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Original Article

Disability and Self-Care among Elders in Yazd

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A B S T R A C T

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Introduction: Geriatric syndromes lead to a number of disabilities which dramatically affect the quality of life in ageing. Facilitating the process of self-care can improve the elder's health to a great extent which has received less attention in previous studies. This study aimed at investigating the relationship between the disability and self-care in the elderly of Yazd.

Methods: This cross-sectional study was conducted in Yazd; 234 elderly participants were selected through cluster random sampling. WHODAS-II questionnaire and a researcher-designed self-care questionnaire were utilized and collected data analyzed using Mann-Whitney U, Kruskal-Wallis H, chi-square and Spearman correlation coefficient tests.

Results: The mean score of disability was 38.55 ± 13.71 (ranging from 0 to 92) and the mean score of self-care was 61.57 ± 15.94 (ranging from 0 to 118). There was no statistically significant correlation between total score of disability and self-care, however, correlation was detected between the subscales.

Conclusion: Given the high level of disability in a majority of elders and low level of their self-care, self-care promotion programs and prevention of disabilities in collaboration with their families and health centers are recommended.

Keywords: Disability, Self-care, Elders

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Introduction

Comparing with other age groups, the elderly are more prone to various chronic and debilitating diseases (1). In general, disability is regarded as a good indicator of assessing the health status of the ageing population.

Disability is defined as the dysfunction in performing daily activities (2), or need help in regard with at least one of the daily activities (3). Disability is caused by combination of a series of social, personal and environmental factors. In addition, in developing disabilities, factors including gender, education, social networks and also the state of diseases are considered influential (3). Social support and geographical features of the area of living are effective in reducing or increasing disability in the elderly, hence, the need for revising programs of health care system for the elderly (4, 5).

Many studies show that these inabilities affect different dimensions of people's lives. In a study in USA it has been revealed that 85% of the elderly need

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support in their daily activities, 40% require assistance in household chores; and Most of them have been faced with reduction in financial resources (6). According to some reports, the sense of disability impact more on health status and quality of life than actual inability (7).

Self-care in the elderly is one of the issues which is of great importance in this period of life, as well as in disability-related issues. Self-care is defined as the activities that people recognize and perform individually to maintain their life and health as well as to have a permanent sense of well-being (8). Geriatric syndromes can lead to a number of disabilities which, in turn, impact dramatically the elders' quality of life and self-care status (9). Self-care is regarded as an integral part of all levels of preventive measures as well as primary and specialized health care. Therefore, facilitating the process of self-care implementation can greatly enhance health and socio-economic condition of the population (10). Given the importance of aging period and the fact that no study conducted so far on disability and its relationship with self-care in Yazd, this study aimed to determine the relationship between disability and self-care among elders in Yazd.

Methods

Procedures

This cross-sectional study was conducted on 234 elderly people in Yazd, Iran. Regarding the ratio of sever disability equal to 4.3 in previous studies (11), confidence level of 95%, and estimation error of 6%, required sample numbers was estimated 195. Considering design effect of 1.2, 234 elders aged ≤ 60 were enrolled in the study. Participants were selected through cluster random sampling among 10 urban regions, each of which was covered by an urban healthcare center. Firstly, one house in each cluster was randomly selected eventually, 25 persons in each cluster were included in the study. After obtaining informed consent, participants were ensured of confidentiality of their information, and questionnaires were completed. Eligibility criteria were being ≤ 60 years of age and able to answer the questions.

Instruments

The instruments consisted of three parts:

1- Demographic information including age, gender, education level, marital status, number of children, retirement status, occupational status, type of housing, state of disability, life condition (with spouse and children, etc.), main source of income, insurance coverage status, dentures status, smoking, and source of receiving information. The status of suffering from following chronic diseases was also assessed: cardiovascular diseases, cancer, hypertension, diabetes, lipid disorders, audio-visual impairment, balance disorder, anorexia, headache, urinary problems, obesity, depression, respiratory diseases, digestive problems, arthrosis, osteoporosis, and sleep problems.

2- Previously approved, in turn of validity and reliability, Persian WHODAS-II questionnaire was used for measurement of disability (12). WHODAS-II is a 36-item questionnaire that measures disability in six areas including: domain 1: cognition – understanding and communicating, domain 2: mobility – moving and getting around, domain 3: self-care – attending to one's hygiene, dressing, eating and staying alone, domain 4: getting along – interacting with other people, domain 5: life activities – domestic responsibilities, leisure, work and school, domain 6: participation joining in community activities, participating in society (13).

In this questionnaire, based on the Likert scale, score 0 -5 is given to each question, the least and maximum overall score is 36 and 180, respectively. Based on the WHO algorithm, raw scales are changed to scales ranging from 1-100 and individuals are classified as follows: Those with scores of 0 to 4: no disability, 5 to 25: low disability, 26 to 50: moderate disability, 51 to 75: severe disability, and 76 to 100: very severe disability (12).

3- Self-care assessment: a researcher-designed questionnaire consisting of 59 items was used to assess self-care. This questionnaire included the following subscales: physical activity (5 items), nutrition (8 items), spiritual growth (6 items), stress management (8 items), interpersonal relations (8 items), and health responsibility (24 items). The questionnaire was designed based on the three-point Likert scale between 0-2 (0 = never, 2 = always). Thus, the possible score ranged from 0 to 180. To estimate the validity, six experts reviewed the questionnaire and some of the items were subsequently modified. The reliability of the questionnaire was substantiated by conducting a pilot study on 20 individuals; Cronbach's alpha coefficient was found to be in the range of 0.70-0.87.

Data analysis

Having completed the questionnaire, the data was analyzed using SPSS and descriptive statistics were applied in order to provide frequency table, central indicators, and dispersion. In addition, analytical statistics was used in order to analyze the data including Kruskal-Wallis H, Mann-Whitney U test, Spearman correlation coefficient, and Chi-square tests.

Results

Most of the study participants were women (52.6%), and married (76.9%) while 47.7% and 41.9% were housewives and illiterate, respectively. Mean age was 69.59 ± 6.18, and mean number of children was 5.47 ± 2.46. More than half (59.8%) were retired and 88.9% lived in their own houses. (Table 1)

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Of the participants, 93.2% had no disability and 2.6% out of 5.6% of the elders who suffered from a type of disability, were visually disabled. Up to 70.9% wore dentures and 94.9 % of them were covered by health insurance. Concerning the source of the health information, 53.4% received their information from their physicians. Investigations pertaining to the development of various diseases in the elderly indicated that hypertension (66.2%) comprised the highest percentage following arthrosis (64.1%), lipid disorders (63.7%), and diabetes while a very small percentage of the elderly (1.26%) suffered from depression.

Table 1. Frequency of demographic characters

Variable		N	%
Sex	Male	111	47.7
	Female	123	52.3
Married	Married	180	76.9
	Widow(er)	51	21.8
	Divorced	3	1.3
Education	Illiterate	98	41.9
	Primary school	87	37.2
	Elementary school	21	9
	High school	11	4.7
	Associate degree	5	2.1
	Bachelor's degree	12	5.1
Retired	Yes	140	59.8
	No	94	40.2
Living status	With spouse	115	49.1
	With children	65	27.8
	With single children	11	4.7
	With married children	29	12.4
	Alone	14	6
Housing	Ownership	208	88.9
	Rental	11	4.7
	Children's house	15	6.4
Source of income	Private	22	9.4
	Retirement	133	56.8
	Children	24	10.3
	Supportive organizations	15	6.4
	Relatives	1	0.4
	Spouse's income	25	10.7
	Selling or renting properties	14	6

Among the disability subscales, self-care subscale had the lowest mean while the subscale of life activities and participation had the highest mean (Table 2). The results showed that the relation between disability and source of income and wearing dentures were statistically significant so that those whose source of income was children and denture wearers had less disabilities.

Regarding self-care, participants had the highest mean in nutrition subscale and the lowest in physical activity subscale (Table 3). In correlation analysis, self-care score decreased significantly with age (P = 0.01, r = -0.212). There was no significant difference between men and women in terms of self-care behavior. In contrast, married men and women (P = 0.027), those with higher education levels (P = 0.008), and those source of income was their spouses (P = 0.007) had significantly better self-care. The mean of self-care was statistically significant in respect of chronic diseases such as audio-visual impairment, balance disorder, diabetes, anorexia, headache, digestive problems, osteoporosis, and arthrosis. According to the results, those with these diseases had less self-care score. Regarding the severity of disability in daily care and life activities, the mean of self-care score was statistically different. People with moderate disability in self-care subscale and people within the domain of low to moderate disability in life activity subscale had lower self-care mean.

As shown in Table 4, there was no significant correlation between the total score of disability and self-care. However, there was a relationship between the subscales of disability and self-care in a way that there was positive correlation between the life activities and self-care as well as health responsibility. Moreover, there was a positive significant correlation between stress management and cognition, getting along, mobility, self-care, and life activities.

Discussion

This study aimed at determining the prevalence of disability and self-care among the elderly in Yazd. The mean score of disability in the assessed elderly people was 38.55± 13.71 (0-92). In terms of classification of disability, the majority of the elderly (57.3%) had moderate disability, much lower than elderlies of Esfahan (84.4%) (12) and Tehran (88.3%)(9). However, the mean score of disability in Esfahan and Tehran is lower than Yazd; 29.7 and 33.3, respectively. Internationally, a study in 57 countries showed the prevalence of disability between 24 and 40 %(14). It seems that a higher level of disability in the elderly in Yazd is referred to cultural discrepancies and differences in facilities.

Similar to the other studies (3,15-17), the participants were more disable to do daily living activities and socialization, with the lowest amount of disability in self-care subscale.

It is evident that the elderly faced difficulties and disabilities in terms of doing activities and responsibilities effectively with required speed at home. High prevalence of comorbidities among the elderly may be responsible for such the difficulties; such as osteoporosis, arthrosis, high blood pressure, and audio-visual impairment (18). Due to the high prevalence of cognitive impairment, some old people have problems prioritizing their tasks and forget some self-care activities. As a result, jobs are not carried out with the required care and speed (19).

It seems that social disabilities of the elderly not only impose social isolation but their movement and social attachment is also limited. Another reason for disabilities in social activities can be traced back to high prevalence of mental illnesses, at this point, such as depression, hopelessness, and lack of social support, which put subsequent restriction on younger age groups to use their invaluable lifelong experiences.

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Table 2. Distribution of mean and standard deviation subscale of disability in the elderly

Subscale of disability	Min	Max	Mean	SD	Range
Cognition	0	20	7.97	4.80	0-20
Mobility	0	16	6.42	3.72	0-16
Self-care	0	10	4.25	2.44	0-10
getting along	0	12	4.73	2.89	0-12
Life activities (without job)	0	10	4.47	2.65	0-10
Life activities (with job)	0	12	0.21	1.15	0-14
Participation	0	24	10.68	5.06	0-24
Total disability (without jobs)	0	81	38.55	13.71	0-92
Total score of disability (with job)	0	84	38.76	13.83	0-106

Table 3. Distribution of mean and standard deviation subscales of self-care in the elderly

Subscales of self-care behaviors	Min	Max	Mean	SD	Range
Physical activity	0	10	2.49	3.04	0-10
Nutrition	0	16	11.76	3.96	0-16
Emotional growth	0	12	6.70	2.97	0-12
Stress management	0	16	7.12	3.60	0-16
Interpersonal communication	0	16	7.58	3.78	0-16
Responsibility	0	46	25.89	8.72	0-48
Total score of self-care behaviors	0	106	61.57	15.94	0-118

Table 4: The correlation between the scale of self-care and disability in the elderly

Correlation		Physical activity	Nutrition	Emotional growth	Stress management	Interpersonal communication	Responsibility	Total score of self-care
Subscales of disability	**Cognition**	0.033	-0.098	0. 136*	0.182**	0.124	0.085	.102
	Mobility	0.037	-0.080	0.099	0.140*	0.071	0.022	0.063
	Self-car	0.060	0.004	0.075	0.171**	0.109	0.042	0.095
	Getting along	0.079	0.155*	0.055	0.083	0.090	-0.080	-0.037
	Life activities	0.195**	0.115	0.110	0.246**	0.043	0.222**	0.283**
	Participation	0.034	-0.043	0.065	0.026	-0.064	0.001	-0.012
	Total score of disability	0.069	-0.081	0.118	0.189**	0.069	0.035	0.076

However, despite the above mentioned problems, elderly people try to perform their self-care activities, such as bathing, dressing, eating as independently as possible, even if they may encounter severe problems. Most of them are not willing to be dependent on others (20).

In contrast to other studies that found noticeable correlation between demographic variables and disability status, the study observed only a significant relation between disability and source of income, and having dentures (11, 12, 21-23). One reason may be that, in addition to confounding factors, demographic variables were less disperse and that we had fairly homogeneous samples (23, 24). The ratio of disability was lower in the elderly who were financially supported by their children or supportive organizations. Such the close relationship can result in the provision of social support and strengthening the sense of being valuable to others in the elderly and can obviously reduce disability (25).

Having good dentures was considered to be another variable associated with reduced disability. This probably arises from the idea that they can have more diverse kinds of foods, and, therefore, they are healthier. But a majority of elderly people without dentures or fewer teeth suffer from severe tooth decay and gum diseases. In fact, they have problems in consumption of food products and in some cases even talking and communicating with others (26). Checking the status of self-care in the elderly, self-care mean score was 61.57 ± 15.94 (0-118) which represents a moderate level of self-care among the elderly in this study, which is consistent with Namjoo (27) on the retired elderly in Rasht who reported the mean score of 92.5 ± 13.6 (range 32-128).

The same situation was established in almost all subscales. However, the nutrition subscale with the mean score of 73.5 was established in the highest level and physical activity with the mean score of 24.9 was settled in the lowest level which is consistent with

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previous studies (28-32).This reflects an epidemic physical inactivity especially in people suffering from chronic problems and deficiencies. The more physical inactivity continues to remain, the greater reduction in muscle mass and muscle strength; and subsequent loss of reserve capacity and fatigue after exercise reduce the desire to exercise in old age. In case of comorbidity, this group of people will be much less desired to do physical exercises. Beside designing educational programs on the importance and benefits of physical activity in prevention of disease and development of chronic diseases and its role in improvement of life quality, audit cycles to identify barriers and help older people in performing exercise is essential. This may be due to, in developing countries, restrictions from culture and lack of infrastructures such as poor transportation and financial limitations.

The Relationship between Disability and Self-care Behaviors

There was no significant relationship between the total score of disability and self-care behaviors. However, as disability in living activities rises, an increase was observed in health responsibility and self-care behaviors. This probably arises from the fact that the more disabled elders are, the more afraid of being unable to do their chores and being dependent on others. Therefore, they have to be more responsible towards their health and self-care behaviors.

Moreover, as disability increased with cognition, getting along, immobility, self-care and life activities; stress management improved. Normally, the elderly, with more disabilities, are more concerned about consequences of dependency. Similarly, in a study by Niknami, it was reported that more than half of the subjects were good in stress management process (33).

On the other hand, it was revealed that the people with moderate disability had less self-care behaviors than the others. It seems that the elders with more severe disabilities are otherwise forced to be more careful about themselves; not willing to increase their self-care behaviors.

Conclusion

Disability is a common problem in a majority of the elderly and their self-care level is poor. Healthy life style education with an emphasis on self-care behaviors and the ways to prevent disability is essential; especially for older and less educated people with chronic diseases. Moreover, it is essential to run locally available supportive centers for health promotion and prevention of disability. In addition, since the role of families and their support are evident in outcomes, it could be beneficial to inform about the significant role of their emotional, psychological, and financial support, and its effect in reducing disabilities and improving life style of the elderly.

Study limitations

One limitation of the study was self-report nature of the instruments which is subject to response bias. Moreover no test or clinical examination was carried out to detect comorbidities.

Conflict of interest

Authors declare that there is not conflict of interest.

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References

1. Mutran E, Ferraro K. Medical need and use of services among older men and women. Journal of Gerontology. 1988; 43(5): 162-71.
2. Khoshbin S, Eshrati B, Azizabadifarahani A, Ghosi A, Motlagh ME. The report reviews the status of the elderly. Tehran: Ministry of Health and Medical Education; 2002. [Persian]
3. Adib-hajbagheri M. Evaluation of disability and its related factors in Kashan elderly. Iranian journal of Ageing. 2008; 3(8): 547-55. [Persian]
4. World Health Organisation.What are the main risk factors for disability in old age and how can disability be prevented? WHO Regional Office for Europe; 2003.
5. World Health Organization. A strategy for active, healthy ageing and old age care in the Eastern Mediterranean Region 2006-2015. Available from: www.emro.who.int/dsaf/dsa542.pdf. Accessed at 12 Feb 2015.
6. Minden SL, Frankel D, Hadden LS, Srinath KP, Perloff JN. Disability in elderly people with multiple sclerosis: an analysis of baseline data from the Sonya Slifka longitudinal multiple sclerosis Study. NeuroRehabilitation 2004; 19(1): 55-67.
7. Osada H, Shibata H, Haga H, Yasumura S. Relationship of physical condition and functional capacity to depressive status in person aged 75 years. Japanese Journal of Public Health. 1995; 42(10): 897-909.
8. Rostami M, Baraz PS, Farzianpour F, Rasekh A. Effect of Orem self care model on ederies' quality of life in health care centers of MasjedSolaiman in 2007-2008. Journal of Arak University of Medical Sciences. 2009; 12(2): 51-9. [Persian]
9. Heidari M ,Shahbazi S. Effect of self-care training program on quality of life of elders. Iran Journal of Nursing. 2012; 25(75): 1-8. [Persian]
10. Rafiefard SH, Atarzadeh M, Ahmadzadeh Asl M. A comprehensive system of enabling people to

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[DOR: 20.1001.1.24236179.2016.2.1.7.7]

take care of their health. 1th ed. Qom: Borderless Researchers, 2005. [Persian]
11. Adib-Hajbaghery M, Akbari H. The severity of old age disability and its related factors. Feyz, Journal of Kashan University of Medical Sciences. 2009; 13(3): 225-34. [Persian]
12. Vafaei Z, Haghdoost A, Alizadeh M, Dortaj E. Prevalence of disability and relevant risk factors in elderly dwellers in Isfahan province-2012. Iranian journal of Ageing. 2014; 8(31): 32-40. [Persian]
13. Üstün B, Kostanjsek N, Chatterji S, Rehm J. Manual for WHO disability assessment schedule (WHODAS 2.0). Geneva, Switzerland: WHO Library Cataloguing–in Publication Data. 2010. Available from: http://citeseerx.ist.psu.edu /viewdoc/download?doi=10.1.1.380.8869&rep=rep1&type=pdf Accessed at 24 Oct 2015
14. Hosseinpoor AR, Williams JS, Jann B, Kowal P, Officer A, Posarac A, et al. Social determinants of sex differences in disability among older adults: a multi-country decomposition analysis using the world health survey. International Journal for Equity in Health. 2012; 11: 52.
15. Shahbazi MR, Mirkhani M, Hatamizadeh N, Rahghozar M. Assessment of disability in the elderly in Tehran (2007). Iranian Journal of Ageing. 2008; 3(9): 84-91. [Persian]
16. Hudson M, Thombs BD, Steele R, Watterson R, Taillefer S, Baron M. Clinical correlates of quality of life in systemic sclerosis measured with the world health organization disability assessment schedule II. Arthritis Care & Research. 2008; 59(2): 279-84.
17. Özyüksel B, Berna U. The association between disability and residual symptoms in depressive patients: a 3-month follow-up. Turkish Journal of Psychiatry.2007; 18(4): 323-32.
18. Habibi A, Savadpoor M T, Molaei B, Samshiri M, Ghorbani M. Survey of physical functioning and prevalence of chronic illnessesamong the elderly people. Iranian Journal of Ageing. 2009; 4(3): 68-78. [Persian]
19. Maghsoodnia SH. Primary health care in the Iranian elderly. First edition. Tehran: University of Social Welfare and Rehabilitation. a cooperation with World Health Organization. 2006. [Persian]
20. Kakhki A, Abed Saeedi J, Delavar A, Saeed Zakerin M. Autonomy in the elderly: a phenomenological study. Hakim Research Journal. 2010; 12(4): 1-10. [Persian]
21. Taş Ü, Verhagen AP, Bierma-Zeinstra SM, Hofman A, Odding E, Pols HA, et al. Incidence and risk factors of disability in the elderly: the Rotterdam Study. Preventive Medicine. 2007; 44(3): 272-8.
22. Lin G.Regional assessment of elderly disability in The U.S. Social science and Medicine Journal 2000; 50(7-8): 1015-24.
23. Yoshida D, Ninomiya T, Doi Y, Hata J, Fukuhara M, Ikeda F, et al. Prevalence and causes of functional disability in an elderly general population of Japanese: the Hisayama study. Journal of Epidemiology. 2012; 22(3): 222.
24. Khodaei Gh, Tavakoli Rad M, Sahafi F, Salek M, Ziadi M, Eghbali B, et al. Elderly and Health. 1st ed. Khorasan Razavi: Hamsayeh Aftab Publication, 2012. [Persian]
25. Alipoor F, Sajadi H, Forozan A, Biglarian A. The role of social support in elderly quality of life. Social Welfare. 2009; 8 (33): 149-67. [Persian]
26. Ansai T, Hamasaki T, Awano SH, Akifusa S, Kato Y, Arimoto T, et al. Relationship between oral health and exercise function of elderly persons 80 years old in Fukuoka Prefecture. Journal of Dental Health. 2000; 50: 783-9.
27. Namjoo A, Niknami M, Baghaee M, Sedghi Sabet M, Atrkar Roshan Z. Survey health behavior of elderly referring to retirement centers in Rasht city. The Journal of Nursing and Midwifery Faculties Guilan Medical University. 2010; 20(63): 40-8. [Persian]
28. Sargazi M, Salehi S, Naji A. Health promoting behaviors of elderly people admitted to hospital in Zahedan in 2010. Journal of Zabol University of Medical Sciences and Health Services. 2012; 4(2): 73-83. [Persian]
29. Azadbakht M, Garmaroodi G, Taheri Tanjani P, Sahaf R, Shojaeizade D, Gheisvandi E. Health promoting self-care behaviors and its related factors in elderly: application of health belief model. Journal of Education And Community Health. 2014; 1(2): 20-9. [Persian]
30. Heidari S, Gholizadeh LM, Asadolahi F, AbediniZ. Evaluation of health status of elderly in Qom city, 2011, Iran. Qom University of Medical Sciences Journal. 2013; 7(4): 71-80. [Persian]
31. Sawatzky R, Liu-Ambrose T, Miller WC, Marra CA. Physical activity as a mediator of the impact of chronic conditions on quality of life in older adults. Health and Quality of Life Outcomes. 2007; 5(1): 68.
32. Sarkisian CA, Prohaska TR, Wong MD, Hirsch S, Mangione CM. The relationship between expectations for aging and physical activity among older adults. Journal of General Internal Medicine. 2005; 20(10): 911-5.
33. Niknami M, Namjou A, Baghaei M, Atrkar RZ. Survey the relationship between life satisfaction and health behaviors in elderly people referring to active retire mental centers.Journal of Guilan University of Medical Sciences. 2010; 19(73): 46-54. [Persian]

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