



Relationship between depression and loneliness in elderly and examination of influential factors

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ARTICLE INFO

Article history:

Received 7 October 2011

Received in revised form 15 March 2012

Accepted 16 March 2012

Available online 8 April 2012

Keywords:

Elderly

Loneliness

Depression

ABSTRACT

This study was planned and conducted for the purpose of examining the relationship between depression and loneliness in elderly people and the influencing factors. The study was a descriptive and correlational study and its population consisted of 17,080 older individuals aged sixty and over who were registered at six Family Healthcare Centers (FHCs) located in the provisional center of Malatya. The sample of the study comprised of 913 elderly people who were chosen from the elderly people registered at the FHCs first by cluster sampling and then by simple random sampling from the clusters in proportion to the population. The data was collected between April and June 2011 using a questionnaire developed by the investigators in line with the literature, the Geriatric Depression Scale (GDS) and the UCLA Loneliness Scale (ULS). They had a mean score of 13.83 ± 7.4 from the GDS and 40.50 ± 12.1 from the ULS. A positive correlation was found between Geriatric Depression and loneliness ($r = 0.608, p < 0.001$). It was observed that there was a significant correlation between loneliness and depression in the elderly people living in a community, presence of social security and higher income, on the other hand, led to lower mean scores. In view of these results, it can be advised that a minimum income should be secured for elderly people whether they have social security or not, their families and the society should be trained not to leave elderly people alone.

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1. Introduction

Aging is the entirety of the irreversible structural and functional changes which occur with passing of time in an organism at the levels of molecules, cells, tissues, organs and systems (İliçin et al., 2005). Although the age of 65 is accepted as the inception of old age, the results of scientific research emphasize personal differences in the process of aging. Such personal differences include inheritance, lifestyle, occupation, eating habits, chronic diseases and personality traits (Biol and Akdemir, 2005). The rate of mortality has been reduced owing to the scientific and technological developments in healthcare, the prevention of diseases through effective diagnosis and treatment methods developed, and more possibilities of treatment at an early stage (Akgün et al., 2004; Bilir, 2006).

The life expectancy at birth has increased as a result of the advancements in protective health services; an important demo-

graphic change being observed in the world. Particularly in developed countries in the last 40–50 years is the growing population of elderly people. For example, the population of those 65 years of age and older went up to 6.8% in Turkey in 2008; it is estimated that the elderly population will reach to a level of 9–10% in 2025 as the life expectancy increases and the number of old people will exceed 800 million globally (Karahana and Güven, 2002; Pinar and Sert, 2009).

Loneliness leads to fear, grief and anxiety which develop along with a sense of losing independence in elderly people. Lonely elderly people tend to think negatively and focus their thoughts on themselves rather than on positive expectations (Krause, 1991). Reduced confidence in other people, shyness, depressive symptoms, anger, tension and fear of being battered isolate them from the society and increase their senses of loneliness and alienation (Mann, 1997). The most frequently used measure of loneliness is the revised ULS, a 20-item questionnaire measuring general feelings of social isolation and dissatisfaction with one's social interactions (Russell et al., 1980; Russell, 1996). Of these, 10 items involve positive expressions showing satisfaction from social relationships and 10 items negative expressions showing dissatisfaction from social relationships. Individuals assess each item in the scale according to how often they believe the statement is true for them. The ULS is observed to have been used in many studies

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conducted across the world (Cacioppo et al., 2006; Chalise et al., 2007) and in Turkey (Arslantaş and Ergin, 2011; Hacıhasanoğlu et al., 2011).

Loneliness may appear in all age groups, but it is a more typical problem in elderly people. Aging alone is not responsible for the development of loneliness in elderly people (Donalson and Watson, 1996). Advancing age was considered as one of the reasons for loneliness as a result of a study made on the causes of loneliness with the participation of 6786 Finnish elderly people (Savikko et al., 2005). Loneliness may play an etiologic role in the occurrence of physical and mental health problems in elderly individuals. Long lasting loneliness may jeopardize an individual's sensation of mental well-being and increase self-destruction (Khorshid et al., 2004). As age advances, it becomes difficult for an individual to survive as a self-sufficient, influential and strong person. In this period in which elderly people lose the active roles they used to have and make a transition into a passive stage, it becomes difficult for them to satisfy their narcissistic needs which they could previously meet from various sources (Rokach, 2000; Jylha, 2004). Sensations of loneliness and alienation before other people become apparent. This negative psychosocial transformation may result in a depression (Reynolds et al., 1994). Loneliness induced depression, which is reported to have an incidence of 2–25% in general population, takes an important place among the psychiatric problems seen in old age (Patent, 2001). In various studies, the incidence of major depression in elderly people over 65 years of age was found to be 1–3% and that of depressive symptoms 11% (Kaya, 1999; Aksüllü and Doğan, 2004). While the prevalence of major depression in older adults is lower than that observed among younger adults, depression is a significant problem for older adults, and can be associated with impairments in physical and cognitive function as well as mortality (Blazer, 2003).

Depressive symptoms can be assessed in research and clinical practice using various instruments that capture unique aspects of a depression syndrome. The GDS was used in this study to measure the level of, and severity change in, the depressive symptoms of the elderly. The GDS is a self-reporting scale developed by Yesavage and associates in 1983 to measure depression particularly in the older population (Yesavage et al., 1983). The scale consists of 30 questions easily answerable by the elderly by marking “yes” or “no”, which excludes symptoms that may also occur in the older population due to non-depressive causes such as somatic symptoms of sleep disorders, sexual dysfunctions and aches and pains in the body. The validity and reliability of the scale was tested on those living in a society, those receiving psychiatric and medical treatment and those living in nursing houses and the scale was found to be valid for Turkish elderly people (Ertan et al., 2000).

Recently in Turkey, the number of elderly people living alone or staying in rest homes is becoming increasingly more due to reasons such as the family structure converting into a nuclear family from a broad patriarchal structure in connection with the recent socioeconomic circumstances in cities (Aksüllü and Doğan, 2004).

Due to all these factors, the nurse should, as a member of the healthcare team, assess individuals' physiological, psychological and socioeconomic status when planning their care and determine their general and special care requirements and take steps to alleviate depression in elderly persons.

This study was planned for the purpose of examining the relationship between depression and loneliness in elderly people. In this direction, the influencing factors in the view of the information were obtained from the literature.

2. Subjects and methods

The study was a descriptive and correlation-based study and its population consisted of 17,080 older individuals aged sixty and

over who were registered at six FHCs located in the provisional center of Malatya. The sample of the study comprised of 913 elderly people who were chosen from the elderly people registered at the FHCs first by cluster sampling and then by simple random sampling from the clusters in parallel to the ratio of the universe. The criteria for inclusion in the study were determined as not having any physical or mental illness severe enough to prevent one from completing the scale and agreeing to participate in the study.

2.1. Collection of data

The data was collected between April and June 2011 by the investigators during face-to-face interviews using the questionnaire prepared by the investigators for determining the descriptive characteristics of the elderly, the GDS and the ULS. It took 25–30 min on the average to fill out the forms. Written permission was obtained from the relevant authority before starting the study. The patients were told about the purpose and method of the study, their verbal consents were obtained and their privacy was observed. The questionnaire consisted of 14 questions for identifying the descriptive characteristics of the elderly people (age, gender, marital status, education, income, history of illness, lifestyle).

2.1.1. ULS

This scale was developed by Russell et al. (1980) and it consists of 20 items. The scale was tested for validity and reliability by Demir (1989) in Turkey (Demir, 1989). The author found the internal consistency coefficient of the scale to be 0.96 and the correlation coefficient between two administrations to be 0.94 using a test–retest method. Ten of the statements in the scale were worded positively and the other 10 negatively. The items with statements in a positive direction are scored by giving 4 points to “I never feel this way”, 3 points to “I rarely feel this way”, 2 points to “I sometimes feel this way” and 1 point to “I often feel this way”; the items with statements in the negative direction are scored just the other way around giving 1 point to “I never feel this way”, 2 points to “I rarely feel this way”, 3 points to “I sometimes feel this way” and 4 points to “I often feel this way”. The scale has a quadruple Likert-type scoring. The highest score that can be received from the scale is 80 and the lowest is 20. As the scores increase the level of loneliness also increase (Russell et al., 1980). According to the total scores received by individuals, a score between 20 and 34 is considered as mild loneliness, between 35 and 48 as moderate and above 48 as severe loneliness (Demir, 1989). The alpha value of ULS was found to be 0.90 in this study.

2.1.2. GDS

This scale was developed by Yesavage and associates (1983) for the elderly population and it contains 30 questions. The scale was tested for validity and reliability by Ertan and associates in our country in 1997. Its scoring is 0 for answers of yes for questions 1, 5, 7, 9, 15, 19, 21, 28, 29 and 30, and 1 for answers of no. The scoring of the other questions is in the opposite direction; yes gets 1 and no gets 0. The total score ranges between 0 and 30 and indicates the depression score. A score of 0–11 indicates no depression, 11–14 a possible depression, 14 and above a definite depression. The validity and reliability of the scale was assessed in people living in a community, in those receiving psychiatric and medical treatment, in those who are bedded and living in nursing homes and in dementia patients and it was found to be valid (Cronbach alpha 0.82) (Ertan et al., 2000). The alpha value of GDS was found to be 0.89 in this study.

2.2. Statistical analysis

Assessments were made using frequency distributions in analyzing data, correlation and stepwise model of linear regression.

First, demographic properties of elderly people have been appraised using the distributions. After that, a correlation analysis has been carried out for evaluating the relationship between the GDS scores and ULS scores of the elderly. At last part, two different regression analyses were performed. In the first application, as a dependent variables, loneliness has been assessed by different predictor variables such as depression score, social security, and age. In the second application, depression score has been evaluated by some independent variables such as loneliness, content, sex, marital status. In addition, multi-collinearity of regression system has been assessed and no big collinearity has been recorded. Hence, multi-linear regression applications have been conducted without the issues which may be resourced from the dependency between the independent variables.

3. Results

The distribution of socio-demographic characteristics of the 913 elderly is show in Table 1. Elderly ranged in age from 60 to 98 years with a mean age of 69 (± 6.7) years, 55.6% were male, 67.1% were married, 38.3% were illiterate (could not read or write). Regarding economic satisfaction, 61.1% of the elderly reported their

Table 1
Socio-demographic characteristics of elderly people.

Factor (N=913)	n	%
Age		
60–74	727	79.6
75–84	161	17.6
85 and over	25	2.7
Sex		
Female	405	44.6
Male	508	55.6
Disease state		
Yes	635	69.6
No	278	30.4
Social security		
Yes	810	88.8
No	102	11.2
Educational level		
Illiterate	349	38.3
Primary education	716	78.5
Secondary	91	10.0
High school	68	7.5
University	37	4.1
Spouse's educational level		
Illiterate	391	42.8
Primary education	355	38.9
Secondary	73	8.0
High school	63	6.9
University	31	3.4
Marital Status		
Married	613	67.1
Single	13	1.4
Lost wife/husband	267	29.2
Separated from her/his	20	2.2
The level of income		
Very good	18	2.0
Good	221	24.2
Middle	558	61.1
Bad	116	12.7
Who lived		
Alone	122	13.4
With wife/husband	322	35.3
With spouse and children	286	31.3
With children	170	18.6
Other	13	1.4
The number of children		
1–3 child	266	29.7
4–7 child	534	59.6
8 and over	96	10.7

Table 2
Relationship between the GDS scores and ULS scores of the elderly.

Scales	n	%	Mean (SD)	Correlation
ULS score				
20–34 between light loneliness	326	35.8		
35–48 medium to loneliness	345	37.9	40.50 (12.1)	
49 and above high-loneliness	240	26.3		r=0.608
GDS score				
No depression from 0 to 11	356	39.6		p=0.001
Possible depression to 11–14	125	13.9	13.83 (7.4)	
Definite depression 14 and above	419	46.5		

situation to be middle. The majority of older adults 85.2% were living with children or husband, wife.

When we examine Table 2, 26.3% of the studied elderly were found to have a high level of loneliness (scores of ≥ 49) and 46.5% to have definite depression (scores of ≥ 14). The mean score of the elderly in the ULS (lowest 20 and highest 80 points) was found to be 40.50 ± 12.1 and in the GDS (lowest 0 and highest 30 points) to be 13.83 ± 7.4 . A positive correlation was observed between the scores of the ULS and those of the GDS (0.608, $p = 0.001$) (Table 2).

In order to examine the effect of independent variables on loneliness, the following were included in the regression analysis as independent variables: age, gender, marital status, education, spouse's education, occupation, income level, disease, name of disease, accompanying persons, security, number of children, daughters, sons, substance use, satisfaction from life, and depression level. Level of loneliness was taken as the dependent variable. The results of the analysis made using the linear regression stepwise method are presented in Table 3. As seen in Table 3, from the characteristics taken as independent variables depression, security, age, occupation, substance use, and income level were the influential factors on loneliness. The effect of depression on perceived loneliness was 37%. These loneliness-affecting factors had a collective contribution of 42% to the occurrence of loneliness.

To assess the effect of independent variables on depression, age, gender, marital status, education, spouse's education, occupation, income level, disease, name of disease, accompanying persons, security, number of children, daughters, sons, substance use, satisfaction from life, and level of loneliness were included in the regression analysis as independent variables. The dependent variable this time was depression level. The results of the analysis made using the linear regression stepwise method are shown in Table 4. As can be seen in Table 4, from the characteristics taken as independent variables, loneliness, gender, marital status, having a son, and education level were the factors which had effect on depression. The effect of loneliness on depression was 37%. These factors listed had a collective contribution of 52% to the occurrence of depression.

4. Discussion

In this study which examines the relationship between depression and loneliness in the elderly people aged 60 and over who consulted the FHC and the influencing factors, the mean score of loneliness was found to be 40.50 ± 12.1 . In the other studies made in our country, the mean score of loneliness was found to be 40.43 ± 0.8 in elderly people living at home and a study in which the elderly living in two different rest homes were compared came up with mean loneliness scores of 39.05 and 51.10 (Khorshid et al., 2004; Tel and Sabancıoğulları, 2006). The mean score of loneliness was found to be 38.57 ± 8.7 in a study carried out by Adams et al. (2004). It was observed in that study that 37.9% of the elderly experienced moderate level of loneliness while 26.3% had high level of loneliness. A study made by Steed et al. revealed that 7% of the elderly

Table 3
According to regression analysis predictors of loneliness.

Model		Unstandardized coefficients		Standardized coefficients				R square	
		B	Std. Error	Beta	t	Sig.	F		
1	(Constant)	26.440	0.920		28.72	0.000	330.52	0.000 ^a	0.373
	Depression score	1.015	0.056	0.611	18.18	0.000			
2	(Constant)	20.383	1.548		13.16	0.000	183.46	0.000 ^b	0.398
	Depression score	0.970	0.056	0.584	17.47	0.000			
	Social security	6.010	1.248	0.161	4.81	0.000			
3	(Constant)	7.158	4.151		1.72	0.085	128.59	0.000 ^c	0.411
	Depression score	0.936	0.056	0.563	16.74	0.000			
	Social security	5.931	1.236	0.159	4.79	0.000			
	Age	0.199	0.058	0.114	3.42	0.001			
4	(Constant)	5.051	4.234		1.19	0.233	98.53	0.000 ^d	0.416
	Depression score	0.934	0.056	0.562	16.77	0.000			
	Social security	5.464	1.248	0.146	4.38	0.000			
	Age	0.210	0.058	0.120	3.61	0.000			
	Occupation	0.668	0.289	0.076	2.31	0.021			
5	(Constant)	9.287	4.592		2.02	0.044	80.55	0.000 ^e	0.422
	Depression score	0.926	0.056	0.557	16.66	0.000			
	Social security	5.355	1.244	0.143	4.30	0.000			
	Age	0.205	0.058	0.117	3.55	0.000			
	Occupation	0.682	0.288	0.078	2.37	0.018			
	Substance use	-2.119	0.909	-0.076	-2.33	0.020			
6	(Constant)	6.129	4.839		1.26	0.206	68.17	0.000 ^f	0.426
	Depression score	0.906	0.056	0.545	16.08	0.000			
	Social security	4.680	1.284	0.125	3.64	0.000			
	Age	0.208	0.058	0.119	3.61	0.000			
	Occupation	0.693	0.287	0.079	2.41	0.016			
	Substance use	-1.959	0.910	-0.070	-2.15	0.032			
	Level income	1.283	0.636	0.069	2.01	0.044			

^a Predictors: (Constant), depression score.

^b Predictors: (Constant), depression score, social security.

^c Predictors: (Constant), depression score, social security, age.

^d Predictors: (Constant), depression score, social security, age, occupation.

^e Predictors: (Constant), depression score, social security, age, occupation, substance use.

^f Predictors: (Constant), depression score, social security, age, occupation, substance use, level income.

experienced high level of loneliness and 31.5% low level of loneliness (Steed et al., 2007). While the loneliness score obtained in this study was similar to those found in the other studies made in Turkey, it was observed to be higher than those obtained in other countries. This result is thought to be influenced by the inadequate services provided to the growing elderly population in Turkey and by the fast transition from the traditional family to a nuclear family structure. In elderly people, depression is accompanied by impairment of health and functional inability. Loneliness occurs together with depression in situations affecting the health of elderly people as in the case of chronic diseases (Gülsiren, 1995). In the present study, the mean GDS score of the elderly was calculated to be 13.83 ± 7.4 . A significant level of depressive symptoms were found in 10–25% of the individuals aged 60 and over in various studies (Ünal and Bilge, 2005; Gökteş and Özkan, 2006). In the study of Maral and associates made in 2001 on the incidence of depression in elderly people living at home or in a rest home and the risk factors, the prevalence of depressive symptoms in those living at home was found to be 24.3% (Maral et al., 2001). A major depression was found in 13.5% of the elderly in a study of Marta et al. (2002). Loneliness together with depression was defined as a stress-inducing condition in a large part of the literature (Hagerty and Williams, 1999; Patent, 2001). The losses and physical and vital changes experienced by the elderly speed up this process. A positive correlation was found in this study between the scores of the Loneliness Scale and those of the GDS (Table 2). The loneliness experienced by elderly people increased their depressive symptoms.

It was found in this study that depression and some socio-demographic variables were effective on loneliness; depression was the most significant risk factor in the occurrence of loneliness in the elderly, and it was also associated with some other

demographic variables including security, age, occupation, substance use and income level, but the effect of these was less than that of depression. Older people in depression seem to have a lack of interest in daily activities associated with slowed-down speech and movements and negative feelings such as inertia, loss of self-esteem, weakness, loss of motivation, and pessimism and such depressive symptoms can lead to social isolation (Vannoy et al., 2007; Carbonare et al., 2009). The effect of depression on perceived loneliness was found to be 37% in this study.

The study revealed that age affected loneliness in older people, the loneliness score increased as age advanced and such increase was statistically significant. There also was a significant correlation between age and the score of loneliness in the study made by Hacıhasanoğlu et al. and there was a significant difference in the study of Khorshid et al. and loneliness was seen more in the elderly in the group of 80 years of age and older (Khorshid et al., 2004; Hacıhasanoğlu et al., 2011). The result we obtained is similar to those in the literature.

It was observed in this study that the occupation of the elderly affected their loneliness. In a study conducted by Arslantaş and Ergin, the elderly having a profession were found to have lower scores of loneliness (Arslantaş and Ergin, 2011). An older person who has a profession will receive sympathy and respect from the people surrounding him/her especially if he/she has a reputable profession and this may result in an increased self-confidence in the individual, directing him/her to seek new activities with an increased and reinforced interpersonal interaction.

Smoking habits of old individuals were found to be an effective factor in their loneliness. The reason for this significant relationship may be attributed to the fact that smoking is a widely preferred method in coping with loneliness.

Table 4
According to regression analysis predictors of depression.

Model		Unstandardized coefficients		Standardized coefficients				R square
		B	Std. Error	Beta	t	Sig.	F	
1	(Constant)	−0.428	0.872		−0.491	0.624	330.520	0.373
	Loneliness	0.367	0.020	0.611	18.180	0.000		
2	(Constant)	1.157	0.803		1.441	0.150	263.041	0.487
	Loneliness	0.290	0.020	0.481	14.777	0.000		
	Content	5.829	0.526	0.361	11.092	0.000		
3	(Constant)	4.294	1.033		4.158	0.000	189.392	0.506
	Loneliness	0.288	0.019	0.479	14.980	0.000		
	Content	5.821	0.516	0.361	11.285	0.000		
	Sex	−2.037	0.433	−0.140	−4.701	0.000		
4	(Constant)	3.130	1.081		2.897	0.004	147.485	0.516
	Loneliness	0.277	0.019	0.460	14.319	0.000		
	Content	5.517	0.519	0.342	10.629	0.000		
	Sex	−1.799	0.435	−0.124	−4.134	0.000		
	Marital status	0.768	0.229	0.105	3.354	0.001		
5	(Constant)	2.023	1.128		1.793	0.074	121.875	0.525
	Loneliness	0.273	0.019	0.453	14.173	0.000		
	Content	5.543	0.515	0.344	10.763	0.000		
	Sex	−1.842	0.432	−0.127	−4.265	0.000		
	Marital status	0.787	0.227	0.108	3.463	0.001		
	Male child	0.509	0.161	0.093	3.149	0.002		
6	(Constant)	3.131	1.238		2.529	0.012	102.981	0.529
	Loneliness	0.266	0.019	0.442	13.649	0.000		
	Content	5.541	0.513	0.343	10.794	0.000		
	Sex	−1.508	0.458	−0.104	−3.292	0.001		
	Marital status	0.706	0.230	0.097	3.074	0.002		
	Male child	0.421	0.166	0.077	2.538	0.011		
	Educational level	−0.516	0.241	−0.071	−2.138	0.033		

^a Predictors: (Constant), loneliness.

^b Predictors: (Constant), loneliness, content.

^c Predictors: (Constant), loneliness, content, sex.

^d Predictors: (Constant), loneliness, content, sex, marital status.

^e Predictors: (Constant), loneliness, content, sex, marital status, male child.

^f Predictors: (Constant), loneliness, content, sex, marital status, male child, educational level.

Poverty is in a sense the major determinant of becoming lonely in the elderly. Poverty restricts the relationship of the elderly with social life. Studies show that there is a significant correlation between the income level of the elderly and their activeness (Danış et al., 2006). Many activities and occupations such as participation in socio-cultural activities and reading books, newspapers, etc. depends on a monetary resource. In this respect, the elderly in Turkey are obliged to lead a more restricted life as compared to their counterparts in socially developed countries and this situation increases the sense of loneliness in elderly people. It was found in this study that the income levels and social security statuses of the elderly had an impact on their loneliness; the results of this study support the statements mentioned above. It was observed that the mean score of loneliness significantly decreased with higher levels of income and presence of social security.

Studies show that 25% of the elderly population has a notable level of psychiatric symptoms. Depression comes first among such psychiatric conditions. Especially those who have loosened social ties and physical diseases and are poor and lonely tend to have depression. While the prevalence of major depression in older adults is lower than that observed among younger adults, depression is a significant problem for older adults (Blazer, 2003). If depression is not treated in old age, it produces adverse results such as early death, increased risk of suicide, decline in functioning and impairment of general health (Çınar and Kartal, 2008).

It was found in this study that loneliness and some socio-demographic variables were effective on depressive symptoms, loneliness was the most significant risk factor for depressive symptoms, and it was also associated with some other

demographic variables including gender, marital status, sons and education level, but the effect of these was less than that of loneliness.

The sensation of loneliness and desolateness is a very important sensation for the elderly. Old age sets ground for the sensation of loneliness with the increase in a number of changes and losses experienced. Studies exhibit that a significant portion of elderly people complain about loneliness and desolateness in most of the complex societies (Koşar, 1996). Loneliness is a risk factor for various physiological and health outcomes (Cacioppo et al., 2002). In this study, loneliness was found to be the most significant risk factor with a great impact on depressive symptoms seen in the elderly.

It was reported in other studies made on the effect of gender on depressive symptoms in the elderly that gender was effective and the mean depression scores of women were higher (Maral et al., 2001; Diçigil et al., 2005). In a study conducted by Cacioppo and associates, they reported that gender was a higher risk factor for depressive symptoms than the demographic characteristics of education and income (Cacioppo et al., 2006). It was also found in this study that gender had an impact on depressive symptoms, the mean GDS scores of women were higher as compared to men and the difference in between was significant. Comparing women to men in Turkey, they seem to be in a more disadvantageous state than men in terms of education, economic status and social position. In our country which has a patriarchal social structure, the role distribution made between the genders in line with the traditions and customs and the fact that there are more restrictions imposed on women during such role distributions may have influenced occurrence of depressive symptoms in women.

Being married was found to have a protective effect on health (Waite and Gallagher, 2001). It was reported in a study made by Wilson that while being widowed and having been divorced were risk factors for depression, marriage was protective especially for men (Wilson et al., 1999). Other studies also reported that being single or widowed was a major cause of depression and increased the risk of depression 4.72 times (Maral et al., 2001; Çınar and Kartal, 2008). This study also found marital status to be effective on depressive symptoms.

In this study, it was established that educational levels of elderly people have a remarkable impact on the symptoms of depression, and an increase in the level of education resulted in a decrease in the mean GDS scores; the lowest mean scores were observed among elderly people with a bachelor's degree. Heybels et al. have reported that elderly people with a low level of education had a higher mean score for depressive symptoms and that there was a significant relationship between a lower educational level and loss of weight, loss of appetite, and sleep problems particularly in the elderly people (Hybels et al., 2011). When we consider this situation retrospectively, we can conclude that the elderly with a high level of education might have had better economic statuses than those with lower level of education; they could therefore participate more in socio-cultural activities and had more occupations.

It was found that having sons was effective on the depressive symptoms of the elderly. This situation can be interpreted in this study carried out in the eastern part of the country as the elderly people, who thought that boys in particular were of more value to them, did not draw the attention they expected from them because the traditional social structure had changed, the new generation had become more and more individualistic and they had had to struggle with the problems of their own nuclear families. One can say according to these results that the elderly felt more secure when they lived with their relatives; they were more satisfied in an environment where they had love and respect and they did not feel lonely.

In addition to the variables considered above, cultural issues also deal with loneliness and depression. One of the major factors which affect loneliness and depression is drastic transition from traditional family to nucleus family.

The implications of the study on policy and practice also should be mentioned. Due to the conditions of modern city life such as economic obligations and limited time, the member of the family who beyond the elder person cannot give adequate support to elder person.

The limitations of this study are that elderly people were included in the study in a random fashion and those who had difficulties in answering the scale questions and were unable to concentrate due to hearing and perception problems were excluded from participating. In addition, because the people considered in the study was conducted on the registered at six FHCs located in the provisional center of Malatya, the health problems of non-registered people could not be judged.

5. Conclusion

In conclusion, it was found that there was a significant relationship between loneliness and depression in the elderly living in a society; loneliness, gender, marital status, having a son, and education level were effective in the emergence of depressive symptoms in the elderly and depression, security, age, occupation, smoking habits and income level in the emergence of loneliness. In view of these results, we can say that loneliness and depression are very closely associated with each other. We can suggest that a minimum income should be secured for elderly people whether they have social security or not, so that they can lead an honorable

life; a series of protective strategies should be developed for the elderly; primary healthcare professionals should administer the GDS to the elderly for an early diagnosis as depression is a disease with a high chance of being treated successfully once it is diagnosed; a sharing environment and activities should be arranged to lessen their loneliness in order to prevent depression in the elderly; trainings and conferences should be provided to their families and the society in subjects of visiting the elderly and not leaving them alone; and more comprehensive studies should be made on this subject since the field researches on the relationship between loneliness and depression in the elderly are rather limited.

Conflict of interest statement

None.

Acknowledgements

The authors are grateful to all the participants. This study was presented as an oral presentation in 14. National Public Health Congress "Health Manpower". Trabzon, Turkey (4–7 October, 2011).

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