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**THE PREVALENCE OF DEPRESSION IN ELDERLY LIVING AT HOME IN  
EASTERN TURKEY: ERZURUM**

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***Abstract***

**Objective:** To assess the prevalence of depressive symptoms among elderly people who live at home.

**Design:** This research was carried out as cross-sectional between March 2001 and September 2002 so as to determine the depression prevalence in the elderly people living in Abdurahman Gazi Primary Health Care Region in Erzurum.

**Method:** The study population consisted of 1097 elderly people (65 and over) who live in Abdurahman Gazi Primary Health Care Region. At the selection of the samples, the formula which is used in known population frequency researches was practiced and samples were found as 300.

**Results:** The prevalence of depression symptoms was found to be 58.3 % (n=175) in the total study population 45.1% (n=79) in male subjects and 54.9% (n=96) in female subjects).

**Conclusion:** In the light of these data, multidisciplinary approach is required for preparing social arrangements enhancing family and community support and home care for elderly subjects.

***Key words: elderly people, living at home, the prevalence of depression, Turkey***

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## **Introduction**

The population in Turkey, over 60 years of age showed an increase of 23% between 1985 and 1990 whereas the total population of the country was increased by 11%. The number of those years of age increased by 42.9, and the number of those older than 65 rose by 13.7% in the same period. <sup>1</sup> Turkey has a younger population than the industrialized countries, and traditional relationships and family structure have been maintained. The most of the problems of the elderly people are solved at home. Old people's homes, where elderly people live together, increased in number in Turkey in the past few years.<sup>2</sup>

We assume that the situation may have different aspects in our country, due to the traditional social relationships and protective role of the family in Turkey. It is well known that most of problems of the elderly subjects are solved at home. <sup>2</sup> A total of 6.5 % of the population is over 60 years old in Turkey. <sup>1</sup> Among the studies carried out in our country, Yamli et al. <sup>3</sup> have investigated 52 elderly people and reported that depression is at normal levels in 41% , slight in 27%, medium in 19% and severe in 13%. On the other hand, Önal et al. <sup>4</sup> defined depression at 47.3% elderly people as well.

Since depression is an important and common mental problem in late life, there are many epidemiological investigations on depression and depressive symptoms in the elderly. Geriatric depression is one of the most frequent and debilitating mental disorders in older populations.<sup>2,5-7</sup> In fact, depression is a disease rather than a normal party of aging In late life, it is often difficult to identify, as some depressed individuals may not have sad mood or present prominent anhedonia. <sup>8</sup>

This will probably make depression in the elderly an important health problem in the near future. Little is known about depression in Turkish elderly people.<sup>9</sup> We believe that this and other studies will contribute to health planning for the future.

## **Background**

Many people are familiar with all symptoms that characterize depression, and they may not know that people of different cultures can report or express depression differently. Depression also can go undetected among health care professionals.<sup>7,10,11</sup> Unrecognized and inadequately treated depression can increase mortality, and cause disability and suffering to patients and their families.<sup>8</sup>

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The frequency of depression is estimated to be between 1-60 % depending on characteristics of the groups being investigated, the purpose of a study and study methods being utilized.<sup>5-7</sup> On the other hand, other researchers have reported that the prevalence of affective disorders in elderly people has been estimated to range between 5% and 60%.<sup>2,5-7</sup> At least 4% of elderly subjects living in the community suffer from a major depressive disorder and some 15% from less severe forms of depressive illness.<sup>12</sup> Kirby et al.,<sup>13</sup> found this ratio to be 10.3% of elderly people in Ireland and Ambo et al.,<sup>14</sup> found it was 6.4% in Japan.

There is a relationship between the prevalence and severity of depression and some variables. Some studies have documented that the prevalence of depression was higher among the physically ill, in widowhood, lack of social support and social ties, loneliness, women, and older people.<sup>2,15-19</sup> On the other hand, Fernandez et al.,<sup>20</sup> reported that variables such as less income, less educated, chronic health conditions and retirement were determinants in levels of depression symptomatology. Furthermore, Pahkala<sup>15</sup> revealed that weakness of family ties and other social relationships increase the prevalence of depression.

Old age can not be prevented, but living this period healthy, happily and satisfied can be facilitated. Family is the most important powerful source for elderly people. It is claimed that close family relationships around elderly people may be an important protective factor for depression.<sup>21,22</sup>

#### *Aims*

The study had the following aims:

- To assess the prevalence of depressive symptoms among elderly people who live at home.
- To investigate relationships between the prevalence of depression and some variables (age, gender, education, marital status, chronic illness, and family environment and living arrangements).

## **Material and methods**

### *Design*

This research was carried out as a cross-sectional study between March 2001 and September 2002 so as to determine the depression prevalence in elderly people living in Abdurahman Gazi Primary Health Care Region in Erzurum.

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*Sample*

The study population consisted of 1097 elderly people (65 and over) who live in Abdurahman Gazi Primary Health Care Region. The reason why the sub- level of old age is 65 is both there is not a generally accepted way of thought about the beginning of old age, and 65 is the most frequently used old age sub- level. In the literature the old are classified as old aged who are between 60-75 and as advanced old aged who are 75 and over.<sup>23</sup>

At the selection of the samples, the formula which is used in known population frequency researches was practiced and samples were found as 300. The formula:

$$(n = N \cdot t^2 \cdot pq / y^2 \cdot (N-1) + t^2 \cdot pq).$$

*Ethics*

Before the study, permissions from the related institutions had been taken, voluntary attendance of the old had been obtained and the ones who chose not to attend were not included in this study.

*Measurement*

In the collection of data related to demographic characteristics of elderly subjects, Geriatric Depression Scale (GDS) <sup>24</sup> and a socio demographic information form were used. Socio-demographic information form is used in face to face interviews to determine socio- demographic features such as age, gender, education, marital status, chronic illness, satisfied about their family environment, and living arrangements in the study subjects.

Data on depressive symptoms were collected by using the Turkish version of GDS. A questionnaire especially developed as screening instrument of depressive symptoms for elderly populations.

GDS was developed by Yesavage et al. <sup>24</sup> and adapted to the Turkish by Ertan and Eker. <sup>24</sup> This scale' cut off score is 14 (sensitivity 80%, specificity 100%). The GDS is a 30-item questionnaire to which subjects respond by indicating yes or no to questions about depressive symptoms. <sup>9</sup>

*Procedure*

Questionnaires were completed by researchers; and the period (10-15 min.) suitable for elderly people's condition was fixed for each questionnaire. All the subjects were interviewed by 3 psychiatric nurses and 1 public health nurse.

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*Variables*

Demographic features (age, gender, education, marital status, chronic illness, and family environment and living arrangements) are the independent variables of the research. The score of the GDS is the dependent variable.

*Data analysis*

Analysis of data was done on computer. For the statistical evaluation of the data, mean, chi-square and independent-samples t test were used. A p value less than 0.05 was accepted as significant.

*Limitations*

Formal diagnosis of depression was not available. The data were collected a cross-sectionally. Future studies should include larger samples from different regions in Turkey. The findings therefore cannot be generalized to all elderly people in Turkey.

## **Results**

The mean age and standard deviation of the study group was  $69.60 \pm 5.6$  years; the ages of 83% (n=249) of the subjects were between 65-74 years. 54.7% (n=164) were males, 32.7% (n=98) were widows, 43.7% (n=131) were illiterate, 81.3 % (n=244) had a health assurance and 65.3% (n=196) had a history of chronic diseases. About 39.7% (n=119) have been living with their children and 63.3% (n=190) stated that they were satisfying from their family environment (Table 1).

The mean monthly income of the elderly people was  $245.1 \pm 82.6$  million Turkish Liras (making approximately 150 ( $\pm 50$ ) U.S. dollars).

The prevalence of depression symptoms was found to be 58.3 % (n=175) in the total study population. The prevalence of depression was found to be 45.1% (n=79) in male subjects and 54.9% (n=96) in female subjects (Table 1).

In the prevalence of depression in the elderly population, some parameters such as gender ( $\chi^2 = 15.372$ ,  $p < 0.001$ ), education ( $\chi^2 = 32.869$ ,  $p < 0.001$ ) monthly income ( $t = 5.179$ ,  $p < 0.000$ ), marital status ( $\chi^2 = 7.317$ ,  $p < 0.01$ ), the presence of chronic disease, ( $\chi^2 = 8.242$ ,  $p < 0.01$ ), satisfaction from the family environment ( $\chi^2 = 13.093$ ,  $p < 0.001$ ) and living arrangements ( $\chi^2 = 14.014$ ,  $p < 0.01$ ) have statistically significant effect on depression prevalence. Nevertheless,

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different age groups ( $\chi^2= 1.745$ ,  $p>0.05$ ) and social assurance status ( $\chi^2=0.161$ ,  $p>0.05$ ) did not have any significant effect on the prevalence.

The prevalence of depression was found to be significantly high in the subjects who were illiterate (57.1%), married (61.1%), had chronic disease (72.0%), were living together with children (48.6 %) and unsatisfied with the family environment (54.9%). On the other hand, various age groups and presence of assurance status did not produce a statistically significant difference in terms of depression prevalence.

## Discussion

In the present study, our aim was to determine the prevalence of depression among cognitively normal elderly individuals living at home one region of Turkey. At the end of this study, we have observed that 58.3% (n=175) of the total study population were suffering from depressive symptoms (45.1% in males and 54.9% in females). The prevalence of the depression in elderly subjects as shown by this study was comparatively higher than those of previous studies. A number of investigators have estimated the prevalence of depressive symptoms among community-dwelling elderly people to be between 6.4% and 22.3 %<sup>14,25-29</sup> However, some studies from various regions of Turkey reported similar prevalence rates to our own.<sup>2-4,30,31</sup> Since the measurements of depressive symptoms were different; we can make no conclusion as to the similarity of these results. Turkish elderly people, tend to somatize their psychological distress. Use of health care services is further limited by other barriers, including access problems, preference for folk treatments, and problems in the process of assurance systems.

In this study, although different age groups did not have any significant effect on depression prevalence, it increased with age. Depression is commonly found among elderly subjects as shown in previous studies reporting age effect<sup>17,27,32</sup> although a study has not shown any age effect.<sup>33</sup>

In the prevalence of depression in the elderly population, gender was found to have an effect. As for gender difference, we found that elderly females were more depressed than elderly males. Some studies have reported the same gender difference.<sup>2-4,10,14,26,29,30,32,34</sup>

The prevalence of depression was found to be significantly high in the subjects who were illiterate (57.1%) Less education was a risk factor for depression in some studies.<sup>7,10,35,36</sup>

Marital status is another factor. Depression was significantly higher among married people. However in many studies, widowhood and loneliness have been considered as risk factors for

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depression in both sexes.<sup>2,4,7,16,30,34,35</sup> Our findings were not in agreement with the previous studies. This condition may be attributed to different family structure and culture seen in eastern Turkey.

Depression prevalence was found to be higher in elderly people suffering from a chronic illness. Various studies have reported that the prevalence of depression was higher among physically ill and disabled elderly people.<sup>2,3,7,10,14,17,28,30,35,37,38</sup>

As expected elderly people who are satisfied with their family environment had a lower depression prevalence.

In our study, depression was more prevalent among elderly people living with children. However, various studies found higher values in the elderly people living alone.<sup>18,19,28,36,39,40</sup> This situation emphasizes the importance of loneliness as a risk factor for depression. This discrepancy between our study and the literature may be explained by a small number of alone cases (n=13) included in the present study.

Monthly income is another important factor determining the depression prevalence financial problems in later life are associated with increased depressive symptoms.<sup>20,26,34,35,41,42</sup> Wilson et al.,<sup>43</sup> found that socio-economic deprivation among older community residents was associated with high prevalence and incidence of depression. Our results confirm this condition.

## **Conclusion**

The results of the study, depression prevalence was found to be 45.1% (n=79) in male subjects and 54.9% (n=96) in female subjects. The prevalence of depression was found to be significantly high in the subjects with illiterate, married, chronic disease, living together with children and unsatisfied from family environment. On the other hand, various age groups and presence of assurance status did not produce a statistically significant difference in terms of depression prevalence.

In the light of these data, multidisciplinary approach is required for preparing social arrangements enhancing family and community support and home care for elderly subjects.

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Table 1. Distribution the prevalence of depression elderly people

Characteristics (n=300)	Depressed (n=175)	Undepressed (n=125)	
Age Groups (years)	n(%)	n(%)	X2 (p)
65-69	105 (60.0)	66 (52.8)	1.745(>0.05)
70-74	40 (22.9)	36 (28.8)	
≥75	30 (17.1)	23 (18.4)	
Sex			
Male	79 (45.1)	85 (68.0)	15.372(<0.001)
Female	96 (54.9)	40(32.0)	
Education			
Illiterate	100 (57.1)	31 (24.8)	32.869(<0.001)
Literate	34 (19.4)	34 (27.2)	
Primary school	36 (20.6)	50 (40.0)	
Secondary school	5 (2.9)	10 ( 8.0)	
Marital status			
Married	107 (61.1)	95 (76.0)	7.317(<0.01)
Widowed	68 (38.9)	30 (24.0)	
Health insurance			
Yes	141 (80.6)	103 (82.4)	0.161(>0.05)
No	34 (19.4)	22 (17.6)	
Chronically Illnesses			
Yes	126 (72.0)	70 (56.0)	8.242(p<0.01)
No	49 (28.0)	55 (44.0)	
Living Arrangement			
By their mate	45 (25.7)	44 (35.2)	14.014(p<0.01)
By their mate and children	39 (22.3)	40 (32.0)	
By their children	85 (48.6)	34 (27.2)	
Alone	6 (3.4)	7 (5.6)	
Satisfied about their family environment			
Satisfied	43 (24.5)	18 (14.4)	13.093(<0.001)
Quite satisfied	36 (20.6)	13 (10.4)	
Not satisfied	96 (54.9)	94 (75.2)	