

Elderly suicides in Bolu province

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ABSTRACT

Aim: The aim of this study was to analyze the characteristics of suicide cases in the elderly, identify risk factors and discuss preventive measures.

Methods: Forensic files of forensic death cases from the Bolu Chief Public Prosecutor's Office between January 1, 2003 and December 31, 2019 were retrospectively analyzed. Twenty cases aged 65 years and older who died by suicide were included in the study.

Results: Among the cases, 14 (70%) were male. The mean age was 77.1±9 (min=65, max=93) years, and 65% of the cases were 75 years or older. The most common method of suicide was hanging (n=12, 60%). Only two of the cases were employed. Eleven cases (55%) committed suicide at home. A suicide note was found at the scene in only one case. A history of psychiatric illness was found in eight cases (40%). In addition, relatives of five cases (25%) stated that the case had depressive symptoms before committing suicide.

Conclusion: Suicide attempts are more likely to result in death because elderly people use more lethal suicide methods than younger people. Practices aimed at reducing suicide attempts in the elderly population should be given more importance.

Keywords: autopsy, cause of suicide, elderly suicides, suicide note, suicide methods

INTRODUCTION

Elderly people may experience a psychological crisis triggered by the natural life process of loss, including loss of health, loss of social roles, loss of relatives or friends, and loss of meaning in life; this situation may lead to suicide, especially in those who lack family

and social support and experience loneliness (1). In a 37-year retrospective study conducted in Northern Italy, pathological factors were identified in 427 cases (physical conditions: 194 cases, psychological states: 233 cases) and were found to be closely related to the risk of suicide due to mental illness (2). It is estimated that elderly suicide victims are nine times

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more likely to live alone than adult suicide victims (3). Suicide attempts are less common in the elderly than in younger people, but are more lethal in the elderly population (4). Although people over the age of 65 generally have a higher suicide rate than any other age group, elderly males are more likely than elderly females to die following a suicide attempt (5). The total number of elderly people and their ratio of the overall population are both expected to increase significantly worldwide in the coming years. Therefore, the number of elderly suicides is also likely to rise in the future. In addition, the suicide rate has been reported to increase with age within the elderly population (6).

Our study aimed to investigate elderly suicides that resulted in death in Bolu province of Turkey between January 1, 2003, and December 31, 2019, and to discuss what should be done to reduce suicide attempts among the elderly.

MATERIALS AND METHODS

Study design

This retrospective study was conducted at the Department of Forensic Medicine, Bolu Abant İzzet Baysal Training and Research Hospital. The study was conducted in accordance with the principles of the Declaration of Helsinki. As this was a retrospective review, informed consent was not required. Written permission to conduct the study was obtained from the Bolu Chief Public Prosecutor's Office on April 8, 2020 (number 2020/3169 B.M.). Ethical approval was obtained from the Bolu Abant İzzet Baysal University Clinical Research Ethics Committee on May 29, 2020 (number 177).

Data collection and implementation

The forensic files of forensic death cases belonging to the Bolu Chief Public Prosecutor's Office between January 1, 2003 and December 31, 2019 were retrospectively analyzed. A total of 20 cases aged 65 years and older who died by suicide were included in the study.

These cases were evaluated for the following parameters: age, sex, marital status, lifestyle,

employment status, suicide method, suicide site, presence of a suicide note, history of previous suicide attempts, presence of psychiatric symptoms or psychiatric diseases, and reasons for suicide.

Statistical analysis

The Statistical Package for the Social Sciences, version 21.0 (Statistical Software Package 21, IBM Corp., Armonk, NY, USA) was used for data analysis in this study. Descriptive statistics were presented as frequency, percentage, mean, standard deviation (SD), minimum (min), and maximum (max) values.

RESULTS

This study included 20 cases: 70% (n = 14) were male and 30% (n = 6) were female. The mean age of the cases was 77.1 ± 9 (min = 65, max = 93) years. Most cases were between 65-69 (n = 7, 35%) years of age, while 65% of cases were at least 75 years of age. Nine of the cases were married (45%). Five (25%) of the suicide victims had lived alone. Only two (10%) of the cases

Table 1. Distribution of cases by sociodemographic characteristics

Sociodemographic characteristics	n	%
Age Group		
65–69 years	7	35
75–79 years	6	30
80–84 years	3	15
85–89 years	2	10
≥ 90 years	2	10
Marital Status		
Married	9	45
Whose partner is ex	11	55
Individuals living together		
Alone	5	25
With partner	5	25
With partner and children	4	20
With children and/or descendant	6	30
Work status		
Working	2	10
Not working	18	90
Total	20	100

had been employed as farmers. The sociodemographic characteristics of the cases are presented in Table 1. Eleven of the cases (55%) committed suicide at home (Table 2).

The most common method of suicide was hanging (n=12, 60%) (Table 3). While seven male victims used the hanging method, four males used firearms, two males used stabbing, and one male jumped from

a great height. Five female victims used hanging as the method, while the remaining case involved drug intoxication. There was no history of suicide attempts in any of the cases. A history of psychiatric illness was confirmed in eight cases (40%): two cases had depression, three cases had bipolar disorder, and three cases had schizophrenia. It was noted that five cases (25%) described symptoms of depression but did not seek psychiatric evaluation at any health facility. A single suicide-related cause was found in 12 (60%) cases, two suicide-related causes were found in six (30%) cases, and three suicide-related causes were identified in two (10%) cases (Table 4).

DISCUSSION

The suicide rate has been increasing in both men and women with the general increase in the age of the elderly population worldwide (7). Karbeyaz et al. (8) reported that 63.5% of the 74 suicide cases that occurred in Eskisehir province, Turkey, were in people aged 75 years and older. In this study, the mean age of elderly suicide victims was 77.1 ± 9 (min=65, max=93) years, and 65% of the cases were ≥ 75 years. In a study conducted in China, 59.6% (n=62) of 104 elderly suicide cases were male (9). Seventy percent of elderly suicides in Malaysia were committed by men (10). Torresani et al. (11) stated that the suicide rate of men in Italy was 29.7/100,000 elderly persons, whereas

Scene	n	%
Home	11	55
Garden of the house	6	30
Forest	3	15
Total	20	100

Suicide methods	n	%
Hanging	12	60
Firearm injury	4	20
Stabbing	2	10
Medicine intoxication	1	5
Jumping from high	1	5
Total	20	100

Related Factors	n	%
Psychiatric illness	5	25
Symptoms of undiagnosed psychiatric illness	2	10
Chronic disease	2	10
In need of care	2	10
Economic issue	1	5
Chronic disease + Psychiatric illness	2	10
Chronic disease + Symptoms of undiagnosed psychiatric illness	2	10
Living alone+ Economic issue	1	5
Living alone+ Loss of a loved one (spouse)	1	5
Loss of a loved one (spouse)+ In need of care+ Symptoms of undiagnosed psychiatric illness	1	5
Living alone+ In need of care+ Psychiatric illness	1	5
Total	20	100

the rate of women was only 9.1/100,000. In Türkiye, 74.3-74.5% of elderly suicide deaths were male (8,12). In this study, 70% of the cases were male.

Living alone has been identified as a risk factor for elderly suicide in many studies (13-15). Contrary to the literature, only five (25%) of the victims in this study lived alone. Of the 70 elderly who committed suicide in Hong Kong, only 20% were still actively working and only 54.3% were married (16). In the study conducted by Wiktorsson et al. (17), 36.9% of the elderly who attempted suicide were married. Karbeyaz et al. (8) found that only 6.8% of elderly suicide cases were still working and only 8.1% were still married. In this study, nine (45%) cases were married and only two (10%) cases were working as farmers.

Elderly people are more likely to spend time at home, and most elderly suicides occur at home (8,10). In this study, more than half of the elderly suicide cases (55%) preferred to end their lives at home.

A 37-year retrospective study conducted in northern Italy (2) reported that the most common method used by the elderly to commit suicide was hanging (32.5%). The most common method of suicide among the elderly in Malaysia was hanging (56.5%) (10). In Türkiye, both men and women over the age of 65 were most likely to attempt suicide by hanging (14). In this study, hanging was also the most preferred method regardless of gender (n=12, 60%).

In Italy, living alone, having a low level of education, visiting a doctor in the last month, and living in a nursing home were strongly associated with elderly suicide (11). In studies conducted in China, living alone, having a poor family status, having a physical illness, encountering negative events, and living in rural areas were closely related to elderly suicides (9,13). In the study conducted by Waern et al. of people over 75 years of age, family conflict, severe physical illness, loneliness, and both major and minor depression were found to be closely related to suicide in the elderly (18). The psychiatric disorders of anxiety, depression, and bipolar disorder have been associated with elderly suicide (19). In their controlled psychological autopsy

study, Chiu et al. (16) reported that 86% of the elderly suicide cases and 9% of the elderly control group participants had experienced at least one psychiatric problem before suicide. The most common diagnosis was major depression; 77% of the elderly suicide cases had consulted a doctor less than a month before the suicide (16). In studies of elderly suicide in Türkiye, living alone, using alcohol, having been diagnosed with the disease for 11 years or more, having a history of hospitalization in a psychiatric clinic, losing a loved one, having a chronic physical illness, and being diagnosed with adjustment disorder, depression, or anxiety were identified as important risk factors for suicide (8,20,21). In this study, a history of psychiatric illness was found in eight (40%) cases. Although five victims (25%) had no psychiatric diagnosis, their relatives reported that depressive symptoms were present before the suicide. Psychiatric illness and symptoms appear to be the most important predictors of suicide in the elderly.

CONCLUSION

This study found that elderly individuals who committed suicide were generally male, over 75 years old, living alone at home, and most commonly used hanging as the method. The factor most associated with suicide was the psychological state. Considering that the number of elderly suicides will increase with the increase in the elderly population, necessary precautions should be taken before elderly people attempt suicide. To this end, a number of social and health measures should be taken.

Our recommendations for reducing elderly suicides are as follows:

- In the last month before a successful suicide attempt, elderly people often consult a physician at least one or more times (11,19). Therefore, clinicians must evaluate elderly patients for suicidal tendencies, even if they report only mild depressive symptoms (17). The rate at which elderly people visit psychiatrists is low in Türkiye (8). Considering the low rate of referral to psychiatrists among the elderly population, it is not possible for psychiatrists alone to perform follow-up and screening.

Therefore, educating family physicians about common suicide risk factors in elderly patients and providing them with training programs may contribute to the detection of even mild depressive symptoms in elderly patients and ensure that elderly people receive the psychological and social support needed to reduce suicide rates.

- Elderly people with chronic physical illnesses are already psychologically distressed due to their existing illnesses, and the possibility of co-existing mental illness is quite high. Therefore, all physicians need to be aware of the increased risk of suicide in older people who have both physical illnesses and psychiatric symptoms, and should develop specific strategies for them to address these issues. Healthcare professionals who treat the elderly should be particularly aware of the increased risk of suicide in this population. This includes not only primary care physicians, but also specialists who treat chronic conditions in the elderly. Elderly patients at risk for suicide should be referred to psychiatric clinics, and their follow-up and treatment should be planned in these clinics.
- Elderly suicides are often precipitated by living alone, experiencing social isolation, feeling worthless, and losing social status. Therefore, it is very important to increase social support in the elderly. This strategy may involve expanding home care services, establishing municipal recreational facilities where elderly individuals can spend time with their peers, organizing travel programs, and offering various educational courses to help prevent feelings of loneliness and worthlessness among the elderly.
- The elderly need more psychosocial support than adult psychiatric patients. In addition, the suicide attempts of older people represent a negative and impulsive approach to addressing problems. To correct this approach, better problem-solving strategies should be offered to the elderly. In addition, it would be beneficial to establish "geriatric psychiatry" as a separate specialty in medicine devoted exclusively to elderly patients, or to have "geriatric psychiatry" as a subspecialty within the field of "mental health and disease speciality".

- Until such a specialization is available, the creation of "geriatric psychiatry outpatient clinics" for the elderly population at every hospital and the efforts of psychiatrists specialized in geriatric psychiatry in these clinics will allow the elderly to be followed up and treated more professionally.
- Although living alone is defined as a risk factor in the literature, a significant portion of the elderly suicide cases in Türkiye lived with their spouses and/or relatives. For this reason, the family members of elderly people who are at risk of suicide about this subject may be educated.
- Using the power of the media, the public should be informed about elderly suicides via public service announcements, educational seminars, and television programs. Thus, elderly people with risk factors for suicide who are unwilling to seek medical help may be recognized by family members and provided with support before a suicide attempt occurs.

Ethical approval

This study has been approved by the Bolu Abant İzzet Baysal University Clinical Research Ethics Committee (approval date 29.05.2020, number 177). Written informed consent was obtained from the participants.

Author contribution

Idea: EH, ZZE, TÖ; Design: EH, ZZE, TÖ; Supervision: EH, ZZE; Resources: EH, ZZE, TÖ, TT, BKY; Materials: EH, ZZE, TÖ, TT, BKY; Data collection: EH, TT, BKY; Analysis: EH, ZZE, TT; Literature review: EH, TT, BKY; Writing: EH, ZZE, TÖ; Critical review: EH, ZZE, TÖ, TT, BKY. All authors reviewed the results and approved the final version of the manuscript.

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Conflict of interest

The authors declare that there is no conflict of interest.

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