**Original Article**

# Geriatric Depression and Death Depression in Older Individuals that are Provided with Care in the Hospitals Located in Northern Anatolia

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**Abstract**

**Purpose:** This study aimed to determine the levels of  geriatric depression (GD) and death depression(DD) in older patients that are provided with care in hospitals in addition to the influential factors, and identify the correlation between GD and DD.

**Methods:** This is a descriptive and correlational study. It was conducted with 150 older patients in an University Hospital between December1, 2014 and March13,2015.

**Results:** The study found that the mean GD score of the participants18.51±7.35, and the mean DD score was8.51±1.60.There was a significant correlation between the scores of the two scale. The participants' GD scores were affected by insufficient income, negative perception of health, dependency in daily life activities and the period of hospitalization. Their DD scores were affected by the perception of health, presence of a chronic illness and use of medication.

**Conclusion:** Mental health is under serious threat in older individuals. Thus, the study suggests that health professionals create awareness to improve older people's mental health and make initiatives about this issue.

**Key words:** Aged,  Death,  Gerıatrıcs, Depression

## Introduction

Old age is a period when people lose their independence in daily activities, and become dependent on others in physical and mental grounds. This period is usually tackled as a chronological concept(Aksullu& Dogan,2004; Bahrami,2014). The population of older individuals has been growing in Turkey and in the world. According to 2013 Turk Stat data, the old-age population in Turkey forms 7.7% of the total population, and it is expected to reach 20.8% in 205 (TUİK, 2014).  In old age, people experience loss in terms of physical appearance, power, role, and position, and they become more dependent on others as a result of physical and mental incapabilities and diseases. Accordingly, they may develop depressive disorders characterized by feelings such as sadness, guilt, pessimism, and unhappiness (Duru & Ozdemir 2009). Aging makes a negative effect on people's respectability in life, and the fears emerge related to the loss of physical health, autonomy, and self-competence, and all which pave the way for clinical depression. The other factors of clinical depression are having a low economic level, a decrease in social relations, and weakening skills to build intimacy (Bilir, 2006: Kilicoglu 2006).

Depression is a recurrent disorder, and its prevalence and duration increase as people age. It causes remarkable ability loss, reduced quality of life, deteriorating physical health, high risk of suicide, and a high number of death due to physical diseases. However, depression is treatable. Rates of depression in older people is

1-5% in general population of older individuals, and 12-46 % in older patients that receive treatment in hospitals due to medical or surgical reasons[7]. Another study demonstrated the major depression rate was 30.7% in older individuals in general, and 35% in patients who were staying in hospitals [4]. Old age is a period when illnesses and drug use increase, and health care services are used more frequently than ever (Goktas & Ozkan,2006; Douzenis, et.al 2010).

The monitoring of older patients is more difficult due to cognitive impairments which are accompanied by psychiatric illnesses such as depression. Their hospitalization periods are also longer (Goktas & Ozkan,2006; Douzenis, et.al 2010; Yaman,et.al.2012). It also accelerates the development of depression that they stay in the hospital environment for a long time, have the possibility of complications during or after treatment, and they lose their hope to recover in time (Bunevicius, et.al., 2007). It has been proved that the symptoms of depression are observed more frequently among in-patients (Bunevicius, et.al., 2007; Altay & Ustun 2012).

Death depression emerges with thinking about the impending death continuously, and its symptoms are pessimism, sadness, sorrow, and regret (Yildiz, 2011). It has been reported that the variables of depression, anxiety, fear of death, and death are related to each other (Templer, et.al., 1990; Yaparel & Yildiz, 1998). There are few studies that analyze death depression in the meaning that this study indicates. Therefore, there is need for studies that determine the levels of geriatric depression and death depression in older individuals, and make suggestions to help older individuals maintain their mental health. The aim of this study was to determine the levels of geriatric depression and death depression in older individuals, and identify the correlations between them.

## Materials and Methodology

### Study Objective

The aim of this study was to determine geriatric depression and death depression levels of elderly people that receive treatment in hospitals, determine the factors influencing these depression types, and evaluate the relationship between GD and DD levels.

### Study Sample and Operations

This is a descriptive and correlational study. It was conducted in a hospital between December 1, 2014 and March 12, 2015. This hospital is located in Samsun, which is a province in northern Turkey. The hospital is the medical center of the Black Sea region. The study was conducted with patients that were 65 years old or older who were staying in medical and surgical clinics of hospital in question. The study population included the patients who were staying in clinics between the dates specified above. The patients to be included in the sample were selected using Sample Size Calculator Power Analysis Program, and it was calculated that 95% power would be provided when at least 150 individuals were included in the sample with 5% error margin in 95% confidence interval. The researcher held interviews with 175 in-patients between the specified dates, 25 individuals were not included in the study because five in-patients did not agree to participate in the study, and 20 could not be contacted.

### Inclusion and exclusion criterias

The study sample included 150 individuals that were aged 65 years or older, conscious, capable of orienting, speaking Turkish, having no hearing impairment or dementia, and volunteer to participate in the study. People who were unconscious, not orienting, not speaking Turkish, having hearing impairment or dementia were excluded from the study.

### Data Collection Tools

The study data were collected using Personal Information Form, which was created based on the relevant literature and included questions about older individuals'sociodemographic characteristics and health statuses, as well as Geriatric Depression Scale (GDS), and Death Depression Scale (DDS).

### Geriatric Depression Scale (GDS)

GDS was created by Brink et al. in 1982. Its specificity of diagnosis for depression is used to assess the change in the level and severity of depression (Brink,et.al.,1982).It has 30 items in addition to yes-no questions. The minimum score in the scale is 0, and the maximum score is 30. The mean scores are reviewed as 0-10: no depression; 11-13: possible depression; 14: depression. The reliability and validity study of the Turkish scale was conducted by Sagduyu. The Cronbach's alpha coefficient of the Turkish scale was 0.72, and double half reliability coefficient was 0.79 (Sagduyu,1997). In the

present study, Cronbach's alpha coefficient was found to be 0.90.

### Death Depression Scale (DDS)

DDS was created by Templer et al. in 1990. It is a self-report assessment consisting of 17 true-false items. The minimum score on the scale is 0, and the maximum score is 17. The scores between 0 and 8 indicate no depressive mood, and the scores between 8 and 17 indicate a depressive mood. Higher scores indicate more severe depression (Templer, et.al., 1990). The reliability and validity study of the Turkish scale was conducted by Yaparel and Yildiz in 1998. The subdimensions of scale are death anxiety, meaning of life, death loneliness, belief in immortality, and sorrow linked to death. Yaparel and Yildiz reported the Cronbach's alpha coefficient as 0.74 and alpha reliability coefficient as 0.92 (Yaparel & Yildiz,1998). In the present study, Cronbach's alpha coefficient was found to be 0.85.

### Data Analysis

The study data were analyzed using Statistical Programme for Social Sciences (SPSS) 21.0 software. The data which had a normal distribution in descriptive analysis were analyzed using $t$ test, analysis of variance (ANOVA), and correlation analysis. The data that did not have a normal distribution were analyzed using Mann–Whitney $U$ test and Kruskal–Wallis test. The significance level of the study was $P < 0.05$.

### Ethical Considerations

The investigator received written approval from the hospital as well as the approval of the Ethics Committee before starting work. The older patients were informed about the aim of the study, and they provided their verbal consent in addition to written consent, which they provided by signing informed consent forms.

**The report of the institution's permission and ethics committee was taken.**

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### Hypotheses

Demographic and health characteristics of older adults would have an effect on DD and GD levels.

There is a correlation between DD and GD levels in older adults

### Results

Of the patients participating in the study, 47.3% were females and 52.7% were males;90.6% of individuals were aged 65 to 74, and 9.4% of them were older than 75 years. It was reported that 92% of individuals were married, 40% had a low income, and 93.3% had social insurance. Of them, 50.7% lived in extended families and 49.3% lived in nuclear families. It was found that 2% of the individuals had no child and 56.7% had one to four children. When GDS and DAS mean scores of the participants were examined, it was found that the depression mean score was $18.51\pm7.35$, and the death anxiety mean score was $8.51\pm1.60$. It was reported that approximately 15.3% of the patients receiving treatment in the hospital did not suffer from depression, 11.3% carried the risk for possible depression, and 73.3% had the risk for depression. While 22.7% of the elderly patients perceived their health as good, 32% perceived it as poor. It was reported that 48.7% of individuals received a treatment in the hospital for less than 7 days, 43.3% received a treatment in the hospital for 7-30 days, and 8% received a treatment in the hospital for more than one month (Table1).

It was found that 69.3% of individuals performed their Activities of Daily Life (ADL) independently, 26.7% performed their ADL semi-dependently, and 4% performed their ADL dependently. It was reported that 62% of the elderly individuals had received a treatment for their illness for more than 5 years, and 94.7% were on regular medicine (Table1). The depression mean scores of the participants increased as their income levels decreased, and the difference was significant ($P<0.05$). There was no significant difference between the groups' GDS and DDS means scores regarding gender, age, marital status, family type, and social security ($P>0.05$; Table 2).

It was found that GDS and DDS mean scores of the older individuals who perceived their health as good were lower than those of the individuals perceiving their health as moderate and poor, and the difference between them was statistically significant ($P<0.01$). Depression scale mean scores of the patients having good health perceptions were lower than those of the patients with negative perceptions (Table3). GDS and DDS mean scores of the patients with chronic

illnesses were high, and the difference between them was statistically significant. When the length of hospitalization was examined, it was found that GDS mean score of the elders who stayed in hospital for a long time was significantly higher than the mean score of those who stayed in hospital for a shorter time. DDS mean score of the patients who could perform their ADLs independently was found to be lower than that of the elders who performed their ADL dependently. However, dependence in ADLs did not affect DDS mean score (*P*>0.05; Table 3).

**Table 1. Characteristics of The Old Age Patients Concerning Their Health Status (N=150)**

| Characteristics | n | % |
|---|---|---|
| Having physical disease | | |
|   A chronic disease | 52 | 34.7 |
|   Two and more | 98 | 65.3 |
| Perception of health | | |
|   Good | 34 | 22.7 |
|   Moderate | 68 | 45.3 |
|   Poor | 48 | 32.0 |
| Length of hospital stay | | |
|   Less than 7 days | 73 | 48.7 |
|   7–30 days | 65 | 43.3 |
|   1 month and more | 12 | 8.0 |
| Involvement in ADL | | |
|   Independent | 104 | 69.3 |
|   Semi-dependent | 40 | 26.7 |
|   Dependent | 6 | 4.0 |
| Regular medication | | |
|   Yes | 142 | 94.7 |
|   No | 8 | 5.3 |
| Duration of receiving treatment | | |
|   Less than 1 year | 4 | 2.7 |
|   1–5 years | 53 | 35.3 |
|   5 years and more | 93 | 62.0 |

**Table 2. The Comparison of GDS and DDS Point Averages by Characteristics of The Old Age Patients**

| Demographic Characteristics | n | Mean score of GDS M±SD | t or F | p | Mean score of DDS M±SD | t or F | p |
|---|---|---|---|---|---|---|---|
| **Sex** | | | | | | | |
| Female | 71 (47.3) | 19.00 ± 6.76 | 0.76 | .440[a] | 8.53 ± 1.58 | 0.15 | .872 [a] |
| Male | 79 (52.7) | 18.07 ± 7.87 | | | 8.49 ± 1.62 | | |
| **Age** | | | | | | | |
| 59–74 | 136(90.6) | 18.52 ± 7.28 | 0.04 | .962[b] | 8.51 ± 1.62 | 0.03 | .971 [a] |
| 75 and above | 14   (9.4) | 18.44 ± 8.11 | | | 8.50 ± 1.42 | | |
| **Marital status** | | | | | | | |
| Married | 138(92.0) | 18.52 ± 7.43 | -0.047 | .961[b] | 8.47 ± 1.56 | 0.910 | .364[c] |
| Single | 12  (0.08) | 18.41 ± 6.76 | | | 8.91 ± 1.97 | | |
| **Income state** | | | | | | | |
| Low | 60 (40.0) | 20.31 ± 7.04 | **2.14** | **.030**[d] | 8.61 ± 1.58 | 1.37 | .252[c] |
| Middle | 71 (47.3) | 17.70 ± 6.86 | | | 8.57 ± 1.56 | | |
| High | 19 (12.7) | 15.84 ± 9.03 | | | 7.94 ± 1.74 | | |
| **Family type** | | | | | | | |
| Extended | 76 (50.7) | 18.59 ± 7.98 | 0.13 | .891 [a] | 8.48 ± 1.80 | -0.20 | .831 [a] |
| Nuclear | 74 (49.3) | 18.43 ± 6.71 | | | 8.54 ± 1.36 | | |
| **Social security** | | | | | | | |
| Yes | 140(93.3) | 18.32 ± 7.38 | -1.19 | .230[b] | 8.52 ± 1.56 | 0.23 | .810[a] |
| No | 10   (6.7) | 21.20 ± 6.81 | | | 8.40 ± 2.17 | | |

[a] t-test was used

[b]Mann–Whitney *U* analysis was used.

[c]analysis of variance (ANOVA) was used.

[d]Kruskal–Wallis test was used.

**Table 3. The Comparison of GDS and DDS Point Averages by Some Characteristics Related to Health**

| Characteristics related to health | n | Mean score of GDS M±SD | t or F | p | Mean score of DDS M±SD | t or F | p |
|---|---|---|---|---|---|---|---|
| **Perception of health** | | | | | | | |
| Good | 34 | 12.00 ± 6.87 | **27.74** | **.00**[c] | 7.82 ± 1.31 | **471** | |
| Moderate | 68 | 18.97 ± 6.50 | | | 8.60 ± 1.58 | **.010**[c] | |
| Poor | 48 | 22.47 ± 5.60 | | | 8.57 ± 1.68 | | |
| **Chronic disease** | | | | | | | |
| A chronic disease | 52 | 18.96 ± 7.93 | 0.542 | .589 [a] | 8.88 ± 1.45 | **2.09**[a] | **.038** |
| Two or more chronic diseases | 98 | 18.27 ± 7.06 | | | 8.31 ± 1.64 | | |
| **Length of hospital stay** | | | | | | | |
| Less than 7 days | 74 | 18.04 ± 7.43 | **27.74** | **.00**[d] | 8.52 ± 1.52 | 4.71 | |
| 7–30 days | 63 | 18.60 ± 7.41 | | | 8.60 ± 1.66 | .010[d] | |
| 1 month and more | 13 | 20.76 ± 6.17 | | | 8.00 ± 1.73 | | |
| **Involvement in ADL** | | | | | | | |
| Independent | 104 | 17.53 ± 7.22 | **4.765** | **.010**[d] | 8.58 ± 1.48 | 1.67 | |
| Semi-dependent | 40 | 19.47 ± 7.46 | | | 8.20 ± 1.85 | .190[d] | |
| Dependent | 6 | 25.66 ± 2.58 | | | 9.33 ± 1.50 | | |
| **Regular medication** | | | | | | | |
| Yes | 142 | 18.41 ± 7.31 | 068 | .495[b] | 8.43 ± 1.58 | **-251** | |
| No | 8 | 18.43 ± 1.58 | | | 9.87 ± 1.24 | **.013**[b] | |
| **Length of receiving a treatment** | | | | | | | |
| Less than 1 year | 23 | 18.47 ± 8.40 | 107 | .361[c] | 8.47 ± 1.78 | 229 | |
| 2–3 years | 30 | 19.90 ± 6.52 | | | 9.16 ± 1.36 | .080[c] | |
| 4–6 years | 26 | 19.76 ± 7.71 | | | 8.46 ± 1.63 | | |
| 7 years and more | 71 | 17.47 ± 7.19 | | | 8.26 ± 1.57 | | |

[a] t-test was used

[b] Mann–Whitney *U* analysis was used.

[c] analysis of variance (ANOVA) was used.

[d] Kruskal–Wallis test was used

DDS mean scores of the patients who were on regular medication were significantly lower than that of those who were not on regular medication (*P*<0.05). The duration of receiving a treatment did not affect the GDS and DDS mean scores (*P*>0.05; Table3). A significant relation was found between DDS and GDS at a level of *P*<0.002 (*r* = 0.25).

## Discussion

The geriatric depression scale mean score of the older patients who participated in the study was 18.51±7.35, and their depression risk was 73.3% in the older patients receiving an in-patient treatment in the hospital. This is a considerable high rate. Moreover, it was found that the GDS mean scores of the patients whose length of hospitalization was one month or longer were higher than the other patients. The study conducted by Altay and Ustun found that the GDS mean score of the older in-patients was 13.46±6.87, and 45.5% of them had a risk for depression (Altay, B.& Ustun,2012).

The study by Demir et al. conducted with the older individuals who lived in nursing homes or their own homes found that the geriatric depression scale mean score of nursing home residents was 11.27±6.79 (Demir, 2013). However, Sridevi and Swathi found it as 18.95±4.01. Nursing homes are places with an environment similar to hospitals, where persons are away from their close ones and suffer from loneliness (Sridevi, & Swathi,2014). Thus, a higher risk for depression is expected in older people residing in nursing homes. Death depression mean score was found to be 8.51±1.60 in the present study. Yet, DDS point average was found to be 6.6 in a study conducted with a group of university students. Yaparel and Yildiz, and Yildiz determined DDS mean score as 8.72 in his study conducted with prisoners and convicts (Yildiz, 2011; Yaparel & Yildiz,1998).

These results indicate an increase in death anxiety levels in individuals who face stressful events. In his study conducted with cancer patients, Almostadi has demonstrated that low mean score on death anxiety was caused by a stronger belief in God and afterlife (Almostadi, 2012). This study found the prevalence of depression and depression mean score of older females to be higher than those of males. Altay and Avci and Altay and Ustun stated in their studies that the risk for depression was higher in older female patients and the patients who were

widows/widowers (Altay, B.& Ustun,2012; Altay, B. & Avci,2009)

Depression is more common in females. This might be resulting from the fact that women are generally more sensitive in general, pay more attention to every single detail in their lives, have less tolerance for their health problems, and usually they can express their feelings in a better way. While death depression mean scores of females are higher compared with males, the difference between them is not statistically significant. Similarly, the studies by Yaparel and Yildiz and Sridevi and Swathi showed that the gender factor did not affect DDS mean scores (Yaparel & Yildiz,1998; Sridevi, & Swathi,2014). It was observed that females were more likely to express their feelings related to death than males. This may be because in societies, males are traditionally expected to be brave. Death Depression in females is expected to be more common because of the fact that females are more emotional. The findings of Acehan and Eker were different from the findings of the present study; the DDS man scores of females were found to be higher than those of males (Acehan, G.& Eker, 2013).

The reason might be that the former study was conducted with different age groups, and the participants were younger. When DDS mean scores were assessed in terms of the age groups in the present study, it was found that the age factor did not affect the level of death depression. Sridevi and Swathi also found that age did not affect geriatric depression and death anxiety levels (Sridevi, & Swathi,2014). Some studies showed that death anxiety in old age does not increase but rather decrease as people age (Sridevi, & Swathi,2014; Kacan Softa,2011; Ozturk, et.al 2011). These studies support the findings of the present study. It was reported that GDS mean score of older people whose income levels were low was significantly higher than that of the people whose income levels were high. In other words, the depression levels of the older individuals who were poor were higher than the others. Some relevant studies also found that GDS mean scores of persons with low income levels were high (Bingol, 2010; Top,2010).

These findings indicate that the depression levels of older individuals decreased as their income levels increased. So, it can be inferred that financial potentials enhance the life quality and health status. As in the study by Sridevi and

Swathi (Demir, 2013).different findings were recorded, in this study, it was stated that no relation existed between the levels of death anxiety and geriatric depression and the socioeconomic status. The difference between DDS mean scores for elders with a chronic disease was considered to be significant ($P$<0.05). Cardiac disease (56%) was found to be the most common chronic disease. The findings of Bestepe were similar to those of Softa et al (Bestepe, et.al 2013; Softa, et.al. 2011).

Cardiovascular diseases are considered to be the diseases that make people think of death most frequently and increase the risk for death anxiety. Chronic diseases lead to many problems such as lack of self-care, difficulties in performing ADLs, changes in the body, and lack of adaptation to environment. It is conceivable that these chronic diseases may require treatment and the treatment process may increase the risk for depression and death anxiety. It is expected that the depression mean scores of older people who are dependent in performing their ADLs are higher than who perform them independently. DGS and DDS mean scores of the older people whose health perception was good was found to be lower than those of others in the present study. In other words, negative perception of health has increased the depression mean score. The rate of older people perceiving their health as negative was 32% (Bingol, 2010).

The findings of the present study are similar to those of the other studies. Altintas et al. demonstrated that the depression rate of persons who feel themselves healthy was low (Altintas et al. 2006). Also, Bahar et al. found a significant relation between depression mean scores and health perception of the older people. It is thought that a denial way or religious senses like a strong belief in afterlife, or a perception of death as a devotion or an outgrowth of life cycle may be the reason why the DDS mean scores of the older individuals who perceive their health as positive are low (Bahar, et.al., 2005).

A significant relation at a level of $P$<0.002 ($r =$ 0.25) has been reported between geriatric depression and death anxiety levels in older in-patients. It can be said that death depression goes parallel with geriatric depression. Hospitals, prisons, and nursing homes are similar to one another due to the fact that all isolate people from their loved ones and social circle and limit their freedom. From this point of view, Yildiz

determined a positively significant relation between death anxiety and despair in his study with prisoners and convicts (Yildiz,2011). Furthermore, Sridevi and Swathi found a significant relation between death depression and geriatric depression in their study conducted on elderly people residing in nursing homes and their home (Sridevi, & Swathi,2014). The study by Almostadi found a positively significant relation between death anxiety and death depression in cancer patients (Almostadi, 2012). These findings support the results of the present study.

## Conclusion and Suggestions

In this study, the DDS mean score and GDS mean score of the older individuals participating in the study were found to be 8.51±1.60 and 18.51±7.35, respectively; the depression risk was determined to be 73.3% in older in-patients. A correlation was found between DGS and DDS mean scores. Financial difficulties, poor perception of health, being dependent in ADLs and extension of hospitalization period were reported to have increased geriatric depression mean scores. Poor perception of health, having a chronic disease and being on irregular medicine were found to have increased death depression scores too. It is recommended to provide older patients with psychological support therapies, shorten their hospitalization period, support them financially, and ensure support from their relatives and health care workers while they are in hospital, in an effort to eliminate the factors leading to geriatric depression.

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