

ORIGINAL ARTICLE

LEVEL OF PHYSICAL ACTIVITY AND ASSOCIATION WITH QUALITY OF LIFE IN OLDER ADULTS

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ABSTRACT

Introduction: Physical activity is the movement of the body that results in energy expenditure. In daily life, it can be characterized into sports, conditioning, household work, or any other activities. There is a linear relationship between physical activity and health status; therefore, increasing level of physical activity has great impact on quality of life especially in older population.

Material & Methods: A cross sectional study was conducted on a sample of 151 participants between age group of 60 to 80 years, including both male and female participants. Individuals with any mental and physical disability, history of trauma or any balance problems were excluded. Informed consent was obtained and the data was collected over a period of 6 months from January 2018 to July 2018. The International Physical Activity Questionnaire Short Form (IPAQ-SF) and Older People Quality of Life Brief Questionnaire (OPQOL-Brief) were used to determine the levels of physical activity and quality of life, respectively.

Results: Results revealed that the frequency of correspondents with low level of physical activity were 82 (54.3%), with moderate level of physical activity were 24(15.9%) and with vigorous level of physical activity were 45(29.8%). Pearson correlation coefficient R-value of 0.407 and a P value of <0.001 indicated that a moderate correlation existed between the two quantitative variables of physical activity and quality of life.

Conclusion: In conclusion, the participants with low level of physical activity were the highest in number as compared to moderate and vigorous activity. Lower levels of activity among the participants resulted in poor quality of life.

Key Words: aging, geriatrics, physical activity, quality of life, wellbeing

Authors' Declaration: The authors declared no conflict of interest and agreed to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. All authors contributed substantially to the planning of research, question designing, data collection, data analysis and write-up of the article.

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This article may be cited as: Fatima SR, Tahir DS, Mustafa M, Akram MJ, Kumar M, Karim S, Mehreen Z, Mufti R. Level of physical activity and association with quality of life in older adults. *Rehman J Health Sci.* 2024;6(1). 79-83

Submitted: Jan 12, 2021 Revisions Submitted: June 25, 2024 Accepted: June 30, 2024

INTRODUCTION

The chronological age of 60 or 65 years above is said to be the onset of old age in most of the developed countries. The United Nations (UN) refers 60 years of age as an old age.¹ In underdeveloped countries such as in Pakistan, aging process began earlier due to poverty and poor nourishment. However, in present study we considered 60 years of age as an elderly population.^{2,3} Aging is a complex, dynamic and ongoing process with morphological, biochemical, functional and psychological modifications involving many variables (e.g. genetics, lifestyle factors, chronic diseases, etc.) that influence one another in many ways.^{4,5}

World health organization (WHO) designated that there are approximately 600 million elderly populations worldwide and it would be twofold by 2025.⁶ In the following 15 years, it is believed that number of older population is increasing rapidly in America and Caribbean with a 71% increase in entire population followed by Asia (66%), Africa (64%) and Europe (23%).⁷ According to recent survey in Pakistan, there is a remarkable increase in older population, in 2013 it was 11.19% while in 2030 it will increase upto 22.07%.⁸

Physical activity is broadly defined as; “Any bodily movement that substantially elevates energy expenditures”.^{9,10} Activities like structured exercises, physically demanding jobs and household work that requires some energy.¹⁰ The WHO guidelines ‘Global Recommendations on Physical Activity for Health’ recommended that at least 150 mins of moderate intensity physical activity per week is required for good health.¹¹ Sedentary lifestyle is utmost major risk factor behind early aging.¹² It has been estimated that nearly 15% of the 1.6 million chronic health conditions are due to a sedentary lifestyle alone.¹³ Paterson et al described that “Increasing levels of physical activity is the most beneficial mediation in improving health of population”.¹⁴

According to British Heart Foundation Health Promotion Research Group, in England, physical activity statistics show that only 32% men and 28% women of age group 55 to 64 years, 20% men and 17% women of age group 65 to 74 years and 9% men and 6% women above age group 75 years were involved in any sort of activity

respectively.¹⁵

As the physical inactivity speeds up the aging process, increased physical activity works vice versa and it is therefore, common among all the age groups. (9) According to WHO, worldwide 3.2 million people died due to physical inactivity per year.¹⁴

An important measure in determining health status of an older adult is the quality of life (QOL).¹⁶ Quality of life is characterized as an extent of individual’s satisfaction in various aspects of life within the limits of its perceived physical capacity.¹⁷ Physical activity is constantly correlated to enhanced QOL.^{18,19} Merely, longevity is significant for most elders however, conservation of functional independence is also of pronounced importance, both are mandatory to maintain the quality of life and to manage health resources.¹⁴

The significance of physical activity in elderly has been broadly studied in developed countries but there was insignificant evidence about association of physical activity with quality of life in Pakistan. Therefore, various physical activity training centers should be open at community level and health care programs should be started to improve the quality of life, physical fitness and life expectancy. The aim of this study is to investigate the frequency of physical activity levels and its association with quality of life in older population.

MATERIAL AND METHODS

After approval of research title by Institutional Review Board, study was conducted and questionnaires with written consent were distributed among the participants. This cross sectional study was conducted on a sample, calculated via openepi.org, of 151 participants between age group of 60 to 80 years including both genders. Individuals with any mental and physical disability, history of trauma or any balance problems were excluded. The study was completed in duration of 6 months i.e. from 26th January 2018 to 26th July 2018. Non-probability convenient sampling method was used and after obtaining informed consent, data was collected from community dwelling older adults residing in Islamabad and Rawalpindi.

International Physical Activity Questionnaire Short Form (IPAQ-SF) was used to find out the physical activity levels in older adults. The questionnaire categorizes results in to three main domains i.e. low, moderate and vigorous according to the level of physical activity, corresponding to metabolic equivalents. The

IPAQ-SF is a highly valid and reliable tool having criterion validity p-value of 0.80 and reliability p-value of 0.30. OPQOL-Brief (Older People Quality of Life) questionnaire was used to determine the quality of life. It is a Likert type response scale, value ranges from 1 to 5; from strongly disagree to strongly agree correspondingly. It generally covers the health related and quality of life domains. OPQOL-Brief had a Cronbach's alpha measure value of 0.856 which shows good reliability of the instrument.²¹ The data was further statistically analyzed using computer software SPSS version 20.0. Pearson correlation coefficient was used to determine association of physical activity with quality of life.

During data collection process, participants were assured that their data will be kept confidential and they had all the right to withdraw from study anytime. The data was honestly reported and there was no biasness in the results.

RESULTS

The total 151 respondents were enrolled in the study with a proportion of 87 (57.6%) males and 64 (42.4%) females. The mean age of participants was 65.10 ± 5.03 . The tables 1 and 2 explain the results. Results revealed that the frequency of correspondents with low level of physical activity were 82 (54.3%), with moderate activity were 24(15.9%) and with vigorous activity were 45(29.8%) respectively. Figure 1 represents the ratio of the participant activity levels. Statistics showed an association among physical activity and quality of life. The data is presented in Table 3.

DISCUSSION

This study discovered that 54.3% were involved in low level of physical activity compared to those of moderate and vigorous physical activity levels. This happens because the participants were mostly older adults having a sedentary lifestyle. It is supported by results of a study conducted by Baptista F et al, which concluded that only 35% of older adults were involved in any sort of activity and met recommended level of 30 minutes of activity per day, consequently leading to a greater number of participants doing low level activity.²² A reduced involvement in activities have been noted among the older adults in China and

specifically women have very low participation in activities as compared to men, a study conducted by Paul Muntner et al.²³ Findings are in accordance with this study.

According to results, a correlation existed among individuals who were involved in high physical activity and improved quality of life compared to those with low activity levels. It is supported by a systematic review conducted by Vagetti GC et al, which state that physical activity leads to more physical independence which subsequently influence quality of life.¹⁶ Puciato D et al, conducted a similar study, conclusions support the present study results and show that physical activity have many preventive and beneficial effects including enhanced quality of life scores.²⁴ A study led by Dartagnan P Guedes et al, in older adults in Brazil, indicates the quality of life varies according to physical activity. Study results revealed that individuals who are physically more active have better quality of life as compared to sedentary lifestyle individuals.²⁵

The present study shows positive effects of physical activity on quality of life and the individuals who met the suggested physical activity guidelines had good quality of life and better apparent fitness as compared to low active participants. The present interpretations also demonstrate the similar findings to the study carried out by David W Brown et al, among the older adults in US (United States).²⁶

The main limitation to the study was sample collection area which was narrow therefore; it cannot be generalized to whole population of Rawalpindi and Islamabad cities. This study was unable to find association between the gender and physical activity and sample size was relatively small.

Certain health care programs should be organized to increase involvement of older individuals in physical activities as well some measures must be initiated to improve quality of life. Suitably equipped gyms, professional instructors and inspiring atmosphere should be provided keeping in mind the age of the targeted population and prompts to encourage physical activity in highlighted population and equitable and inclusive access. Community wide campaigns and social support should be organized. Future studies can add more variables like fitness, balance, proprioception, endurance and compare with level of physical activity.

CONCLUSION

The study concluded that most of the older adults have low physical activity level as compared to moderate and vigorous physical activity levels. Furthermore, it also indicates that physical activity has great impact on quality of life. Individuals having high physical activity levels have improved quality of life that may further improve independency.

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Table 1: Table showing gender-based frequency of population

Gender	Frequency	Percentage
Male	87	57.6
Female	64	42.4

Table 2: Table showing mean age of participants

	N	Mean ±S.D
Age	151	65.10 ± 5.03

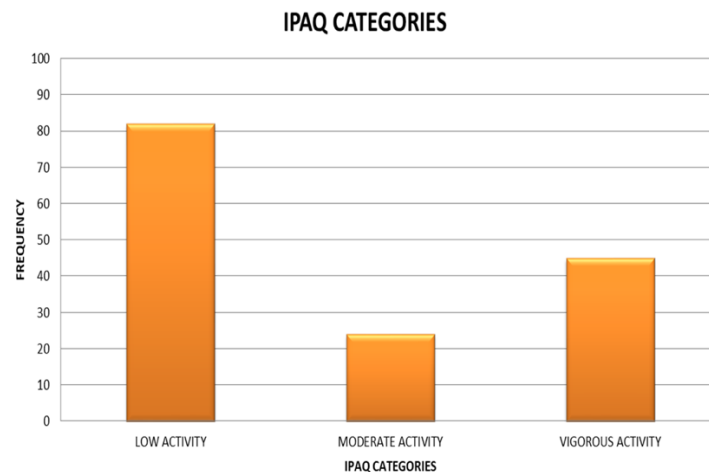


Figure 1: Figure showing the distribution of participants based on activity levels

Table 1: Table showing association among variables

	IPAQ CATEGORIES	OPQOL CATEGORIES
Pearson Correlation	1	0.407
Sig. (2-tailed)		0.000
n	151	151