

# A Comparative Study of Perceived Social Support and Depression among Elderly Members of Senior Day Centers, Elderly Residents in Nursing Homes, and Elderly Living at Home

## Abstract

**Background:** Social support perceived by the elderly can reduce mental health problems including depression. In Iranian society, some elderly people spend their elderly years in senior day care centers established to promote social protection for the elderly. Therefore, the purpose of this study was to assess perceived social support and depression in the elderly members of senior day care centers and compare the results with that of elderly individuals living at nursing homes and at home.

**Materials and Methods:** This descriptive, cross-sectional study was conducted on 315 elderly people. The participants were selected using stratified random sampling method and a random number table. The data collection tools used consisted of a demographic characteristics questionnaire, the Barthel index for assessing Activities of Daily Living (ADL), Social Support Appraisals (SSS-As) scale, and Geriatric Depression Scale short form (GDS-15). ANOVA, Chi-square, the Pearson correlation coefficient, and linear regression analysis were used to examine the hypotheses. **Results:** The results showed that with increasing social support, depression decreased in all three groups, which was statistically significant in the two elderly groups living in nursing homes ( $r = -0.19, p = 0.044$ ) and elderly members of senior day centers ( $r = -0.18, p = 0.049$ ). **Conclusions:** According to the results, it can be concluded that senior day care centers have been able to promote perceived social support in the elderly through their participation in daily activities and social activities, and thus were able to reduce depression significantly compared to the other two groups.

**Keywords:** Aging, depression, Iran, social support

## Introduction

Old age is regarded as a critical period of human life.<sup>[1]</sup> One of the issues that most elderly people face is limited support from family or friends. Elderly individuals need to have contact with others to ask for help when they need it as a means to satisfy their emotional needs.<sup>[2]</sup> The transformation of social structures in recent decades and the transformation of the traditional family system into the nuclear family have led to an increase in the number of nursing homes and the culture of delivery of elderly people to these homes.<sup>[3]</sup>

In Iran, the prevalence of placement of elderly people in nursing homes is on the rise,<sup>[4]</sup> with the aim that elderly care institutions and centers can compensate for the lack of functional capacity and lack of independence for the elderly.<sup>[5]</sup> Although some studies point to the benefits of living

in nursing homes such as relationships with peers, access to nursing care and health facilities, and lack of loneliness and depression,<sup>[6]</sup> placing the elderly in nursing homes causes many problems. When an elderly person is in a nursing home, he/she is likely to be physically, psychologically, emotionally, and economically dependent.<sup>[2]</sup> Dependency reduces daily activities, and can also reduce self-esteem and increase depression in the elderly person. Unsar *et al.* reported higher levels of social support and Activities of Daily Living (ADL) but low levels of depression in elderly individuals with a high Quality of Life (QOL).<sup>[7]</sup> Elderly individuals who live in their own homes or with their children have a more positive self-image than those who live in the nursing homes.<sup>[8]</sup> Moreover, elderly persons do not have a positive view of nursing homes, and they generally regard

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it as a compulsory environment. Although they have lived in this environment for many years, they have not grown accustomed to it and are waiting for a change to occur or to get out of there.<sup>[9]</sup> Therefore, many elderly people prefer attending and participating in activities of day centers to staying in nursing homes. Daily gatherings can increase the level of physical, mental, and social health of the elderly by enriching their leisure time by implementing various programs.<sup>[10]</sup>

Social support acts as a protective shield against stress and depression. It is associated with the reduction of depression, anxiety, and other psychological problems.<sup>[11]</sup> Although many studies have shown a link between social support and depression, it is still unclear whether the perceived social support of the elderly who live in their own home or a nursing home and the elderly who are active in senior day centers is the same. It is also unclear whether the level of depression in these three elderly groups is related to their perceived social support. Therefore, the purpose of this study was to examine the relationship between perceived social support and depression in the three groups of elderly people.

## Materials and Methods

In this descriptive, cross-sectional study conducted in 2013, the relationship between perceived social support and the level of depression in elderly members of senior day centers, elderly residents in nursing homes, and elderly individuals living in their own homes were compared. The study sample consisted of 315 people. The sample size was determined, according to previous studies.<sup>[12]</sup> and using the G\*Power software (power of 95%, the effect size of 0.5, and  $\alpha$  error of 0.05), as 105 individuals in each group. Based on the required sample size in each group, the subjects were selected using stratified random sampling method and random table from 5 centers for the elderly, 2 senior daily living centers, and 3 outpatient centers (for easy access to elderly individuals living at home). It should be noted that sampling was performed in all existing centers in the city. After assessing the inclusion criteria of the studied units [including completion of the consent form by participants, age of over 60 years, capable of understanding and speaking Persian, absence of a known psychological illness such as Alzheimer's Disease (AD) and dementia, ability to live without dependency on others (Barthel index score of 60 and above), and membership of a daily center or nursing home for at least 6 months], sampling was continued until the number of subjects required was reached in each group. If any of the research units returned an incomplete questionnaire or refused to continue the research, they would be excluded from the research.

In the next step, participants were asked to complete the questionnaires. In this research, the following 4 questionnaires were used as research tools. The Barthel index of ADL (1965)<sup>[13]</sup> is a standard measure that is used to evaluate the daily routine of individuals. The score of

various sections of this index range from 0 to 15 and the total score of the index from 0 to 100. Scores of 60 and above on this scale indicate the ability of people to live without being dependent on others. The validity and reliability of this index were 0.96–0.99 and 0.993, respectively. The validity and reliability have been confirmed in some studies.<sup>[14]</sup> In this study, the reliability of this questionnaire was obtained using Cronbach's alpha ( $\alpha = 0.91$ ). The Social Support Appraisals (SS-As) scale (1986)<sup>[15]</sup> consists of 23 items that measure perceived social support in individuals. The items are responded with "Yes" or "No" and receive a score of 0 and 1, respectively. Therefore, the total score of the questionnaire ranges between 0 and 23, and higher scores represent more perceived social support. In this research, the Farsi version of this questionnaire was used. To determine the reliability of the Farsi version, Cronbach's alpha and split-half methods were used through which a reliability of 0.84 and 0.82 was obtained, respectively.<sup>[16,17]</sup> The Geriatric Depression Scale short form (GDS-15) (1986) was also used in the present study.<sup>[12]</sup> The items of this questionnaire are yes/no questions, which received a score of 0 or 1. The minimum and maximum total scores of the questionnaire are 0 and 15, respectively. Scores above 8 indicate high depression. In this research, the Farsi version of the GDS-15 was used. In Iran, the reliability of the Farsi version of the GDS-15 was obtained using Cronbach's alpha (0.9), split-half method (0.89), and test-retest (0.58).<sup>[18]</sup> A demographic characteristics questionnaire that was prepared by the researchers and supervised by qualified individuals was also used to collect data.

Data were analyzed in SPSS software (version 16, SPSS Inc., Chicago, IL, USA). The significant level was 0.05. One-way ANOVA was used to compare quantitative data and Chi-square test and Fisher's exact test were used to compare qualitative data between the groups. One-way ANOVA was used to compare the mean scores of the Barthel index, depression, and perceived social support. The Pearson correlation test was used to examine the relationship between perceived social support and depression. Linear regression was used to calculate the predictive power of social support regarding depression.

## Ethical considerations

This article is the result of a research that was approved in 2013 by the School of Nursing of Shiraz University of Medical Sciences, Iran. Data collection was completed in 2018. This study has a code of ethics (CT-920108630) from Shiraz University of Medical Sciences. Moreover, the study objectives were explained to all participants and written informed consent was obtained from all subjects before they were enrolled in the study.

## Results

The present study was conducted on 315 elderly people with a mean (SD) age of 68.09 (5.49) years; the majority of them

were women (71.70%). The demographic characteristics of the participants are summarized in Table 1. Chi-square test results showed that the groups were homogenous in terms of variables of sex, education, hypertension, osteoporosis, depression, and ocular hearing, and other diseases ( $p > 0.05$ ) [Table 1]. There were statistically significant differences between the groups in terms of the other demographic variables (age and marital status) and diseases such as diabetes, heart disease, brain and kidney diseases, and Musculoskeletal Disorders (MSDs) ( $p < 0.05$ ).

The elderly members of the day centers had the highest Barthel index score and the elderly living in the nursing home had the lowest Barthel index score [Table 2]. In terms of depression, the elderly members of the day centers showed the lowest levels of depression and the elderly living in nursing homes had the highest levels of depression. Moreover, the highest and lowest perceived social support in the elderly groups was related to the elderly members of the day centers and the elderly living in nursing homes, respectively. The difference between the above variables was statistically significant ( $p < 0.001$ ).

Regarding  $p$  value and F statistics, a statistically significant difference was observed among the three groups in terms of the mean scores of the three variables of Barthel index, depression, and social support ( $df = 2, p < 0.05$ ). Regarding the results presented in Table 3, the negative correlation coefficient ( $r$ ) shows that with increasing social support, depression has decreased in the elderly in all three groups; this correlation coefficient is statistically significant in the two groups of nursing home and senior daily care centers ( $p < 0.05$ ).

According to the results presented in Table 4, the values of the standard regression coefficient ( $\beta$ ) are negative, which shows that with an increase in the social support score of the elderly in the nursing home ( $\beta = -0.19, p = 0.044$ ), daily centers ( $\beta = -0.19, p = 0.056$ ), and homes groups ( $\beta = -0.19, p = 0.053$ ), their depression score decreased. In the nursing home group, this coefficient was statistically significant ( $p < 0.05$ ).

## Discussion

Based on the results of this study, the subjects in three groups were different in terms of age and marital status,

**Table 1: Distribution of demographic characteristics of the studied participants in the studied groups**

Demographic characteristics	Nursing homes	Day centers	Residing at home	Statistics of test	df	$p$	
Age: Mean (SD*)	69.64 (8.13)	66.53 (2.87)	68.10 (3.41)	$F=8.84$	(2,31)	<0.001	
Gender (N [%])	Female	76 (33.77)	74 (32.88)	$\chi^2=0.11$	2	0.940	
	Male	29 (32.58)	31 (34.83)				29 (32.58)
Level of education (N [%])	Illiterate/Elementary	75 (33.94)	74 (33.94)	$\chi^2=0.58$	4	0.960	
	Secondary school	24 (31.16)	25 (32.46)				28 (36.36)
	University	7 (36.84)	6 (31.57)				6 (31.57)
Marital status (N [%])	Married	88 (30.24)	103 (35.39)	$\chi^2=18.50$	2	0.001	
	Single	17 (73.91)	2 (8.69)				4 (17.39)
Hypertension (N [%])	Yes	32 (31.37)	30 (29.41)	$\chi^2=2.60$	2	0.270	
	No	73 (34.43)	75 (35.37)				64 (30.18)
Diabetes mellitus (N [%])	Yes	25 (44.64)	8 (14.28)	$\chi^2=11.30$	2	< 0.010	
	No	80 (31.00)	97 (37.59)				81 (31.39)
Stroke (N [%])	Yes	7 (53.84)	0 (0)	$F - exact=8.40$	-	0.031	
	No	98 (32.55)	105 (34.88)				98 (32.55)
Coronary artery disease (N [%])	Yes	22 (26.19)	39 (46.42)	$\chi^2=8.70$	2	0.013	
	No	83 (36.09)	66 (28.69)				81 (35.22)
Osteoporosis (N [%])	Yes	16 (31.37)	16 (31.37)	$\chi^2=0.47$	2	0.790	
	No	89 (33.84)	89 (33.84)				85 (32.31)
Kidney problems (N [%])	Yes	6 (24.00)	15 (60.00)	$F - exact=9.80$	-	0.020	
	No	99 (34.25)	90 (31.14)				100 (34.61)
Musculoskeletal disorders (N [%])	Yes	14 (41.17)	1 (3.94)	$\chi^2=17.20$	2	0.001	
	No	91 (32.50)	104 (37.14)				85 (30.36)
Depression (N [%])	Yes	5 (71.42)	1 (14.29)	$F - exact=3.70$	-	0.220	
	No	100 (32.57)	104 (33.87)				103 (33.55)
Ophthalmic problems (N [%])	Yes	3 (100)	0 (0)	$F - exact=4.05$	-	0.100	
	No	102 (32.79)	105 (33.77)				104 (33.44)
Auditory problems (N [%])	Yes	2 (100)	0 (0)	$F - exact=2.64$	-	0.330	
	No	103 (33.01)	105 (33.65)				104 (33.34)
Other diseases (N [%])	Yes	7 (30.43)	5 (21.74)	$\chi^2=2.70$	2	0.270	
	No	98 (33.67)	100 (34.36)				93 (31.95)

\*SD: Standard deviation

**Table 2: Mean and standard deviation of Barthel Index, depression, and social support scores in the studied groups**

Variable	Nursing homes Mean (SD)	Day centers Mean (SD)	Residing at home Mean (SD)	F	df	p
	Nursing homes	Day centers	Residing at home			
Barthel Index score	76.50 (15.35)	97.20 (4.75)	90.28 (12.33)	85.41	2	<0.001
Depression score	7.19 (2.51)	5.20 (1.44)	6.25 (3.62)	14.38	2	<0.001
Social support score	14.49 (4.69)	18.16 (1.55)	17.06 (3.19)	32.17	2	<0.001

**Table 3: Correlation between the variables of social support and depression in the studied groups**

Variable	Depression					
	Nursing homes		Day centers		Residing at home	
	r	p	r	p	r	p
Social support	-0.19	0.04	-0.18	0.04	-0.19	0.05

**Table 4: Calculating the predictive power of the social support variable regarding depression**

Predictor variables	Group	R <sup>2</sup>	Adjusted R <sup>2</sup>	β	t	p	F
		Social support	Nursing homes	0.03	0.02	-0.19	-2.03
	Day centers	0.03	0.02	-0.18	-1.92	0.05	3.72
	Residing at home	0.03	0.02	-0.19	-1.95	0.05	3.81

as well as some of the underlying and chronic conditions such as diabetes mellitus, heart problems, brain attacks, and kidney musculoskeletal problems, which are considered as predicting factors for depression.<sup>[19]</sup> The results also show that elderly individuals living in nursing homes are more likely to experience multiple physical illnesses and are more depressed compared to the other two groups. In explaining this finding, it can be stated that the development of physical diseases such as chronic diseases causes an individual to have anxiety and depression; thus, rehospitalization and patients' and their families' concerns regarding mental disorders and QOL are inevitable.<sup>[20]</sup> It can, therefore, be concluded that the presence of various types of physical and psychological stress caused by these diseases in elderly people can affect their understanding of social support and depression, which also differs based on their living circumstances (nursing home, membership of daily care centers, and at home).

According to the results of this study, the elderly members of the day care centers obtained the highest score on the Barthel index, which indicates a higher ADL in this group. Moreover, the elderly living in a nursing home obtained the lowest score on the Barthel index, which indicates their weaker ADL. Hence, it can be deduced that the elderly living in nursing homes have a lower Barthel index score as compared to elderly individuals living in their own homes and members of day care centers. In explaining these findings, it should be noted that, after middle age and with the introduction of old age, an average of 1.5% of the physical and mental performance of individuals decreases each year,<sup>[21]</sup> and disability is a major risk factor at nursing

homes.<sup>[22]</sup> For this reason, it is expected that in the future a significant percentage of the elderly of the community be seriously dependent on others in their daily activities and be living the nursing homes to receive care,<sup>[23]</sup> which indicates the necessity of particular attention to the elderly living in nursing homes as compared to other elderly people living in the community and members of day care centers.<sup>[24]</sup>

According to the results of this study, the elderly living in nursing homes had the highest depression score, and the elderly members of day care centers had the lowest depression score. One of the reasons for this can be the higher Barthel scores among the elderly living in day care centers. Day care centers work hard to enhance the physical, mental, and social health of the elderly by enriching their leisure time through implementing various cultural, artistic, sports, tourism, and recreational, religious, and educational programs. Sohrabi *et al.* observed a high prevalence of mild-to-moderate depression among elderly individuals living at home.<sup>[25]</sup> They also found that severe depression was more pronounced in elderly individuals living in nursing homes, which is consistent with the current study findings.<sup>[25]</sup> Safavi also reported a lower average depression score in the elderly living at home compared to the elderly living in nursing homes.<sup>[26]</sup> The results of the studies by Sandberg *et al.*<sup>[27]</sup> and Argyropoulos *et al.*<sup>[28]</sup> suggest that older people living in nursing homes are more likely to develop depression, which is consistent with the findings of this study.

However, in explaining this finding, it should first be noted that depression is a condition of the diseases that occur in people with a history of depression, but may also appear for the first time in old age. Although depression does not occur naturally due to age, the results of researches show that about 15% of the population over 65 years of age exhibit clear signs of depression.<sup>[29,30]</sup> While it is expected that the severity of depression in the elderly be affected by their lifestyle, different living conditions, living in an elderly home, membership in daily centers, and living in or being active in the community, have different effects on aging depression due to the special conditions of aging and the type of community culture. Furthermore, it should not be forgotten that in most cases depression is not diagnosed or is detected late due to elderly physical complaints or the development of cognitive diseases such as AD. This can be posed as a risk factor in reporting and diagnosing depression in age groups. Therefore, in interpreting this difference, the socioeconomic determinants of these elderly



individuals and the severity of their cognitive diseases such as AD and other mental and physical illnesses should be considered, since this may be the cause of the differentiation of diagnosis or lack of recognition of depression in elderly groups.<sup>[31,32]</sup>

According to the results of this survey, the elderly individuals living in a nursing home obtained the lowest social support scores and elderly members of day care centers obtained the highest score. In explaining the importance of social support in old age, it can be stated that one of the important factors influencing life satisfaction in elderly individuals is spending time with others. In general, interaction with others and social support reduces depression and enhances self-esteem, hope, and life satisfaction.<sup>[33]</sup> The social support received by elderly people living in a nursing home, members of a day care center, and elderly individuals living at home, and the conditions that they receive care, has always been a matter of consideration and discussion among researchers in the field of aging. Troxel *et al.* and Alipour *et al.* showed that social support is lower in nursing homes<sup>[34,35]</sup> which is consistent with the results of this research. However, Drageset *et al.* reported a higher social support score in nursing homes and stated that this may be due to the many potential social partners in nursing homes.<sup>[36]</sup> Their finding is inconsistent with that of the present study. Moreover, the results of this study show that the perceived support level of older people living at home is similar to that of members of day care centers. In this regard, Safavi suggested that it is better for the elderly to be under the supporting coverage of the family until the last days because in this way they can be dynamic, able to care for children, to have relationships with people, receive support from their family, and believe they have social support in their family and community.<sup>[26]</sup>

In the present study, a meaningful and inverse relationship was observed between perceived social support and depression. This finding is consistent with the results of the researches by Safavi<sup>[26]</sup> and Wang and Zhao.<sup>[37]</sup> Therefore, social support can be used as an appropriate and inexpensive tool for reducing depression in the elderly. The role of social communication and, consequently, social support should be noted as an important factor in providing positive and rewarding experiences for individuals, which will result in increased self-esteem and reduced risk of depression.<sup>[35]</sup> In addition, Van Malderen *et al.*<sup>[38]</sup> states that self-care programs reduce depression in the elderly. Therefore, in this research, it can be concluded that social support can reduce the incidence of depression in the elderly.

One of the limitations of this study was the existence of a difference in the conditions of the maintenance of nursing centers, or the difference in the psychological status of the participants and its effectiveness on their responses to the questionnaires.

## Conclusion

Considering the high Barthel score of the members of day care centers, it can be said that these centers have been able to provide educational, social, and rehabilitation services along with elderly caregivers and their counterparts by promoting the ADL and social status of the elderly. Furthermore, with regard to reducing the rate of depression and increasing the level of social support in the elderly day care centers, it is essential to make policies and programs for the establishment and continuation of these centers.

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## Conflicts of interest

Nothing to declare.

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