Research Paper

Disability Among Older Adults Residing in Poldasht, Iran in 2018: The Role of Social Aupport as A Protective Factor

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ABSTRACT

Objectives: The present study examined the role of social support in protecting against disability among older people residing in Poldasht, West Azerbaijan Province, Iran in 2018.

Methods: This cross-sectional study was undertaken on 305 older adults who were selected by random sampling method. The World Health Organization standardized disability scale (WHODASS2) and multidimensional scale of perceived social support (MSPSS) were applied to collect the data. Data analysis was run through a multiple linear regression model by SPSS software, version 23. The significance level was set at P≤0.05.

Results: The mean age of older people was 69.13±7.63 years. The highest incidence of disability was in the subscale of community participation (n=111, 36.4%) and mobility (n=111, 36.4%). The results revealed that age (β=0.32, P<0.001), financial status (β=0.14, P=0.002), job (β=-0.18, P=0.02), number of physical illnesses (β=-0.21, P<0.001), and social support (β=-0.17, P<0.001) were predictive factors of disability among older people.

Discussion: The results showed a high prevalence of disability among older people. Given the protective role of social support in reducing disability, it is suggested to consider this cost-effective factor in attempts to deal with disability and then promote the quality of life of this vulnerable group.

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Highlights

• About half of the older people experienced moderate to extreme disability.

• The results indicated that with increasing age, low financial status, and decreasing social support, the rate of disability increased significantly among older adults.

• The results also showed that retired older people suffered from more disabilities than housewives.

• Older people with a history of one to two physical illnesses had significantly lower disabilities compared with those with ≥3 physical illnesses.

Plain Language Summary

Disability is an important condition that affects the independence of older people. This study investigated the factors correlated with disability among 305 community-dwelling older adults. The findings revealed that 33.1% of the older adults had a low level of disability and 52.3% of them suffered from moderate to extreme disability. The results of multivariate regression analysis indicated that increasing age, financial status, job, the number of physical illnesses, and social support were the predictive factors of disability among older people.

1. Introduction

The global population is aging due to increasing life expectancy and reduced fertility. The number of individuals over 60 is estimated to increase worldwide to two billion by 2050 [1]. The increasing aging rate in developing countries is sharper than in other countries, as more than half of the older population in the world lives in developing countries [2]. Iran has started to come across the population aging phenomenon. The 1996 population census indicated that older adults compromised 6.6% of the Iranian population, which reached 7.7 by 2006 and 9.3 by 2016 [3]. Older adults create critical concerns, especially concerning their health [4]. Longer life expectancy has increased the number of individuals suffering from chronic conditions, disabilities, and functional limitations [5].

Disability is a crucial condition impacting older individuals' independent living [6]. Disability is defined as physical or psychological impairment that considerably limits one or more major everyday activities or job-relevant skills [7]. One-fifth of disabled people need personal assistance for their everyday activities, and more than half are above 65 years old [8]. Disability increases the dependency ratios and admission in nursing care [9], medical care costs, financial pressure on the health care systems, and negative impact on the families [8]. It is a challenging health issue for older people and society because it is correlated with adverse socioeconomic and health consequences [10].

The development of disability is determined by a set of individual, social, and environmental factors. Older adults are at higher risk of chronic disease than other age groups. Nearly 75% of older adults live with at least one chronic condition, and about 50% have multiple chronic diseases [11]. There is also a strong connection between the degree and number of chronic diseases, functional disability, and increased mortality rate [12].

Older people need social support due to reduced physical, mental, and cognitive abilities [13]. Supportive family, friends, and co-workers positively affect the health and ability to carry out daily living activities [14]. Social supports protect older people against the harmful effects of stress and promote their emotional and physical well-being [15]. According to the direct effect theory, regardless of the stress level, perceived social support is beneficial for health in any situation, and high social support encourages individuals to choose a healthier lifestyle. Social support has a direct positive impact on physical or mental well-being independent of stress levels. In other words, whether or not people are facing stressful conditions, social support is usually helpful [16].

Contradictory results have been found regarding the predictive role of demographic characteristics on disability among older adults. For instance, Arsang-Jang et al. [17] and Hajbagheri et al. [18] reported that gender and job were associated with disability. Furthermore, Noei et al. [8] showed that gender was significantly associated with disability. However, Mozafari et al. [7] could not

find these associations. Likewise, the literature has not adequately addressed the associations between demographic characteristics and perceived social support. For example, although some studies have reported gender and age to be correlated with perceived social support among older adults [19, 20], others have not found these results [21, 22].

The older population is growing substantially; therefore, the number of older people with disabilities is possible to increase fast over the coming decades. Given that the prevention of disability is vital to reduce health care costs for older people [23], the current study was undertaken to explore the role of social support in protecting against disability among older people residing in Poldasht city, West Azerbaijan Province, Iran in 2018.

2. Materials and Methods

A total of 305 older people participated in this cross-sectional study. There are two primary healthcare centers in Poldsht that cover the same number of households based on geographical divisions. Thus, the samples were selected equally from these two centers.

The Cochran formula was used to determine the sample size. Considering a 0.95 confidence level, 0.05 type I error, the number of aged cases (n=800), and a 15% probability of not responding, the calculated sample size consisted of 300 older adults. Samples were chosen randomly based on their profiles in the study health centers. The inclusion criteria included age ≥60 years and a tendency to participate in the study. Those who had mental diseases or severe hearing disorders that hindered effective communication were excluded. Qualified older adults were called and asked to refer to one of the centers, depending on the region of residence, at a specific time if willing to participate. Those unable to be present were asked to complete the questionnaires through face-to-face, at-home interviews with the researchers.

Ethical consideration

Participants were ensured that their data would remain confidential and that research ethics would be followed. The consent form was acquired from all the older adults. This study was approved by the Medical Research Ethics Committee of the Qazvin University of Medical Sciences (IR.QUMS.REC.1396.454).

Instruments

The demographic checklist, multidimensional scale of perceived social support (MSPSS), and World Health Organization standardized disability questionnaire (WHODAS2) were used for collecting the data. Demographic information included age, gender, educational level, job, financial status, living arrangement, and the number of chronic diseases.

Multidimensional Scale of Perceived Social Support (MSPSS)

The MSPSS questionnaire is a 12-item multidimensional measurement questionnaire that assesses perceived social support [24]. It consists of three subscales: social support from family, friends, and significant other. The items are scored on a 1–7 scale (1 = very strongly disagree; 7 = very strongly agree), with higher scores reflecting higher levels of social support (total range: 12–84) [25]. The questionnaire was translated and validated for Iranian patients with myocardial infarction and healthy individuals [26]. The questionnaire reliability was evaluated by Cronbach's alpha coefficient regarding the three subscales mentioned. The calculated values for family, friends, and significant others were 82%, 86%, and 86%, respectively [27].

WHO Standardized Disability Questionnaire (WHODAS2)

The WHODAS2.0 assesses disability experienced by individuals irrespective of medical diagnosis [28]. The questionnaire includes thirty-six questions scoring on a 5-point scale. They assess understanding and communicating (six questions with a range of 1-30), walking and walking around (five questions with a range of 1- 25), self-care (four questions with a range of 20-1), interaction and companionship with people (five questions with a range of 1–25), life activities (four questions with a range of 1–20), work activities (four questions with a range of 1–20), and participation in social and family activities (eight questions with a range of 40-1). The complex scoring method yields scores ranging from 0 to 100: 0 is no disability and 100 indicates total disability, the 76–100 score range indicates very severe disability, 51–75 indicates severe disability, 26–50 indicates moderate disability, 5–25 indicates low disability, and 0–4 indicates without disability [29]. Adib-Hajbaghery et al. [18] reported that the scale has good psychometric properties among community-dwelling older adults.

Statistical analysis

Data analysis was performed by SPSS software, version 23.0 (SPSS Inc., Chicago, IL, USA). The Pearson or Spearman correlation coefficients were used to determine the correlated factors of disability. The multivariable regression model was conducted to detect the predictive factors of disability. The normality distribution of data was verified by Skewness and Kurtosis. The significance level was considered at P<0.05.

3. Results

The mean age of the participants was 69.12±7.61 years, ranging from 60 to 102 years. The socio-demographic and social support information of the participants is reported in Table 1.

According to the information in Table 2, the mean disability of the subjects was 76.84±27.12) and more than half of the older participants (n=165, 53.9%) suffered

Table 1. Socio-demographic characteristics and social support (n=305)

Variable		No. (%)/Mean±SD (Range)
Gender	Female	162(53.1)
	Male	143(46.9)
Marital status	Married	220(72.1)
	Unmarried	85(27.9)
Educational level	Primary school or under	249(81.6)
	Middle	25(8.2)
	High school or above	31(10.2)
Job	Retired	61(20.0)
	Housewife	139(45.6)
	Employed	40(13.1)
	Unemployed	65(21.3)
Financial status	Poor	95(31.1)
	Fair	171(56.1)
	Good	39(12.8)
Living arrangement	With wife	117(38.4)
	With children	46(15.1)
	With wife and children	102(33.4)
	Alone	40(13.1)
Children	0-2	23(7.5)
	3-5	140(45.9)
	5<	142(46.6)
Number of physical illnesses	None	28(9.2)
	1-2	109(35.7)
	3≤	168(55.1)
Age (y)		69.12±7.61 (60-102)
Social support		60.61±13.16 (12-84)

Table 2. Frequency of disability levels and its areas in elderly participants in the study (n=305)

Disability	No. (%)				
	None	Mild	Moderate	Severe	Extreme or
Communicating	78(25.6)	102(33.4)	101(33.1)	20(6.6)	4(1.3)
Getting around	52(17.0)	54(17.7)	88(28.9)	65(21.3)	46(15.1)
Self-care	121(39.7)	122(40.0)	36(11.8)	17(5.6)	9(2.9)
Getting along with people	93(30.5)	126(41.3)	60(19.7)	22(7.2)	4(1.3)
Life activities	59(19.3)	88(28.9)	93(30.5)	41(13.4)	24(7.9)
Work task	227(74.4)	43(14.1)	22(7.2)	9(3.0)	4(1.3)
Participation in society	36(11.8)	55(18.0)	103(33.8)	82(26.9)	29(9.5)
Total disability	39(12.8)	101(33.1)	134(43.9)	25(8.2)	6(2.0)

from moderate to extreme disability. The results also showed that the highest disability was related to participation in society (269 cases, 88.2%) and getting around (253 cases, 83.0%).

To determine the associations among the variables, the Pearson or Spearman correlation coefficients were used and the results are depicted in Table 3. Based on the information in Table 3, the association between disability and social support received from friends (r=-0.358) was more significant than social support received from family (r=-0.249) or others (r=-0.201).

Table 3. Associations between disability and studied variables

Variables		r	P
Age		0.462	0.0001
Gender		0.002	0.181
Marital status		0.136	0.017
Educational level		-0.422	0.0001
Job		0.419	0.0001
Financial status		0.241	0.001
Living arrangement		-0.244	0.0001
Children		0.215	0.0001
Number of physical illnesses		0.368	0.0001
Social support	Family	-0.249	0.0001
	Friends	-0.358	0.0001
	Important individuals	-0.201	0.0001
	Total	-0.349	0.0001

Table 4. Predictors of disability in the elderly participating in the study

Variables		Mean±SD	β	P	b(95%CI)
Gender	Female	30.97±16.57	0.045	0.603	-4.716-8.109
	Male	25.40±20.77			
Marital status	Married	26.88±19.15	-5.685	0.251	-15.419-4.050
	Unmarried	32.20±17.52			
Educational level	Illiterate	33.80±16.44	-	-	-
	Primary	27.20±21.13	-0.073	0.160	-7.614-1.262
	Middle	13.19±14.08	-0.073	0.175	-12.280-2.248
	High school or above	13.06±12.79	-0.056	0.364	-11.019-4.059
Job	Retired	13.21±14.79	-0.189	0.020	-16.351/-1.391
	Housewife	31.11±14.92	-	-	-
	Employed	23.92±19.35	-0.006	0.935	-8.138-7.489
	Unemployed	39.42±20.01	0.095	0.163	-1.774-10.467
Living arrangement	With spouse	29.32±18.71	0.013	0.806	-3.519-4.525
	With children	29.83±16.65	-0.029	0.780	-12.157-9.132
	With spouse and children	23.08±19.18	-	-	-
	Alone	37.31±17.06	0.072	0.457	-6.621-14.696
Financial status	Poor	33.25±20.45	0.145	0.002	2.184-9.608
	Fair	26.02±17.79	-	-	-
	Good	26.69±17.34	0.034	0.464	-3.195-6.995
Children	0-2	28.26±13.82	-0.054	0.259	-10.467-2.826
	3-5	23.15±17.46	-0.059	0.235	-5.943-1.462
	5<	33.51±19.52)	-	-	-
Number of physical illnesses	Not have	17.34±19.09	-0.098	0.048	-12.691/-0.069
	1-2	21.80±16.83	-0.214	<0.001	-12.044/-4.719
	3≤	34.45±17.83	-	-	-
Age		69.13±7.63	0.326	<0.001	0.557/-1.057
Social support		-	-0.175	<0.001	-0.380/-0.119

The results showed that age, occupation, number of physical illnesses, financial status, and social support were predictors of disability in the elderly. Increasing age (B=0.32, P<0.001), low economic status (B=0.14, P=0.002), and decreasing social support (B=-0.17, P<0.001) significantly increased the rate of disability in the elderly. In addition, retired older people reported more disability than housewives (B=-0.18, P=0.02). Also, older people with a history of one to two physical illnesses (B=-0.21, P<0.001) had significantly lower disabilities compared to those with ≥3 physical illnesses (Table 4).

4. Discussion

The main purpose of the current study was to evaluate disability and its predictive factors among older adults residing in Qazvin, Iran. In general, this study found that 33.1% of the older participants had a low level of disability and 53.9% of them suffered from moderate to extreme disability. Different results have been reported in previous national studies. For instance, Mozafari et al. reported that 7.25% of the older participants had a low level of disability, and only 8.5% had a severe disability [7]. However, Adib-Hajbaghery [18] reported that 24.3% of older adults living in Kashan were classified as having moderate to severe disabilities. Rashedi et al. [30] also found that 11% of older residents in Tehran, Iran, suffered from disabilities. Possible causes of these discrepancies were different study locations and sample sources. In the present study, suffering from chronic conditions among 90% of the older participants and the illiteracy of more than half of them might raise the disability rates, effectively.

The majority of older adults in the present study reported disability in participation in society (88.2%) and getting around (83%). Mobility is an important part of the physical function required for daily tasks and independent life [31]. A decrease in muscle strength and balance impairment may result in mobility limitations in older age [32]. Approximately 20% of people over the age of 70 and 50% of people over 85 suffer from some form of disability, mainly known as mobility impairment [33]. As mobility problems increase, the participation rate of the community decreases among older adults. Consistent with the present study, Ghaneh et al. [14] reported that the highest rate of disability among Iranian older adults was participation in society. Vafaei et al. [34] also reported that 32.7% of older participants suffered from mobility impairments, and 23.5% experienced difficulty performing daily tasks.

In the present study, age was introduced as a predictor of disability among older adults. Likewise, Gupta et al. [35] reported that physical disability was significantly higher among older adults aged above 80 years. Vaish et al. [36] also found that older age was a significant predictor of functional disability. Aguiar et al. [37] observed that functional disability in instrumental activities increased with advancing age. The association between age and disability may be due to increased physical limitations and chronic conditions in older age groups [38, 39].

The present study results showed that social support is a protective factor against disability. Likewise, Tough et al. [40] found a positive and significant correlation between social support and mental health and well-being among persons with disabilities. Social support is a vital component of one's ability to cope with stressful situations, and social support has a stress-buffering effect [41, 42]. Social support is significantly correlated with the well-being of older adults and reduced psychological distress [43, 44]. Older people with increased levels of social support cope with stress conditions more effectively than those with lower levels of strong support networks. The higher perceived social support is related to higher life expectancy and a more positive perception of health [45]. Social support has been strongly associated with subjective well-being, life satisfaction, and quality of life [46]. Thus, social support can effectively promote health and prevent chronic illness, functional limitations, and disability of older people [47, 48].

In the present study, the job was considered a predictor of disability. Specifically, retired older people were more likely to suffer from a disability. Similarly, Adib-Hajbaghery [49] reported that the severity of disability in older people who continue their employment after retirement is lower than in older unemployed retirees, showing that post-retirement employment can delay disability in older people [13]. Khongboon et al. [50] also found that unemployment and retirement are the common causes of disability in older adults. Therefore, having a comprehensive support plan for aging and providing sufficient funding should be a priority.

In the current study, the presence of chronic diseases was a predictor of disability among older people. This finding is consistent with Parmar et al. [51] who reported that chronic illnesses are positively and significantly correlated with a disability condition in the activity of daily living (ADL) among older people in India. Likewise, Fong [52] showed that older people with more chronic conditions have a higher probability of occurrence of disability across all ADL items. Vaish et al. [36] also re-

ported that older adults with any chronic disease were 2.1 times more likely to be functionally disabled than those without chronic diseases. Additionally, the scoping review results [37] established that chronic diseases can result in ADL dependency in old age.

5. Conclusion

Overall, findings revealed that various factors could impact the disability of older adults. In the present study, age, occupation, number of diseases, a history of financial status, and social support were identified as predictive factors of disability in the target group. Thus, paying attention to demographic factors and providing a practical approach and counseling programs for enhancing social support is crucial to reduce the disability rate among older people.

Limitations

Limitations of this study include the use of a self-reporting manner for filling out the questionnaires, which some older adults may not have given a real answer. By providing the necessary explanations about the study purposes, it was tried to reduce this limitation. Second, the present study was performed on older adults residing in the community, which may limit to generalize of the results to those who live in institutions.

Suggestions for future studies

It is suggested that researchers in the future investigate the prevalence of disability and its related factors among institutionalized older adults. Additionally, future studies should determine the role of other social factors (social networks, social engagement) in the prevention of disability among older adults.

Ethical Considerations

Compliance with ethical guidelines

This study was approved by the Medical Research Ethics Committee of the Qazvin University of Medical Sciences (Code: IR.QUMS.REC.1396.454).

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Authors' contributions

Conceptualization and Supervision: Zahra Ghasemi, Fatemeh Mohammadi, Jamileh Amirzadeh-Iranagh, Seyedeh Ameneh Motalebi; Methodology: Zahra Ghasemi, Fatemeh Mohammadi, Jamileh Amirzadeh Iranagh, Seyedeh Ameneh Motalebi; Investigation, Writing – original draft, and Writing-review & editing: All authors; Data collection: Zahra Ghasemi; Data analysis: Seyedeh Ameneh Motalebi; Funding acquisition and Resources: Zahra Ghasemi and Seyedeh Ameneh Motalebi.

Conflict of interest

There was no conflict of interest.

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