

Brief Report

The relationship between fear of falling, quality of life, and basic and instrumental activities of daily living in elderly women: A cross-sectional study

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<https://doi.org/10.32598/JNRCP.2403.1042>

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Abstract

This study aimed to evaluate the relationship between fear of falling (FoF), quality of life (QoL), basic activities of daily living (ADL), and instrumental ADL in elderly women. In a cross-sectional study, 200 elderly women over 65 years old in Mashhad, Iran were included. The average physical activity of the participants was 11.10 (SD=7.39) hours per week. The mean of FoF, QoL, basic ADL, and instrumental ADL of elderly women was 32.19 (SD=10.28) out of 64, 29.57 (SD=7.36) out of 48, 12.76 (SD=2.06) out of 14, and 13.05 (SD=3.88) out of 18, respectively. There was a negative relationship between FoF and variables including QoL ($r = -0.714$, $P < 0.001$), basic ADL ($r = -0.591$, $P < 0.001$), and instrumental ADL ($r = -0.535$, $P < 0.001$). There was a positive relationship between QoL and variables including basic ADL ($r = 0.607$, $P < 0.001$) and instrumental ADL ($r = 0.705$, $P < 0.001$). Also, there was a positive relationship between basic ADL and instrumental ADL ($r = 0.781$, $P < 0.001$). Overall, the outcomes of this study bear noteworthy implications for healthcare practitioners engaged in the care of elderly women. Through elucidating the associations among FoF, QoL, and ADL, healthcare providers can devise tailored interventions aimed at ameliorating these concerns and enhancing the holistic well-being of elderly female clientele.

Keywords: Accidental Falls, Quality of Life, Elderly, Physical Activity.

The phenomenon of the increase in the elderly population is one of the most important health and economic challenges in the current century [1]. Based on the definition of the World Health Organization, old age is defined as 60 years and older. Today, the growth rate of elderly people over 60 is faster than any other age group, so the world's elderly population will reach about 2 billion people in 2050, which for the first time will exceed the population under 15 years of age [1]. It is predicted that the elderly population in Iran will reach 20-25% of the country's population by 2031. Hence, having an active lifestyle can improve the quality of life (QoL) in elderly people to the extent significantly raises and reduces health care costs in these people. However, between 60% and 75% of the elderly do not exercise at recommended levels [2]. Elderly people who have higher levels of physical fitness

are more independent in life, and as a result, there is less economic pressure on the health systems of countries. Increasing physical fitness and maintaining appropriate levels of physical factors related to health can be effective in reducing diseases such as cardiovascular diseases, diabetes, high blood pressure, and osteoporosis. On the other hand, not paying attention to the safety status of the elderly can lead to irreparable physical and emotional damage, and impose heavy costs on the medical system and families. In addition, the elderly are prone to falling and fear falling due to decreased proprioceptive sense of balance vision, and hearing [3]. The prevalence of fear of falling (FoF) in the elderly is from 20% to 39% [4]. However, few studies have addressed the relationship between FoF, QoL, basic activities of daily living (ADL), and instrumental ADL in elderly women [3, 5, 6]. Directly, the FoF in the elderly can affect their QoL and also disrupt

basic ADL and instrumental ADL in the elderly [7]. Basic ADL encompass tasks concerning personal hygiene and self-care, whereas instrumental ADL pertain to activities involving the utilization of various household tools by the elderly [8]. The significance of this study is underscored by its concentrated investigation into elderly women, delving into the intricate interplay among FoF, QoL, and daily living activities. By elucidating these relationships, the research holds promise for informing clinical practice and catalyzing public health interventions aimed at enhancing the holistic well-being of this demographic. Hence, this study aimed to evaluate the relationship between FoF, QoL, basic ADL, and instrumental ADL in elderly women.

In a cross-sectional study, 200 elderly women over 65 years old in Mashhad, Iran were included. Data were collected through convenience sampling from July to August 2023. This research was approved by the Ethics Research Committees Sport Sciences Research Institute (IR.SSRC.REC.1402.098). Before participation, all individuals provided informed consent after receiving detailed information about the study's aims. Participants were explicitly in-formed of their right to withdraw from the study at any time if they chose to do so. The researchers included elderly women 60 years and older who can communicate through sight and hearing, and who signed the informed consent to participate in the present study. In addition, participants who had memory and cognitive disorders were excluded. The researchers collected data using a five-part questionnaire, including demographic characteristics, the Falls Efficacy Scale-International, the Short Form-12 (SF-12) QoL questionnaire, basic ADL, and instrumental ADL. Demographic characteristics included age, marital status, place of residence, level of education, economic status, and physical activity rate. Falls Efficacy Scale-International was used to assess participants' FoF. This instrument contains 16 items with a four-choice Likert scale (from "very little" (score 1) to "very much" (score 4)). The minimum and maximum scores of this tool are 16 and 64, respectively. Higher scores indicate a higher FoF. The reliability of this tool has been confirmed with Cronbach's alpha of 0.98 [9]. SF-12 QoL questionnaire was used to assess participants' QoL. This instrument contains 12 items. This tool evaluates the QoL in terms of general perception of one's health (item 1), physical performance (items 2 and 3), physical health (items 4 and 5), emotional problems (items 6 and 7), physical pain (item 8), social functioning (item 9), vitality and vital energy (item 11), and mental health (items 10 and 12). Items 1, 8, 10, and 11 are scored in reverse. The minimum and maximum scores of this tool are 12 and 48, respectively. The reliability of this tool has been confirmed with Cronbach's alpha of 0.95 [10]. A basic ADL questionnaire was used to assess participants'

basic ADLs. This instrument contains 7 items with a three-choice Likert scale (from "I can't do it" (score 0) to "No help" (score 2)) about eating, dressing and undressing, walking, performing grooming tasks, bathing or showering, going to bed or going to bed, going out and using the toilet. The minimum and maximum scores of this tool are 0 and 14, respectively [8]. The instrumental ADL questionnaire was used to assess participants' instrumental ADL. This instrument contains 9 items with a three-choice Likert scale (from "I can't do it" (score 0) to "No help" (score 2)) about using the phone, traveling a relatively long distance with vehicles, buying food and clothes, preparing food, doing housework, washing personal clothes, doing partial home repairs, taking medicine, and controlling income and expenses. The minimum and maximum scores of this tool are 0 and 18, respectively [8]. The data analysis was conducted utilizing the SPSS software package (version 19.0, SPSS Inc., Chicago, IL, United States). The mean (standard deviation) and frequency (percentage) were used to present continuous and categorical variables, respectively. The Pearson correlation test was used to evaluate the relationship between study variables.

A total of 200 elderly women were included in the study. The mean age of the elderly women was 73.42 (SD=6.42) years. Of the participants, 51.5% were married, 16% had a university education, 74.5% were urban residents, and 56.5% had a moderate economic status. The average physical activity of the participants was 11.10 (SD=7.39) hours per week. The mean of FoF, QoL, basic ADL, and instrumental ADL of elderly women was 32.19 (SD=10.28) ranging from a minimum of 16 to a maximum of 64, 29.57 (SD=7.36) ranging from a minimum of 12 to a maximum of 48, 12.76 (SD=2.06) range from a minimum of 0 to a maximum of 14, and 13.05 (SD=3.88) range from a minimum of 0 to a maximum of 18, respectively (Table 1). As presented in Table 1, there was a negative and significant relationship between FoF and variables such as QoL ($r = -0.714$, $P < 0.001$), basic ADL ($r = -0.591$, $P < 0.001$), and instrumental ADL ($r = -0.535$, $P < 0.001$). In addition, there was a positive and significant relationship between QoL and variables such as basic ADL ($r = 0.607$, $P < 0.001$) and instrumental ADL ($r = 0.705$, $P < 0.001$). Also, there was a positive and significant relationship between basic ADL and instrumental ADL ($r = 0.781$, $P < 0.001$).

However, previous evidence is limited in the field of the relationship between FoF, QoL, basic ADL, and instrumental ADL in elderly women [3, 5, 6]. Meanwhile, a study in Brazil showed that the FoF can affect basic ADL and instrumental ADL [5]. Another study in Norway showed that there is a high correlation between QoL, basic ADL, and instrumental ADL [6]. Also, another

study showed that there is a negative relationship between FoF and QoL in the elderly [3].

Overall, the outcomes of this study bear noteworthy implications for healthcare practitioners engaged in the care of elderly women. Through elucidating the associations among FoF, QoL, and ADL, healthcare providers can devise tailored interventions

aimed at ameliorating these concerns and enhancing the holistic well-being of elderly female clientele. It is recommended that forthcoming investigations incorporate larger sample sizes and employ random sample selection methods to enhance the generalizability of the findings derived from this study.

Table 1. The relationship between FoF, QoL, basic ADL, and instrumental ADL in elderly women (n=200).

	FoF	QoL	Basic ADL	Instrumental ADL
FoF	1			
QoL	-0.714*	1		
Basic ADL	-0.591*	0.607*	1	
Instrumental ADL	-0.535*	0.705*	0.781*	1
Mean (SD)	32.19 (SD=10.28)	29.57 (SD=7.36)	12.76 (SD=2.06)	13.05 (SD=3.88)

SD: Standard Deviation; FoF: Fear of Falling; QoL: Quality of Life; ADL: Activities of Daily Living.

*P<0.001.

Acknowledgements

Not applicable.

Authors' contributions

Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work: SM, AAN; Drafting the work or revising it critically for important intellectual content: SM, AAN; Final approval of the version to be published: SM, AAN; Agreement 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: SM, AAN.

Funding

Self-funded.

Ethics approval and consent to participate

This research was approved by the Ethics Research Committees Sport Sciences Research Institute (IR.SSRC.REC.1402.098). Before participation, all individuals provided informed consent after receiving detailed information about the study's aims. Participants were explicitly informed of their right to withdraw from the study at any time if they chose to do so.

Competing interests

We do not have potential conflicts of interest with respect to the research, authorship, and publication of this article.

Availability of data and materials

The datasets used during the current study are available from the corresponding author on request.

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None.

References

1. Jackson PL, Doyon J, Richards CL, Malouin F. The efficacy of combined physical and mental practice in the learning of a foot-sequence task after stroke: a case report. *Neurorehabil Neural Repair*. 2004;18(2):106-111.
2. Nied RJ, Franklin B. Promoting and prescribing exercise for the elderly. *Am Fam Physician*. 2002;65(3):419-426.
3. Mishra N, Mishra AK, Bidija M. A study on correlation between depression, fear of fall and quality of life in elderly individuals. *Int J Res Med Sci*. 2017;5(4):1456-1460.
4. MacKay S, Ebert P, Harbidge C, Hogan DB. Fear of Falling in Older Adults: A Scoping Review of Recent Literature. *Can Geriatr J*. 2021;24(4):379-394.
5. Fioritto AP, Cruz DTd, Leite ICG. Correlation of functional mobility with handgrip strength, functional capacity for instrumental activities of daily living, fear of falling and number of falls in community-dwelling elderly. *Fisioter Mov*. 2020;33:e003335.
6. Bjerck M, Brovold T, Skelton DA, Bergland A. Associations between health-related quality of life, physical function and fear of falling in older fallers receiving home care. *BMC Geriatr*. 2018;18(1):253.
7. Merchant RA, Chen MZ, Wong BLL, Ng SE, Shirooka H, Lim JY, et al. Relationship Between Fear of Falling, Fear-Related Activity Restriction, Frailty, and Sarcopenia. *J Am Geriatr Soc*. 2020;68(11):2602-2608.
8. Habibi A, Nikpour S, Seiedoshohadaei M, Haghani H. Quality of life and status of physical functioning among elderly people in west region of Tehran: a cross-sectional survey. *Iran J Nurs*. 2008;21(53):29-39.
9. Khajavi D. Validation and Reliability of Persian Version of Fall Efficacy Scale-International (FES-I) in Community-Dwelling Older Adults. *Iran J Ageing*. 2013;8(2):39-47.

10. Arabi S, Rezaee M, Sahaf R, Rassafiani M, Hosseini H, Mirzakhany N, et al. Validity and reliability of the Persian version of measurement of the quality of life of people with disabilities. *Pajohande J*. 2014;19(2):91-98.

How to cite this article: Miri S, Norasteh AA. The relationship between fear of falling, quality of life, and basic and instrumental activities of daily living in elderly women: A cross-sectional study. *J Nurs Rep Clin Pract*. 2024. <https://doi.org/10.32598/JNRCP.2403.1042>.