

## *Self-Care Ability of the Elderly and Related Factors*

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### **Abstract**

**Background:** Self-care ability is a determinant factor in managing the daily lives of the elderly.

**Objectives:** This study aimed to investigate self-care ability in the elderly and related factors.

**Methods:** In this cross-sectional study, elderly people admitted to educational and medical hospitals in Zanjan in 2021 were selected by convenience sampling and 175 people over 60 years old evaluated with questionnaire including demographic information and self-care ability scale for elderly. Mean (standard deviation), frequency (percentage) and independent sample t-test were used to analyze data in SPSS 23.

**Results:** The mean (SD) score of elderly self-care in this study was 53.86 (1.41). The results showed that self-care ability is low in most participants (68%). Women have significantly higher self-care ability than men ( $P=0.018$ ). With increased age, Self-care ability decreased ( $P=0.0001$ ). In illiterate and lower educated people, self-care ability is significantly lower ( $P=0.0001$ ), and also rural residents have significantly less self-care ability than urban residents ( $P=0.0001$ ). Elderly people who were married ( $P=0.0001$ ) and had a source of income ( $P=0.0001$ ) had a better level of self-care.

**Conclusion:** Self-care ability is low in most elderly people, and self-care ability is worse in men, illiterate people, and villagers and self-care ability decreases with increasing age. It is suggested that simple programs be developed according to the age and level of literacy of the elderly.

**Keywords:** *self-care, self-care ability, elderly, aged*

### **Introduction**

Increasing life expectancy, which is one of the most important human achievements during the 21st century, has led to a dramatic increase in the elderly population worldwide. According to the definitions of the WHO in developing countries, the age of 60 is recognized as the old age limit, and people over 60 are considered elderly [1]. Estimates show that by the next 40 years, the world's population over the age of 65 will double, with 52% of them living in Asian countries and 40% in developed countries [2]. Between 1979 and 2019, life expectancy increased by 25.3% [from 65.2 (62.5–66.8) to 81.6 years (80.7–82.2)] for women and 31.3% for men [from 58.0 (54.2–

60.0) to 76.1 years (75.3–76.6)] [3]. The share of the elderly population of Iran is predicted to increase to 11% in 1415 [4].

Unlike childhood, most diseases of old age are non-communicable and chronic. Changes in disease patterns have been associated with a reduction in the incidence of infectious diseases and an increase in life expectancy and chronic diseases, and this, in turn, has led to increased attention to health concepts in old age [5]. In health, prevention has always taken precedence over treatment [6,7]. In Iran, studies show that 15% of patients are referred to specialist doctors' offices, 34% of outpatient treatments in hospitals, and 89% of beds in institutions and nursing homes

are reserved for people over 65 years of age. In general, 60% of the cost of medical care is consumed by this age group [8]. About 40% of elderly patient's experience decreased functional levels during hospitalization [9]; cost prevention and reduction of health loss is possible by increasing self-care. Self-care refers to the conscious actions and behaviors in which patients maintain and improve their health and their decisions about managing their symptoms [10]. Poor self-care is one of the most important determinants in the poor prognosis of the disease and is directly related to the deterioration of the general condition [11]. Adherence self-care behaviors prevents the aggravation of symptoms, creates a healthier feeling in patients and reduces the number of hospitalizations, deaths, and treatment costs [12].

The results of various studies show that self-care ability is low in the elderly [13]. In the study by SangSefdi et al, the self-care ability of most of the elderly living in Bojnord city was low, and women had a lower level of self-care than men [14]. Prochota et al. (2019) concluded that mental health is directly related to self-care. They also showed a relationship between self-care and age [15]. Poor self-care behaviors, including not following a diet and medication, can lead to a 20 to 60% increase in hospitalization [16].

The phenomenon of aging in Iran and the world is increasing rapidly, and this movement needs special attention without interruption because aging has created many problems for the elderly, others, society and governments and health systems with special challenges such as attention in terms of income, quality of life, the provision of health services. The daily life of the elderly is often fraught with many problems in the field of self-care of these people; if these people can have the proper understanding and ability to take care of themselves, their quality of life will improve. Therefore, evaluating the level of self-care of these people and measuring it is of great importance to be used to clarify the dimensions and effective factors for the country's macro-planning in the field of health.

## Methods

This study is a descriptive cross-sectional study. The statistical population included all people over 60 years of age admitted to the teaching hospitals

of Zanjan University of Medical Sciences - Ayatollah Mousavi and Valiasr Hospitals - in the first two months of 2021. The sample size was determined using the formula for calculating the sample size in a quantitative group. Using Bagheri Nesami et al. [17] and considering the probability of first type error of 5%, 175 people were identified.

Sampling was available by convenience sampling and people over 60 years of hospitalization who were willing to participate in the study and cooperate were included in the study. Individuals with acute cognitive and mental health problems according to medical history were not included in the study. Also, incomplete questionnaires were excluded and not analyzed. Illiterate people answered the study questions with the help of a questioner. Other people completed the questionnaires themselves.

The data collection tool in this study was a questionnaire to assess the Self-care Ability Scale for the Elderly (SASE). At the beginning of the questionnaire, demographic information of study participants such as age, gender, life status, level of education, place of residence, marital status, source of income and health insurance was collected.

Then, a questionnaire to assess the self-care ability of the elderly was completed. This questionnaire consists of 17 questions to assess the self-care ability of the elderly. This scale highlights areas of particular importance to self-care for the elderly, i.e. daily life activities, welfare, power, desires, determination, loneliness and wear clothes [1]. The answer to each question is based on the Likert scale, which scores between 1 and 5. Answers the questions in the form of strongly agree, agree, have no opinion, disagree, and strongly disagree; 4 items have a negative charge, including questions 14, 16, 6, and 17. The highest score is 85, and the lowest score is 17. A score less than 69 indicate low self-care ability, and a score equal to and greater than 69 indicates high self-care ability. The validity and reliability of this questionnaire have been reviewed by Amir-Behghadami et al., and its validity and reliability have been confirmed. To determine the reliability of the questionnaire from determining internal consistency and for determination of internal consistency, Cronbach's alpha coefficient for the questionnaire has been calculated. The

Cronbach's alpha coefficient was 0.73 and Intra-class correlation coefficient was 0.97 [1].

After completing the questionnaire, the collected data were entered into SPSS software version 23 and statistically analyzed. Mean (standard deviation) was used to describe quantitative variables, and frequency (percentage) was used to describe qualitative variables. An independent sample T-test was used to compare the mean of self-care in the elderly according to demographic variables. In all tests, the significance level was considered 0.05.

In this study, all the necessary ethical considerations, including explaining goals, right to terminate cooperation, the confidentiality of information, and written consent were observed.

## Results

One hundred seventy-five hospitalized people participated in this study. Data of 171 people were analyzed (4 questionnaires were excluded due to incompleteness). More than half of the study participants were female (57.9%). The mean (SD) age of study participants was 67.54 (5.90), and most of them were under 70 years old (71.9%). More than half of the participants (84.2%) had an under-diploma degree, and 15.8% had a diploma and academic degree. More than half of the participants lived with their families (81.9%). The demographic characteristics of the participants are given in Table 1.

**Table 1: Demographic Characteristics of the Elderly Participating in the Study (n=171)**

	Variable	Frequency (%)
<b>Gender</b>	Men	72 (42.1)
	Women	99 (57.9)
<b>Age</b>	60-70	123 (71.9)
	>70	48 (28.1)
<b>Life status</b>	Collective life	140 (81.9)
	Single life	31 (18.1)
<b>Marital status</b>	Single and widow	16 (9.4)
	Married	155 (90.6)
<b>Income</b>	Yes	90 (52.6)
	No*	81 (47.4)
<b>Level of Education</b>	Under diploma	144 (84.2)
	Diploma and academic	27 (15.8)
<b>Residency status</b>	Urban	129 (75.4)
	Rural	42 (24.6)
<b>Health insurance</b>	Yes	158 (92.4)
	No	13 (7.6)

\*Child assistance and charities were classified as no income

The mean (SD) score of elderly self-care in this study was 53.86 (1.41). The minimum self-care score in this study was 26, and the maximum was 78. Based on the information of the questionnaire, the maximum self-care score in total is 85, and the

minimum is 17. According to the standard questionnaire, the cut-off point of 69 is considered for dividing the self-care ability score. Accordingly, 68.4% of the study participants had low self-care ability (Table 2).

**Table 2: The Ability of Self-Care of the Elderly Participating in the Study**

Variable	Frequency	%
<b>Low (&lt; 69)</b>	117	68.4
<b>High (≥ 69)</b>	54	31.6

As shown in Table 3, the mean self-care ability of the elderly in terms of age, education, gender and place of residence, marital status, and income is statistically significant ( $P < 0.05$ ). Comparison of

the mean in the relevant subgroups shows that women, city dwellers, younger age group, academic education, married people, and people with a source of income have higher mean self-

care scores. Also, the study showed that the mean score of self-care ability has no statistically

significant relationship with having insurance and life status ( $P>0.05$ ).

**Table 3: Comparison of Mean Self-Care Ability Based on Demographic Variables**

Variable		Mean	SD	*P-value
Gender	Men	50.87	13.09	0.018
	Women	56.04	14.56	
Age	60-70	60.19	10.57	0.0001
	>70	37.64	7.79	
Life status	Collective life	53.60	14.28	0.396
	Single life	57.07	12.47	
Residency status	Urban	58.18	13.12	0.0001
	Rural	40.59	7.35	
Marital status	Single and widow	31.81	5.02	0.0001
	Married	56.14	12.76	
Income	Yes	63.40	8.23	0.0001
	No	43.27	11.59	
Level of education	Under diploma	50.95	13.25	0.0001
	Diploma and academic	69.40	6.77	
Health Insurance	No	54.92	14.32	0.780
	Yes	53.77	14.18	

\*Using independent sample t-test

## Discussion

The findings of the study showed that about two-thirds of the participants had low self-care ability. About 68% had serious problems in their daily functioning, including managing alone, shopping, doing housework, and being dependent on others. This finding was consistent with the findings of Rabie & Klopper (2015) studies that self-care in the elderly is low [18]. This finding is consistent with the results obtained in the study of SangSefidi et al. [14] and Avazeh et al. [13]. However, in the study of Anbari et al., the subjects had a semi-desirable self-care ability [19]. In another study by Jordan et al. on self-care behaviors in the United States, the results showed that patients' self-care status was moderate in terms of desirability [20]. This difference in findings was due to differences in the type of questionnaire used and in addition due to differences in samples; because in the study conducted by Anbari et al., the elderly understudy had diabetes [19]. Regarding the study of Jordan et al., Cultural differences and facilities in access and education can be the main reason for this difference. Overall, this finding indicates that the elderly need education for self-care rehabilitation; Adherence to self-care behaviors, in addition to preventing the aggravation of signs and

symptoms, is essential in reducing the frequency of hospitalizations, feeling healthier in chronic patients, and reducing their treatment costs [21]. By acquiring self-care skills, patients can influence their sense of comfort, functional abilities, and disease processes [21].

The highest mean of self-care behaviors was in the age group of 60-70 years. With age, the level of self-care in participants decreased. The results of similar studies also indicate that the older the patient, the lower the level of self-care [21]. Similar results have been obtained in the Eimer study [22]. One of the reasons for this finding could be that with age, the rate of physical and mental illness in patient's increases, and this increases the rate of disability in the elderly. One of the most important of these challenges is the increasing prevalence of chronic diseases in this age group so that almost 70% of the elderly have several chronic diseases at the same time [23]. Recent studies also show that 80% of the elderly have at least one chronic disease that puts them at greater risk of disability and death [24].

People with low education level had the worst self-care. More academics showed a mean better self-care ability score. Tabrizi et al. [25], Bagheri Nesami et al. [17] reported similar findings. However, Eimer et al. concluded that self-care

ability was not significantly associated with participants' education [22]. This difference can be explained by the fact that Eimer et al. participated in the study of heart patients and the type of questionnaire used was different. To justify this finding, it can be said that people with more education are often more aware and can obtain the necessary information for self-care through books, media, or social support. In addition, awareness enables them to understand the importance of self-care and to be able to continuously pursue self-care practices. People with higher education often have more access to facilities and better financial conditions and are more regular in performing medical features. This increases the self-care ability of those with higher education.

Another finding of the study was that women reported a significantly higher mean than men. This finding was consistent with the results obtained in the study of Avazeh et al. [13], Eimer et al. [22], and Eknithiset [26]. Explaining this finding, we can point to the evolutionary structure of men and women. Women are less likely to engage in high-risk behaviors [26]. They are less likely to spend on alcohol, cigarettes, and drugs. They follow the rules of health. In addition, because women are responsible for family care, they are often expected to have more information in this area in order to maintain good family health. Therefore, more often than men, they seek information about care and take health information more seriously.

People who lived in the city reported higher scores in terms of self-care ability, and rural residents had lower self-care ability. Consistent with the present study's findings, Hajhashemi et al, also indicate that the inhabitants of the city have a better quality of life physically and mentally than the inhabitants of the village [27]. To justify this finding, it can be said that people who live in the city have high access to urban facilities. Going to the hospital is cheaper and easier for them. Especially these people, if they are dependent on the help of those around them, will face more difficulties to visit from the village to the city for periodic visits. In urban dwellers, income is usually higher than in rural areas, and education is more possible for urban dwellers; therefore, the elderly living in the city are more likely to be more aware of how to take care of

them. Due to the research process, this faced limitations, including the fact that access to the samples was more limited due to the outbreak of COVID-19. Due to the lack of sufficient facilities and conditions, such as time-consuming, as well as the current situation of the prevalence of Covid 19 disease, it was not possible to use interviews to diagnose primary mental health problems. It is suggested that in future researches, before conducting the study, the subjects' levels of mental health, especially anxiety and stress, should be considered, and appropriate research plans should be planned in this field. This research was conducted using a quantitative method due to the lack of qualitative information in the field of factors related to the conditions experienced in the elderly using interviews.

### **Conclusion**

The results of the study showed that the level of self-care in the elderly under study was low. Male gender, age over 70 years, living in the village, loneliness, lack of income and low education level were identified as factors related to poor self-care in the elderly.

Therefore, it is suggested that the health providers of rural centers receive the necessary training to increase the self-care capacity of the elderly and provide the necessary points to rural families and the elderly in order to promote self-care in old age in written training sessions. In general, education can help improve people's self-care. The policy makers of the health system can help a lot in this matter by increasing the level of health literacy by using education to different groups of the society.

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### **Conflict of interest**

The authors have no conflicts of interest to declare.

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**References**

1. Amir-Behghadami M, Tabrizi JS, Saadati M, Gholizadeh M. Psychometric properties of the Iranian version of self-care ability scale for the elderly. *BMC Geriatr.* 2020; 20(1): 364.
2. Mohammadi MM, Esmailivand M. Attitudes toward caring of the elderly from the perspective of nursing and midwifery students in Kermanshah Province in 2015. *Iran J Age.* 2017; 11(4): 476-83. [In Persian]
3. Ebrahimi N, Mehdipour P, Mohebi F, Ghanbari A, Azmin M, Farzadfar F. Improved Population Health in Iran from 1979 to 2019; Decreasing Mortality Rates and Increasing Life Expectanc. *Arch Iran Med.* 2020; 23(2): 61-68.
4. Farokhnezhad Afshar P, Asgari P, Shiri M, Bahramnezhad F. A Review of the Iran's Elderly Status According to the Census Records. *Galen Med J.* 2016; 5(1): 1-6.
5. Kun LG. Telehealth and the global health network in the 21st century. From homecare to public health informatics. *Computer methods and programs in biomedicine.* 2001; 64(3): 155-67.
6. Lin D, Wang L, Yan S, Zhang Q, Zhang JH, Shao A. The role of oxidative stress in common risk factors and mechanisms of cardio-cerebrovascular ischemia and depression. *Oxid Med Cell Longev.* 2019; 2019: 2491927.
7. Landefeld CS, Palmer RM, Kresevic DM, Fortinsky RH, Kowal J. A randomized trial of care in a hospital medical unit especially designed to improve the functional outcomes of acutely ill older patients. *N Engl J Med.* 1995; 332(20): 1338-44.
8. Lovell J, Pham T, Noaman SQ, Davis M-C, Johnson M, Ibrahim JE. Self-management of heart failure in dementia and cognitive impairment: a systematic review. *BMC Cardiovasc Disord.* 2019; 19(1): 99.
9. Riegel B, Lee CS, Dickson VV. Self care in patients with chronic heart failure. *Nat Rev Cardiol.* 2011; 19; 8(11): 644-54.
10. Sharif F, Moshkelgosha F, Molazem Z, Kalyani MN, Vossughi M. The effects of discharge plan on stress, anxiety and depression in patients undergoing percutaneous transluminal coronary angioplasty: a randomized controlled trial. *Int J Community Based Nurs Midwifery.* 2014; 2(2): 60-8.
11. Lainscak M, Blue L, Clark AL, Dahlström U, Dickstein K, Ekman I, et al. Self-care management of heart failure: practical recommendations from the Patient Care Committee of the Heart Failure Association of the European Society of Cardiology. *Eur J Heart Fail.* 2011; 13(2): 115-26.
12. Tomioka K, Kurumatani N, Hosoi H. Age and gender differences in the association between social participation and instrumental activities of daily living among community-dwelling elderly. *BMC Geriatr.* 2017; 17(1): 99.
13. Avazeh M, Babaei N, Farhoudi S, Kalteh E, Gholizadeh B. The Study of Self-care and Related Factors in the Elderly with Chronic Diseases in 2018. *J Health & Care.* 2019; 21(2): 135-44. [In Persian]
14. SangSefdi S, Ghanbari Moghaddam A, Mohamadzadeh M, Karbalaee Z, Mohammadi M. Self-care and its predictive role in the quality of life of the elderly living in the community. *J Gerontol (joge).* 2018; 2(4): 64-70. [In Persian]
15. Prochota B, Szwamel K, Uchmanowicz I. Socio-clinical variables affecting the level of self-care in elderly patients with heart failure. *Eur J Cardiovas Nurs.* 2019; 18(7): 628-36.
16. Stevenson LW, Perloff JK. The limited reliability of physical signs for estimating hemodynamics in chronic heart failure. *JAMA.* 1989; 261(6): 884-88.
17. Bagheri Nesami M, Ardeshiri M, Holari B. Self-care behavior and its related factors in the community-dwelling elderlies in Sari, 2014. *J Clin Nurs Midwifery.* 2016; 4(4): 48-56. [In Persian]
18. Rabie T, Klopper HC. Guidelines to facilitate self-care among older persons in South Africa. *Health Sa Gesondheid.* 2015; 20(1): 33-44.
19. Anbari K, Ghanadi K, Kaviani M, Montazeri R. The self care and its related factors in diabetic patients of khorramabad city.Yafteh. 2012; 14: 49-57. [In Persian]
20. Jordan DN, Jordan JL. Self-care behaviors of Filipino-American adults with type 2 diabetes mellitus. *Journal of Diabetes and its Complications.* 2010; 24(4): 250-58.

21. Jang DE, Shin JH. Self-care performance of middle-aged stroke patients in Korea. *Clin Nurs Res.* 2019; 28(3): 263-79.
22. Eimer S, Mahmoodi-Shan GR. Self-care Behaviour of the Elderly with Heart Failure and its Associated Factors in Hospitals of Gonbad Kavus in 2018. *J Res Dev Nurs & Midw.* 2020; 17(1): 12-21.
23. Maaten S, Kephart G, Kirkland S, Andreou P. Chronic disease risk factors associated with health service use in the elderly. *BMC Health Serv Res.* 2008; 8(1): 237.
24. Vermunt NPCA, Harmsen M, Westert GP, Olde Rikkert MGM, Faber MJ. Collaborative goal setting with elderly patients with chronic disease or multimorbidity: a systematic review. *BMC Geriatr.* 2017; 17(1): 167.
25. Tabrizi JS, Behghadami MA, Saadati M, Söderhamn U. Self-care ability of older people living in urban areas of northwestern Iran. *Iran J Public Health.* 2018; 47(12): 1899-905.
26. Eknithiset R, Samrongthong R, Kumar R. Factors associated with knowledge, perception, and practice toward self-care among elderly patients suffering from Type 2 diabetes mellitus in rural Thailand. *J Ayub Med Coll Abbottabad.* 2018; 30(1): 107-10.
27. Hajjhashemi Z, Vameghi R, Montazeri A, Sohrabi MR, Akbari A, Kamrani. Comparing quality of life among rural and urban elderly outpatients. *Payesh.* 2013; 12(3): 255-62. [In Persian]