, there is a positive and significant relationship between the social function of parks and all its components with adherence to physical activity in the elderly ($P < 0.05$), so that their correlation was reported as optimal. In the following, using regression test, we examined the prediction of the adherence variable to physical activity by the social function parameters of the parks (Table 3).

Regarding the results of Table 2, it should first be noted that the regression test should have a Watson camera test in the range of 1.5 to 2.5. According to the results, the test value was 1.69. Also, the correlation coefficient and coefficient of explanation between the scores of social function parameters of parks and adherence to physical activity have been determined. Since the correlation coefficient is equal with 46/0 and the coefficient of explanation is equal to 18, it can be said that 18% of changes in adherence Physical activity refers to the social function of parks. In the following,

Table 1. relationship test between social functions of parks and its components with adherence to physical activity

The significance level	Pearson correlation	Variable	Row
01/0	54/0	The social function of parks and adherence to physical activity	1
01/0	41/0	Social cohesion and adherence to physical activity	2
01/0	49/0	Social security and adherence to physical activity	3
01/0	47/0	Social pleasure and adherence to physical activity	4

Table 2. The result of Regression test

Significance level	Watson Camera Statistics	Error Correction Coefficient	R ² Modified	R ²	R
0/01	1/69	0/62	0/28	0/31	0/46

Table 3. Model Coefficients

	Standardized coefficients			Not standardized coefficients	
	sig	t	Beta	SE	B
Fixed	0/01	4/1		21	1/15
social solidarity	<u>0/51</u>	3/3	0/8	11	0/6
Social Security	0/02	0/02	0/7	0/99	24
Social pleasure	<u>0/09</u>	1/8	0/2	10	19

the analysis of the regression test is discussed. The results of regression test analysis are presented below.

The table above is used to write the formula of the regression equation. According to this table, the formula for calculating adherence to physical activity is as follows:

Discussion, Conclusion, Recommendations

As the world's population rapidly ages, the question of how to strengthen social security and service provision for older people has become a major concern. According to the previous studies, Moderate intensity physical activity boosts immune system and the risk of respiratory track viral infections are reduced (7). however, the development of sports activities for the elderly can not only strengthen the immune system but also increase their mobility. So due to the several possible effects of Covid 19 may include temporary suspension of large gatherings, including concerts and sports competitions, cancellation of entertainment programs and activities (16), the participation of the elderly in healthy recreational and social activities will have very good results.

The results of this study showed that there is a meaningful relationship between the social functions of parks and all its components (social solidarity, social security and social pleasure) with adherence to physical activity among elderly people. This result is consistent with the findings of the studies of Sia., Kua & Ho (12). But in the present study, it was found that a high percentage (42%) of examined cases (more than 7 years) used parks services and physical activities, which, of course, can be a good performance

of municipality organization in the construction of several desirable places in the city, which made the elderly people easy access to these places, is one of the important and influential factors in this area. Designs of public parks in the future could provide better space and opportunities for incorporating participation in the general planning and design in their local parks and neighborhoods to enhance healthy aging (17).

In this regard, it can be said that given the fact that the Iranian people are very friendly and sociable and enjoy talking with others, one of the most effective and important factors that leads to the attraction of elderly people to sporting facilities and parks is to speak with Friends, acquaintances and seniors. While many of these people spend hours spending their time in the parks daily, in addition to talking with their peers, they do sports and even with the help of some private organizations, some groups have been created that daily gather these people together and provide them with a variety of sports programs. Also, providing a secure environment in these parks and having high security for the people has led people from different ages to visit these sites and do sport and physical activities. Sasidharan et al. (17) also demonstrated that support from friends and families for increasing leisure and recreational physical activity participation is very important for older adults.

In general, the high level of social function of the parks leads to an increase in the adherence of individuals, especially the elderly people, to physical activities and continuing for many years. From this study, it can be concluded that the social functions of parks are among the variables associated with adherence to the physical activity of the elderly and have the ability to predict it. Therefore, the municipality and the parks managing organizations will enhance the integrity, security and social enjoyment of parks and provide appropriate service to the people who visit, to adhere to daily visits to these sites and to increase physical activities and leads to loyalty and commitment. The study concludes that for inner-city parks to realise their full potential in supporting social interactions and developing social ties, they need to be well-maintained and provide good recreational facilities. The development of social ties was also found to

be considerably affected by the characteristics of the individuals and the neighborhood (18).

However, the promotion of a health system in old ages places many challenges on government policies and diplomacies. In particular, it is necessary to communicate between different policy areas, including health, well-being, employment, technology, economics and other issues, in order to facilitate keeping mental and physical capacity and prevent the loss of performance in old age (19).

Social solidarity, Social Security and Social pleasure as the main factors of park functions can develop the participation of the elderly in sports activities. In addition to promoting PA, taking part in sports gives the participant a chance for psychosocial development, being part of a community, and developing a social network. With limited social activities due to mandated restrictions, organized sporting activities will vastly decrease during the virus outbreak. Consequently, continued PA is invaluable for maintaining good physical and mental health when tackling current challenges imposed upon us by COVID-19. Early reports on COVID-19 show that individuals of an older age with multiple comorbidities are more prone to developing severe complications following infection by COVID-19 and have an increased risk of mortality (6). Maintaining regular PA during self-isolation is important for the prevention of future chronic health conditions due to a sedentary lifestyle. During crises, functional medical care and vital societal services are of the highest priority. To prevent additional physical and mental distress, governments, public health authorities, and the public itself should care also for maintaining PA during the COVID-19 pandemic(6). Therefore, purposeful studies on the elderly community, which are exposed to high risk groups, can improve health and thus increase their life expectancy during the epidemic. The findings suggest a need for improvement of social factors to encourage increases in physical activity for elderly persons after disaster. These multi-tasking spaces also bring about social benefits; they provide opportunities for users of urban parks to interact with other users, and for users to become attached to the area (20). Social interaction and place attachment are

thought to contribute toward social cohesion, a collective identity and community support.

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Correspondence:

Vahid Saaatchian

Imam Reza International University, Mashhad, Iran;

Email: saatchian.vahid@gmail.com