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Original Article

Self-care Ability and Demographic Characteristics among Older Adults in the Urban and Rural Areas of Miandoab, Iran

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Abstract

Objectives: Self-care helps older adults manage their health and stay independent by delaying disability. This study aimed to study the self-care ability and demographic characteristics of older adults in urban and rural areas of Miandoab.

Design: This cross-sectional study was conducted in 2017, encompassing a total of 620 older adults aged 60 years and above.

Participants: Eligible older adults were selected using stratified random sampling method from both urban and rural healthcare centers located in Miandoab, Iran. The data collection instruments comprised a demographic questionnaire and self-care ability. Data analysis was conducted using SPSS version 18 software employing t-tests and one-way analysis of variance.

Results: The mean ± standard deviation of self-care was higher in the physical dimension of the older adults living in rural areas (80.64 ± 0.81), males (90.69 ± 1.00), married elderly (90.87 ± 0.75), illiterate elderly (94.67 ± 1.08), employed individuals (91.78 ± 0.98), those with less than 65 years old (95.18 ± 0.69), and old adults with an income level of more than 2 million (93.36 ± 1.56). Moreover, a statistically significant difference was observed ($P < 0.05$).

Conclusions: Demographic factors such as the place of residence, marriage, economic sufficiency, and lifestyle influenced the level of self-care. The findings suggest providing measures to improve the quality of life of older adults. The members of the rural family physicians' health team and healthcare providers in urban areas should play a more substantial role in training and improving self-care.

Keywords: Self-care, Older people, Iran, Old age

Introduction

Nowadays, the population aging needs assiduous attention due to low birth rates, higher life expectancy, and improved health status so that supportive approaches can be planned by health policy decision-makers in economics, community, and culture.[1] The global population of individuals aged 60 and above is projected to experience a significant surge by 2050, with estimates indicating a staggering two billion people in this age group.[2] By 2050, the global population will experience a significant increase, particularly in developing nations, with over 3.5-fold growth.[3] The 2011 national census of population and housing in Iran revealed that 2.8% (6.2 million people) were aged, categorizing it as one of the world's oldest populations. It is estimated that by 2031, the share of the population aged 60 and above will increase to 20-25%.[4]

Self-care includes activities for survival, healthy functioning, continuous improvement, and feeling good.[5] With the aging of the world's population and the increase in the prevalence of chronic diseases in older adults,[6] the importance of self-care and health-promoting behaviors to maintain people's function and independence and increase their quality of life is increasing day by day.[7] Self-care helps older adults manage their health conditions and remain independent in daily activities,[8] and it is one of the main pillars of an older adult's life which is affected by many factors.[9] Research results indicated that self-care in the elderly directly correlates with factors such as education level, socioeconomic status, and social support and has an inverse relationship with stressful life events. Older adults, people with low socioeconomic levels, and minority groups need special attention in self-care.[9,10]

Empowering seniors with self-management and self-care programs for chronic diseases such as arthritis, heart disease, and hypertension can prevent and delay disability. Old age does not necessarily mean disability.[11] Therefore, considering the undeniable and critical effects of self-

care on aging and health, conducting as many studies as possible to improve the fields of self-care is one of the necessities of the health field. Therefore, the present study was undertaken to investigate the dimensions of self-care based on the demographic characteristics of older adults in the urban and rural areas of Miandoab in West Azerbaijan province.

Methods

The study covered all 22 healthcare centers, including urban and rural areas, throughout the Miandoab region in 2019. The participants in this experiment were randomly selected from subjects above 60 years and both genders. Considering the difference in the proportion of older adults in each health center, the stratified random sampling method was conducted in a two-stage process. The eligibility criteria were to be aged above 60 years and to be resident for at least one month in the city according to family records and code on the centers' systems and health-integrated information systems (SIB: Persian words for the integrated-health information system), respectively. The participants who presented any history of cognitive and mental disorders such as severe depression, Alzheimer's disease, bipolar disorder, and schizophrenia in their medical records proven by the centers' physicians were excluded from the study.

In the first stage, the 22 urban and rural healthcare centers were divided into homogeneous groups based on the entry criteria of the older adult members of the center. In the second stage, using simple random sampling via this formula (RANDBETWEEN = 1620), samples were selected according to the ratio of the number of older adults in each center.

Furthermore, informed written consent was obtained from each subject after they had been provided with detailed information about the experiment. In addition, it was explained that the filled questionnaire will be strictly confidential and if they want, the project's findings will be sent to them.

The first part of the demographic questionnaire includes inquiries about age, gender, education, occupation, marital status, housing, disability, lifestyle, income, insurance coverage, and suffering chronic diseases. The sample size based on the first type error of the hypothesis test was 0.05, and the power test was 0.8, $Z1-\alpha/2 = 1.96$ and $Z1-\beta = 0.88$. Moreover, based on a study on the effect of the self-care training program on improving the quality of life among the elderly referred to health centers in Zanjan by Salimi et al[12] and considering the comparison of the mean difference calculated with the following formula, the number of subjects was estimated to be 620 people. The response rate was 100% due to the anticipation of a 10% decrease in selected samples.

The data collection tools include a demographic information questionnaire (age, gender, marriage, education, place of residence, number of children, income, disability, lifestyle, covered by insurance, and suffering from chronic diseases) and a questionnaire on the self-care ability of the elderly designed by Hemmati Maslak Pak and Hashemlo, based on Orem's self-care theory. It contains 40 items to examine five dimensions: physical self-care (9 items), daily self-care (6 items), emotional self-care (6 items), social self-care (9 items), and self-care during illness (10 items). In the psychometric study, the reliability of the questionnaire was calculated based on the internal consistency with Cronbach's alpha coefficient of 0.864. Moreover, a four-part Likert scale (rarely, sometimes, most of the time, and always) was considered for each item, and the lowest score and the highest score in this questionnaire were 40 and 160, respectively. Higher scores reflect greater self-care ability in the elderly.[13] After determining the sample in each urban and rural healthcare center, the questionnaires were administered by visiting the centers and inviting the elderly to complete the questionnaires, and whenever they could not write, the researcher completed the questionnaires.

After collecting and entering the data into the SPSS version 18 software, removing outliers, and checking normality using the Kolmogorov-Smirnov test, the data were analyzed using t-tests and a one-way analysis of variance (ANOVA). Due to the normal distribution of the data, a one-way ANOVA test with Sidak post-hoc was used. Univariate one-way ANOVA was used for data analysis, controlling for confounder variables such as the presence of chronic diseases, disability, lifestyle, or social support as covariates.

Results

In the present study, finding showed a statistically significant difference (P value < 0.05) in the mean score of self-care in the physical dimension of the older people living in rural areas (80.64 ± 0.81), people who are male (90.69 ± 1.00), married (90.87 ± 0.75), illiterate (94.67 ± 1.08), employed (91.78 ± 0.98), and less than 65 years old (95.18 ± 0.69), and those with an income exceeding US$ 60 (93.36 ± 1.56), as depicted in Table 1. Moreover, the mean score of self-care in the dimension of daily care was higher in males (90.69 ± 1.00), married people (90.87 ± 0.75), illiterate elderly (94.67 ± 1.08), older people living in rural areas (51 ± 1), working seniors (92.9 ± 1.06), old people under 65 years old (95.18 ± 0.69), seniors with less than four children (92.32 ± 1.42), and seniors with an income exceeding US$ 60 (93.36 ± 1.56). Furthermore, Table 1 displays a significant difference between the subgroups (P value < 0.05).

Table 1 demonstrates that the mean score of emotional self-care was higher in the older people living in rural areas (86.5 ± 0.91), males (86.13 ± 0.96), married elderly (85.51 ± 0.75), illiterate elderly (89.11 ± 1.4), employed seniors (89.01 ± 0.98), elderly farmers (86.94 ± 0.89), seniors under 65 years old (87.14 ± 1.11), and older adults with fewer than four children (85.34 ± 1.59), and those with an income exceeding $60 US ($89.35 \pm 1.17$). In addition, a statistically significant difference was observed

Table 1. Comparison of Self-care Domains and Sociodemographic Characteristics (N = 620)

Variables	Self-care Domains				
	Physical	Emotional	Social	Daily	Disease
Living Area					
Urban	77.45 (0.9)	81.56 (1.0)	68.62 (0.6)	89.04 (1.0)	86.09 (0.8)
Rural	80.64 (0.8)	86.5 (0.9)	71.07 (0.7)	89.51 (1.0)	87.05 (0.8)
P value	0.009	0.001	0.011	0.742	0.434
Gender					
Male	81.42 (0.8)	86.13 (0.9)	72.94 (0.6)	90.69 (1.0)	87.89 (0.8)
Female	76.98 (0.8)	82.2 (0.9)	67.17 (0.6)	88.06 (0.9)	85.43 (0.8)
P value	0.001	0.005	0.001	0.063	0.044
Marital status					
Single/Widowed/Divorced	76.03 (1.2)	79.8 (1.5)	67.43 (0.9)	84.75 (1.6)	84.17 (1.3)
Married	80.1 (0.6)	85.15 (0.7)	70.70 (0.5)	90.78 (0.7)	87.14 (0.6)
P value	0.003	0.001	0.003	0.001	0.020
Educational status					
Illiterate	83.59 (1.1)	89.11 (1.4)	72.74 (1.0)	94.27 (0.7)	86.27 (1.3)
Literate	77.98 (0.7)	82.83 (0.7)	69.28 (0.5)	94.67 (1.0)	86.27 (0.6)
P value	0.001	0.001	0.016	0.001	0.317
Occupation					
Employment	83.5 (1.1) *	89.0 (0.9) *	74.2 (0.8) *	92.9 (1.0) *	87.9 (1.9)
Housekeeper	77.2 (0.8)	82.9 (1.0)	67.7 (0.7)	89.0 (1.0)	86.5 (0.8)
Unemployment and retired	77.3 (1.4)	80.2 (1.6)	68.8 (1.0)	85.4 (1.7)	85.1 (1.4)
P value	0.001	0.001	0.001	0.001	0.277
Income sources					
Farming	80.6 (0.9)	86.9 (0.9) *	72.4 (0.7) *	91.8 (0.9) *	87.4 (0.9)
Pensions	78.1 (1.4)	83.4 (1.6)	69.7 (1.0)	88.5 (1.7)	86.6 (1.4)
Other	77.2 (1.1)	80.8 (1.3)	67.5 (0.9)	85.5 (1.4)	85.5 (1.2)
P value	0.051	0.001	0.001	0.001	0.418
Age groups					
<65	80.4 (1.0)	87.1 (1.1) *	70.6 (0.8)	95.2 (0.7) *	87.3 (1.0) *
65-70	80.2 (0.9)	85.9 (1.0)	70.7 (0.8)	92.4 (0.9)	88.0 (0.8)
>70	76.5 (1.1)	79.1 (1.3)	68.2 (0.8)	80.5 (1.6)	84.3 (1.2)
P value	0.13	0.001	0.058	0.001	0.033
Number of children					
<4	81.6 (1.5)	85.3 (1.6)	70.2 (1.1)	92.3 (1.4) *	87.4 (1.3)
4	78.5 (1.4)	85.2 (1.6)	70.1 (1.1)	90.5 (1.4)	87.9 (1.3)
5	79.3 (1.4)	85.1 (1.5)	70.1 (1.0)	89.8 (1.6)	86.3 (1.5)
6	78.1 (1.4)	81.6 (1.7)	70.2 (1.4)	89.2 (1.6)	86.6 (1.5)
7	78.3 (1.5)	85.7 (1.9)	69.2 (1.2)	89.1 (1.9)	86.1 (1.7)
>7	77.1 (1.6)	80.8 (1.7)	68.9 (1.1)	84.4 (2.2)	84.9 (1.5)
P value	0.527	0.162	0.942	0.040	0.788
Income rate					
<US$ 30	72.1 (1.4)	78.0 (1.9)	68.9 (1.3)	87.2 (2.0)	80.9 (1.6)
U$ 30-60 S	81.0 (1.0)	88.0 (1.0)	71.2 (0.8)	91.7 (1.0)	88.9 (0.9)
>US$ 60	82.4 (1.5) *	89.3 (1.1) *	73.1 (1.0) *	93.3 (1.5) *	89.4 (1.2)*
P value	0.001	0.001	0.035	0.021	0.001

* Sidak post-hoc test

between the subgroups (P value < 0.05) (Table 1).

Likewise, according to Table 1, the mean social self-care score was higher in older people living in rural areas (71.07 ± 0.71), males (72.94 ± 0.66), married elderly (70.7 ± 0.55), illiterate individuals (72.74 ± 1.06), employed elderly (74.24 ± 0.79), farmers (72.41 ± 0.73), and seniors with an income above $60 US (16.1 ± 1.0 73). Additionally, a statistically significant difference was observed between the subgroups (P value < 0.05).

The mean score of illness was higher in older adults (87.89 ± 0.85), married elderly (87.41 ± 0.67), those aged 65-70 years (88.05 ± 0.87), and those with an income level between $30- $60 US (89.96 ± 0.98), and a statistically significant difference was observed between the subgroups (P value < 0.05), as illustrated in Table 1.

Discussion

This study aimed to investigate the dimensions of self-care based on the demographic characteristics of the elderly in urban and rural areas of Miandoab. Self-care in the current study consisted of five dimensions: physical self-care, daily self-care, emotional self-care, social self-care, and self-care during illness. In all these dimensions, the average self-care was higher in the older people living in rural areas, men, farmers, people less than 65 years old, older people having less than four children, the elderly with an income more than US$ 60, as well as married, illiterate, and employed elderly.

The results of the present study revealed that the mean self-care score was higher in older people living in rural areas. Dale and colleagues' study showed that older people who live in rural areas asked for more help from their families than from formal caregivers.[14] The results of Salehi and Keikavoosi-Arani's study also confirmed the direct and significant relationship between social support and the tendency to self-care behaviors in the elderly.[11] Other studies have shown that social support promotes self-care activities amongst older people[15] and relatives play a significant role in the self-care of older adults.[16] Furthermore, the results of the present study can confirm the opinion that continuous and interconnected social communication in rural social environments makes the elderly participate as much as possible in all activities, and this social participation can also help the elderly to maintain their health and increase self-care motivation.

In the present study, the mean self-care score in all dimensions was higher in men than in older women. Research findings in Bojnord showed that older men have higher self-care abilities than older women.[17] The results of Salehi and Keikavoosi-Arani's study also indicated a correlation between gender and occupational self-care in the elderly and a correlation between genders. This difference is because jobs are more important for men.[11] It seems that educated and employed women have relatively much less income compared to men; therefore, the lack of sufficient income in older women may be considered an obstacle to self-care. On the other hand, the death of a spouse and loneliness in the aging period can also be considered a factor affecting the reduction of self-care ability in older women. The results of the study by Dorahaki and Noubahkt, which was conducted to determine the social and economic status of older women in Iran based on the census data of 2015, displayed that only 44% of women in Iran and 43.3% of their husbands are literate. Moreover, 29% of older women in Iran live alone.[18]

The results of the present study indicated a higher mean self-care score among married older adults in all dimensions. Consistent with this finding, a study by Biehle and Mickelson highlighted the impact of spousal support on self-care behaviors, indicating that the quality of marriage and marital intimacy leads to better self-care.[19] Similarly, the study by Sadegh Tabrizi et al showed that marital status significantly correlates with the self-care ability of the elderly.[20] In a way, the results of the present study, in line with the results of the above studies, clarify the role of the wife's support during old age.

In the present study, the illiterate elderly had a higher mean score in self-care in all dimensions. In most studies, the share of higher self-care scores has been assigned to the elderly with higher education,[21,22] which is contrary to the results of the present study. Considering that the present study was conducted in the urban and rural areas of Miandoab, the number of illiterate older adults can affect the above results.

The employed elderly in the present study had a higher mean self-care score in all dimensions. These results are in line with the results of other studies,[11,20,21] and considering the impact of social presence, job, and income on self-care in the elderly, the findings of this study are in line with the results of other studies.

Elderly farmers in the present study had a higher mean score in most dimensions of self-care in the elderly. The results of the survey by Bagheri Nasami et al also showed a positive and significant relationship between the level of physical activity and self-care.[22] The results of Floriano and Dos Santos Tavare's study also indicated that the elderly who have a higher level of physical activity performed more self-care behaviors.[23] Active presence in agricultural activities due to the necessity of the labor force to advance the job goals and achieve the product at the right time perhaps suggests the need for more self-care. In addition, the results of Salehi and Keikavoosi-Arani's study revealed a higher mean score of occupational self-care in working people.[11]

In the present study, the elderly with less than 65 years of age had a higher mean self-care score in most dimensions. These results are consistent with Salehi and Keikavoosi-Arani's study.[11] Likewise, Koirala and colleagues' study revealed an inverse and significant relationship between awareness and desire for self-care with increasing age. Therefore, with growing age, the desire for self-care in the elderly decreased which can be attributed to some extent to the problems and cognitive issues in the elderly.[24] The results of the present study also confirm the above-

mentioned statement.

Moreover, the older adults with less than four children in the present study had a higher mean score in most aspects of self-care. The need for social belonging and interpersonal communication,[25] the preference of older adults for support from children and family,[14] and the effect of these factors on self-care in the elderly can confirm that the number of children increases the self-care of the elderly, and it can be effective. Additionally, in the current study, older adults with income above US$ 60 per month had higher average scores in most dimensions of self-care. The results of other studies[22,26] are also consistent with this result and confirm the effect of higher income levels on self-care in the elderly. This issue raises the need to create appropriate infrastructures for financial payments in old age to maintain the health of the elderly even more urgently.

Finally, inadequate self-care among older adults can significantly affect their overall health, both physically and mentally, leading to various physical and mental conditions such as high blood pressure, heart disease, obesity, weakened immune system, anxiety, depression, cognitive decline, Alzheimer's disease, and even death. This can result in cognitive and functional declines, increased risk of chronic diseases, and fall-related injuries, leading to disability and the loss of independence.[27] Additionally, poor self-care can negatively impact the economic situation of older adults and their countries, reducing productivity and income, increasing healthcare costs, and lowering the quality of life.[28] Increasing social isolation and loneliness can also have a severe impact on the physical and mental health of older adults, compared to other well-established risk factors such as smoking, obesity, and physical inactivity.[29]

The study offers valuable insights into self-care among older adults in specific subgroups. However, generalizing these findings to other populations or settings requires caution. Further research with larger and more diverse samples is necessary to enhance external validity.

Limitations

The sampling method employed in this study may introduce a selection bias, potentially compromising the validity of the findings. It is possible that older adults registered in health centers and those with access to health-integrated systems differ significantly from those who did not register in health centers and lacked access to health-integrated systems in terms of their self-care behaviors and demographic characteristics. Moreover, the exclusion criteria may inadvertently exclude older adults with cognitive and mental disorders, thereby limiting the study's scope and applicability. Additionally, relying solely on self-reported data from older adults introduces the risk of recall bias, social desirability bias, and measurement error.

Conclusion

The results of this study indicated that high scores of self-care can be influenced by factors such as being men, illiterate, married, wealthy, farmer, employed, and under 65 years old, having less than four children, and living in rural areas. Moreover, the amount of self-care structure during recovery was affected less than other parameters and was only associated with high income rate, being men, and being illiterate. According to the results of this study, economic status should be considered in developing public health policies and employing plans to improve the elderly's self-esteem. Accordingly, receiving help from family members or medical professionals can be a reasonable solution to reach better values of self-care structures among the elderly.

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Data availability statement

All data generated or analyzed during the study are included in this published article.

Ethical approval

The research was approved by the Ethical Committee of Tabriz University of Medical Sciences (IR.TBZMED.REC.1397.953). Informed consent was obtained from all the people who participated in the study. All methods were carried out according to relevant guidelines and regulations.

Consent for publication

Not Applicable.

Conflict of interests

There is no conflict of interests. The authors have no financial relationships relevant to this article. None of the authors has received any support for this work that can influence its outcome.

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