ORIGINAL ARTICLE

Physical activity participation among older people and its association with health status and quality of life: A community based cross-sectional study.

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ABSTRACT

Background: Physical activity plays a vital role in promoting healthy ageing by improving physical, mental, and social well-being particularly in older adults. In addition to improving physical health outcomes, physical activity has also been linked to improved quality of life in older adults. **Aims and Objectives:** To assess physical activity levels and examine their association with self-reported health status and quality of life among older adults. **Materials and Methods:** A cross-sectional community-based study was carried out among people aged 60+ years residing within a radius of 3 km from Medical College using the snowball technique by visiting jogger's parks in the morning and evening during October–December 2023. Physical activity was assessed using the Physical Activity Scale for the Elderly (PASE), and quality of life was assessed using the Stark questionnaire. Ethical approval for the study was obtained. Responses were analysed using descriptive statistics and regression analysis. **Results:** The regression analysis revealed that the likelihood of having a good quality of life was nine times higher among physically active individuals compared to their counterparts. **Conclusion:** Regular physical activity is positively associated with improved quality of life and perceived health among older adults. Promoting physical activity through community-based interventions may support healthy ageing.

KEYWORDS

Physical activity, Quality of life, Older People

INTRODUCTION

The health benefits of physical activity (PA) among old age are well documented, by increasing years of independent living and enhancing quality of life, hence reducing age-related illness and disability. (1-4). Literature suggested that older adults who engaged in high levels of physical activity had a greater likelihood of aging successfully ten years later (5). As people age, their organs and systems gradually deteriorate, and the effects of ageing are exacerbated by a large discrepancy between their chronological and physiological ages (6). Physical activity is a protective factor for non-communicable diseases such as cardiovascular disease, stroke, diabetes, and some types of cancer. Data from a recent epidemiological study indicated an average of 20.5% mental health morbidity in older adults in India (7). In India, depression affected about one-third of the senior population, with a higher prevalence among women. (8) Improved mental health and a delay in the onset of dementia are also linked to physical activity (9). Since the world's population is ageing quickly, significant efforts are required to promote greater levels of engagement to mitigate the negative consequences of physical inactivity on older people and society. (10,11)

Objectives:

1. To identify physical activity levels among study population.
2. To examine the relationships between physical activity with self-stated health, and quality of life among older adults.

MATERIAL & METHODS

Study Type & Study Design: A community-based cross-sectional study was conducted among individuals aged 60 years and above residing within 3 km of a medical college. The snowball technique was used by visiting parks in the morning and evening by joggers between October–December 2023.

Study Setting: The study was conducted in community parks among individuals residing within a 3 km radius of the medical college.

Study Population: Individuals aged 60 years and above residing in the study area were included.

Study Duration: The study was conducted from October to December 2023.

Sample Size Calculation: The following formula was used to determine the sample size for this research, which came to 303: Z2pq/d2 by substituting the values as follows: p = 0.27, Z = 1.96, and d = 0.05 (p is the prevalence of vigorous physical activity among older people (12)(13) in India, Z is the type 1 error at 5%, and d is the absolute error).

Inclusion Criteria: Individuals aged ≥60 years residing within the study area and willing to participate.

Exclusion Criteria: Individuals who were not willing to participate or unable to provide responses.

Strategy for Data Collection: Socio-demographic variables along with Body Mass Index were collected. In addition, information regarding living arrangements, marital status, and substance use was recorded. Data were collected using interviews.

Working Definition:

Physical Activity Assessment: Physical activity was measured using the Google fit app (14,15). The average minutes of walking per week were recorded by the app. In the present study, regular physical activity was defined according to the World Health Organization (WHO) 2010 guidelines, which recommend at least 150 minutes of moderate-intensity physical activity or 75 minutes of vigorous-intensity physical activity per week, or an equivalent combination, for adults aged ≥65 years. Participants not meeting these criteria were categorised as not regularly active. (16). Physical activity was also assessed with the Physical Activity Scale for the Elderly (PASE) (17). The PASE is a brief instrument specifically designed to assess physical activity in the elderly over 1 week (18).

Health Status Assessment: Self-assessments of health status by persons participating in surveys have been shown to be effective predictors of mortality; they appear to provide significant additional independent information to indicators of health status collected from self-report or medical examinations (19). Self-reported health status was collected using the question 'In general, how is your health?' on a five-point Likert scale (very good, good, fair, poor, and very poor), with those who answered, 'very good' or 'good' classified as being in good health, whereas those who answered 'fair," 'poor," and 'very poor' were classified as being in poor health (20). Regarding the morbidity pattern, participants were considered to have a disease if they had been diagnosed by physicians with respiratory, endocrine, musculoskeletal, or depression problems, chronic renal failure, cancer, or hepatitis. Depending on the number of conditions, the outcome was categorized as "no medical history" as 0 or "existing medical history" as 1.

Quality of Life Assessment: Quality of life was assessed using the Stark questionnaire, which measures health-related quality of life (QoL) almost exclusively by imagery. It consists of a mental and a physical health component (21).

Ethical Issues & Informed Consent: Ethical approval for the study was obtained prior to data collection. Informed consent was obtained from all participants.

Data Analysis – Software: The data were entered using EPI Info software and further analysed using SPSS. Descriptive analyses were used to characterize physical activity levels. Differences between groups were assessed using chi-square test and t-test. Multivariate logistic regression analysis was performed to determine the association between physical activity, self-reported health, and quality of life.

RESULTS

A total of 303 older adults were included in the study. The mean age of the participants was 66.8 ± 7.4 years, with males constituting the majority (82.5%). Over half of the participants (52.5%) had completed graduation, and most were married (81.2%). Nearly two-thirds (65%) reported no history of substance use. Based on WHO physical activity criteria, 69.6% of participants were regularly physically active, while 30.4% did not meet the recommended activity levels.

Table 1: Social Profile of respondents

Variable	Category	Frequency	Percentage (%)
Age	55 - 65	128	42.2
	66 - 75	131	43.2
	76 and above	44	14.5
Gender	Female	53	17.5
	Male	250	82.5
Education	Below primary	34	11.2
	Secondary	56	18.5
	High	54	17.8
	Graduate	159	52.5
Religion	Hindu	287	94.7
	Other	16	5.3
Caste	General	239	78.9
	ST	20	6.6
	OBC	44	14.5
Family member	<4	151	49.8
	≥5	152	50.2
Marital status	Married	246	81.2
	Widow/separated	57	18.8
Substance use	Currently user	58	19.1
	Ever User	48	15.8
	Never	197	65
Health insurance	No	144	47.5
	Yes	159	52.5
Physical activity	Not regular	92	30.4
	Regular	211	69.6
BMI	Mean±SD	25.68±3.56	
QoL	Mean±SD	17.55±5.77	
	Total	303	100

Table 2: Occupational profile of respondents

Variable	Category	Frequency	Percentage (%)
Occupation	Armed	4	1.3
	Clerical	8	2.6
	Craft	2	0.7
	Elementary	10	3.3
	Housewife	29	9.6
	Managers	12	4.0
	Plant	88	29.0
	Professional	62	20.5
	Service	78	25.7
	Technician	10	3.3
Does your occupation required physical effort?	No	160	52.8
	Yes	143	47.2
Does your occupation required lifting heavy loads?	No	247	81.5
	Yes	56	18.5
Does your occupation required stooping, kneeling, or crouching?	No	176	58.1
	Yes	127	41.9
Does your occupation required good eyesight?	No	133	43.9
	Yes	170	56.1
Does your occupation required intense concentration or attention?	No	96	31.7
	Yes	207	68.3
Does your occupation required people skills?	No	58	19.1
	Yes	245	80.9
Does your occupation involved burning materials?	No	225	74.3
	Yes	78	25.7
Does your occupation involved chemical spills?	No	263	86.8
	Yes	40	13.2
Does your occupation involved noxious substances?	No	257	84.8
	Yes	46	15.2

With regard to occupational characteristics, a large proportion of participants were involved in occupations requiring interpersonal interaction (80.9%). In contrast, fewer participants reported occupations involving heavy lifting (18.5%), chemical exposure (13.2%), or contact with noxious substances (15.2%). These findings collectively suggest that most respondents are employed in safe work environments with a strong emphasis on social interaction and minimal exposure to physical or environmental hazards.

Table 3: Health status profile of the participants

Variable	Category	Frequency	Percentage (%)
General health status	Bad	26	8.6
	Fair	90	29.7
	Good	141	46.5
	Very good	46	15.2
In the past 12 months have you visited any healthcare facility?	No	86	28.4
	Yes	217	71.6
Hypertension	No	132	43.6
	Yes	171	56.4
Diabetes	No	189	62.4
	Yes	114	37.6
Cancer	No	295	97.4
	Yes	8	2.6
Lung disease	No	269	88.8
	Yes	34	11.2
Heart	No	279	92.1
	Yes	24	7.9
Stroke	No	289	95.4
	Yes	14	4.6
Arthritis	No	212	70
	Yes	91	30
Psychiatric	No	273	90.1
	Yes	30	9.9
High cholesterol	No	219	72.3
	Yes	84	27.7
	Total	303	100

Assessment of health status showed that 61.7% of participants perceived their general health as good or very good. Among reported morbidities, hypertension (56.4%) was the most common, followed by diabetes mellitus (37.6%), arthritis (30%), and high cholesterol (27.7%). A majority of participants (71.6%) had visited a healthcare facility in the preceding 12 months. Overall, most respondents work in relatively safe environments that provide social engagement.

Table 4: Relation between amount of physical activity and its impact on concentration level

Amount of physical activity involved	Attention frequently diverted, cannot concentrate	Attention occasionally diverted	Attention sometimes diverted	Can concentrate	Total
Every day	10	20	34	138	202

More than once a week	0	8	10	22	40
Once a week	4	8	2	12	26
One to three times a month	2	4	0	7	13
Hardly ever or never	2	6	2	12	22
Total	18	46	48	191	303

Analysis of concentration levels across different frequencies of physical activity showed a clear pattern. Participants who engaged in physical activity on a daily basis more frequently reported being able to concentrate well, whereas those who were physically active less often showed comparatively lower levels of concentration.

Table 5: Representing BMI

S no.	BMI	No of participants	Percentage (%)
1.	Underweight (<18.5)	6	2
2.	Normal weight (18.5-24.9)	123	40.6
3.	Pre-obesity (25-29.9)	134	44.3
4.	Obesity (>30)	40	13.1
Total		303	100

In this table, participants' BMI assessment shows that most participants fall into the range of pre-obesity (44.3%), followed by normal weight (40.6%). The least accounted-for category is obesity at 13.1%. This shows a high prevalence of overweight and obesity, pertaining to the necessity of intervention measures toward healthier weight-mitigation.

Table 6: Quality of life among participants

Quality of life			
		No. of participants	**Percentage (%)**
Mood			
	Very happy	112	37.0
	Happy	121	39.9
	Normal	62	20.5
	Sad	6	2.5
	Very sad	2	0.7
Energy			
	Energetic	176	58.1
	Dull	127	41.9
		303	100
Social contact			
	More social contact	190	62.7
	Little social contact	95	31.4
	Isolated	18	5.9

Quality of life assessment demonstrated generally favourable outcomes. Most participants reported feeling happy or very happy (76.9%), more than half described themselves as energetic (58.1%), and 62.7% reported having good social contact. Overall, the data indicates that most participants enjoy a good quality of life across emotional, physical, and social domains.

DISCUSSION

This study explored the relationship of physical activity (PA) and various health outcomes in older adults living within 3 km of a medical college. The results support PA being positively related to better quality of life (QoL), emotional well-being, cognitive function and health status, in this population. Our analysis of the data from 303 participants shows that a large proportion of the population were having good quality of life in terms of mood, energy, social contact.

This study further investigated the demographic relationship with the physical activity and found that it was significantly associated with mood of geriatric population An impressive 69.6% of participants were regularly physically active, indicating a favourable occurrence of this health promoting behaviour, and greater health potential. Of those who were physically active, 76.9% reported being happy or very happy, 58.1% felt they had energy, and 62.7% indicated they see friends and family often. These findings are on par with Musich et al. (2017), who found PA positively impacts physical functioning, reduces depression, and enables social interaction as we age. (3)

Cognitive function also disclosed a strong relationship to physical activity in the study. For the 202 participants who exercised daily, 138 (68.3%) said they had good concentration. Overall, 191 participants (63%) said they could concentrate well, which suggests a relationship between regular physical activity and cognitive alertness. This is consistent with findings presented by Livingston et al. (2017), who identified physical activity as a potential factor in delaying dementia onset and promoting cognitive health later in life. (9)

From the physiological perspective, the study recorded a mean BMI of 25.68 ± 3.56, where 44.3% of the sample was classified as pre-obese and 40.6% were in the normal weight range. Weight management is a key component to reduce risk factors for non-communicable diseases (NCDs), like hypertension (56.4%) and diabetes (37.6%), that were represented in the sample. Taylor (2014) previously described physical activity as a preventive form of medicine in the sense that it can lead to increased time before the onset of chronic disease and disability, which we supported and confirmed through the health benefits physically active participants experienced.

Moreover, multivariate analysis showed participants that were active had a 9% increased chance of reporting good quality of life than non-active participants. This is similar to longitudinal research by Gopinath et al, (2018) that found that older adults that were physically active were also had more of a chance for successful aging (absence of disability and maintenance of cognitive and emotional health) over a 10year longitudinal study period.

Despite mostly good findings, it's also important to note that this study did not inquire into reasons for inactivity

for the 30.4% of participants that were not (or did not self-report) as regularly active. Previous work by Rai et al. (2020) identified different opportunities for physical activity in older adults (and barriers to physical activity The study's conclusions have significant ramifications for regional public policies and health promotion initiatives. Active aging can be encouraged by community-based physical activity programs, age-friendly parks, supervised group exercise programs, and the incorporation of physical activity counselling into standard geriatric healthcare. National policies, like the Government of India's National Policy for Older Persons, highlight the significance of fostering environments that support older adults' physical activity (24). Future research should examine the barriers for physical activity among older adults to explore various opportunities for interventions and implementation for sedentary elderly participants.

Conclusion

This study demonstrates a strong positive association between regular physical activity and improved quality of life, emotional well-being, cognitive function, and general health among older adults. A significant proportion of participants who engaged in regular physical activity reported feeling happy, energetic, socially connected, and cognitively alert. The findings reinforce existing evidence that physical activity serves as a powerful non-pharmacological intervention for promoting healthy aging, reducing the burden of chronic diseases, and enhancing psychological and social health.

Moreover, the observed 9% higher likelihood of reporting a good quality of life among physically active individuals emphasizes the need for community-level interventions and policies to encourage physical activity in the elderly population. Although a majority were active, nearly one-third of the population remained inactive, indicating the necessity for further studies to understand and address barriers to physical activity.

Overall, the study underscores the vital role of maintaining an active lifestyle in later life and calls for integrated efforts from healthcare providers, policymakers, and communities to support and sustain physical activity among the aging population.

We did not explore the factors responsible for the poor physical activity status in this group, and thus future studies on knowledge, attitude, and practice among these categories of population would provide additional insights.

The need to remain physically active becomes more pronounced with advancing age because of the risk of chronic illness. We found that people over 40 years of age are more likely to be inactive or mildly active when compared with people below 40 years, posing a greater risk of developing chronic illness.

Recommendation

Community-based interventions, including age-friendly parks, group exercise programs, and routine physical activity counselling, should be promoted to improve activity levels among older adults.

Limitation of the Study

The cross-sectional design limits causality, and the use of self-reported data and snowball sampling from parks may introduce bias and limit generalizability.

Relevance of the Study

This study highlights the importance of physical activity in improving the quality of life and health status among older adults. It provides community-based evidence from an Indian setting and emphasizes the need for promoting physical activity as a cost-effective strategy for healthy ageing.

Authors Contribution

All authors have contributed equally.

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Nil

Conflict of Interest

There are no conflicts of interest.

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Declaration of Generative AI and AI Assisted Technologies in the Writing Process

The authors haven't used any generative AI/AI assisted technologies in the writing process.

References

1. Taylor D. Physical activity is medicine for older adults. *Postgrad Med J.* 2014;90(1059):26–32.
2. Bauman A, Merom D, Bull FC, Buchner DM, Fiatarone Singh MA. Updating the evidence for physical activity: Summative reviews of the epidemiological evidence, prevalence, and interventions to promote active aging. *Gerontologist.* 2016;56(Suppl 2):S268–80.
3. Physical activity in older adults [Internet]. Available from: https://www.physiopedia.com/Physical_Activity_in_Older_Adults [cited 24/01/2026].
4. Musich S, Wang SS, Hawkins K, Greame C. The frequency and health benefits of physical activity for older adults. *Popul Health Manag.* 2017;20(3):199–207.
5. Gopinath B, Kifley A, Flood VM, Mitchell P. Physical activity as a determinant of successful aging over ten years. *Sci Rep.* 2018;8(1):10522.
6. Elena S, Georgeta N, Cecilia G, Elena L. The attitude of elderly persons towards health-related physical activities. *Procedia Soc Behav Sci.* 2011;30:1913–9.
7. Tiwari SC, Pandey NM. Status and requirements of geriatric mental health services in India: An evidence-based commentary. *Indian J Psychiatry.* 2012;54(1):7–12.
8. Pilania M, Yadav V, Bairwa M, Behera P, Gupta SD, Khurana H. Prevalence of depression among the elderly (60 years and above) population in India, 1997–2016: A systematic review. *BMC Public Health.* 2019;19:832.
9. Schuch FB, Vancampfort D, Richards J, Rosenbaum S, Ward PB, Stubbs B. Exercise as a treatment for depression: A meta-analysis adjusting for publication bias. *J Psychiatr Res.* 2016;77:42–51.

10. Livingston G, Sommerlad A, Orgeta V, Costafreda SG, Huntley J, Ames D, et al. Dementia prevention, intervention, and care. *Lancet.* 2017;390(10113):2673–2734.
11. Rai R, Jongenelis MI, Jackson B, Newton RU, Pettigrew S. Factors influencing physical activity participation among older people with low activity levels. *Ageing Soc.* 2020;40(12):2593–2613.
12. Podder V, Nagarathna R, Anand A, Patil SS, Singh AK, Nagendra HR. Physical activity patterns in India stratified by zones, age, region, BMI and implications for COVID-19: A nationwide study. *Ann Neurosci.* 2020;27(3–4):193–203.
13. Cramm JM, Lee J. Smoking, physical activity and healthy aging in India. *BMC Public Health.* 2014;14:526.
14. Menaspà P. Effortless activity tracking with Google Fit. *Br J Sports Med.* 2015;49(24):1598.
15. Henriksen A, Hopstock LA, Hartvigsen G, Grimsgaard S. Using cloud-based physical activity data from Google Fit and Apple HealthKit to expand recording of physical activity data in a population study. *Stud Health Technol Inform.* 2017;245:108–12.
16. World Health Organization. Global recommendations on physical activity for health [Internet]. Geneva: WHO; 2010 [cited 24/01/2026]. Available from: https://www.ncbi.nlm.nih.gov/books/NBK305057/
17. Washburn RA, Smith KW, Jette AM, Janney CA. The physical activity scale for the elderly (PASE): Development and evaluation. *J Clin Epidemiol.* 1993;46(2):153–62.
18. Washburn RA, McAuley E, Katula J, Mihalko SL, Boileau RA. The physical activity scale for the elderly (PASE): Evidence for validity. *J Clin Epidemiol.* 1999;52(7):643–51.
19. Idler EL, Kasl SV. Self-ratings of health: Do they also predict change in functional ability? *J Gerontol B Psychol Sci Soc Sci.* 1995;50B(6):S344–53.
20. Zajacova A, Dowd JB. Reliability of self-rated health in US adults. *Am J Epidemiol.* 2011;174(8):977–83.
21. Hardt J. A new questionnaire for measuring quality of life – the Stark QoL. *Health Qual Life Outcomes.* 2015;13:1–7.
22. Government of India. National Policy for Older Persons [Internet]. 2014 [cited 24/01/2026]. Available from: https://pib.gov.in/newsite/PrintRelease.aspx?relid=108092