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# Journal of Forensic and Legal Medicine

journal homepage: www.elsevier.com/locate/jflm



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### Clinical practice

## Evaluation of geriatric suicides in Turkey

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#### ARTICLE INFO

Article history: Received 14 April 2016 Received in revised form 25 August 2016 Accepted 22 October 2016 Available online 24 October 2016

Keywords: Suicide Geriatrics Forensic medicine

#### ABSTRACT

Introduction: Suicide is defined as an individual taking action towards themselves with the intention of terminating their own life. According to the World Health Organisation (WHO), 800,000 deaths per year worldwide are due to suicide. In 2012, suicide cases constituted 1.4% of all the deaths worldwide. In most countries throughout the world, the suicide rates of the elderly are higher than those of other age groups. Epidemiological studies have concluded that suicide rates increase with advancing age in all societies, this increase accelerates after the age of 65 years and the highest rates are reached after the age of 75 years. The aim of this study was to evaluate the demographic features, suicide methods and reasons for suicide in geriatric suicide cases between 2009 and 2013 using the data of the Turkish Statistics Institute

Material and methods: A retrospective evaluation was made of the TUIK data related to proven suicide cases aged 65 years and older in the 5-year period of 2009-2013.

Results: A total of 1723 geriatric suicides were determined in Turkey between 2009 and 2013. These comprised 1284 (74.5%) males and 439 (25.5%) females, showing a rate of males approximately 3 times higher than that of females. An increase of approximately 10% was seen in the deaths by suicide in 2013 compared to 2009. The highest rate of geriatric suicides within total geriatric deaths was observed to be in 2012 (15.2%) and the lowest rate was in 2010 (12.4%). The most common method of suicide in both genders was hanging. In the majority of cases of geriatric suicide of both genders, the reason could not be determined. In those cases where the reason was known, the most common reason was illness.

Conclusion: It has been reported that the most significant factors in suicide prevention are friends and family. As there continues to be an extensive family structure and family connections are strong in Turkey, this can be considered to be one of the reasons for lower rates of geriatric suicide compared to other countries. As there is a strong adherence to Islam in Turkey, another significant reason for the low rate could be the effect of the belief that suicide is a sin in the Islamic religion.

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#### 1. Introduction

Suicide is defined as an individual taking action towards themselves with the intention of terminating their own life. 1 Just as there can be social, economic, psychological and cultural reasons for suicide in every age group, these reasons can show a differentiation between the different age groups. Thus, in contrast to

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extremely low rates of suicide in some societies, in other cultures it has been shown to be a form of acceptable behaviour which is necessary to be applied in certain unacceptable situations.<sup>2</sup>

According to the World Health Organisation (WHO), 800,000 deaths per year worldwide are the result of suicide and in 2012, suicide cases constituted 1.4% of all the deaths worldwide.<sup>3</sup> A study in the USA reported approximately 32,000 suicides per year and of those, more than 500 were in the population aged 65 years and over. In many developed countries, individuals aged 65 years and older are accepted as elderly.<sup>5</sup> In the majority of countries worldwide, suicide rates of the elderly are higher than those of other age groups.6

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When the etiology of suicides is examined, it is known to be generally multifactorial and no single reason has been determined to explain all suicide cases.<sup>7</sup>

Suicide in the >65 years age group includes reasons different from those of other age groups. As a general overview, these reasons can be summarised as illness, family disagreements, difficulty maintaining standard of living, business failures and emotional relationships. Of these reasons which are different from other age groups, cases have generally been seen with the reason of illness (particularly psychiatric diseases).<sup>8</sup>

Suicide attempts of the elderly result in death more than those of the young population and in many countries, the elderly commit suicide at higher rates than other age groups. However, compared to young suicides there is much less information in the media and in medical literature about geriatric suicide cases. 9,10

Epidemiological studies have concluded that suicide rates increase with advancing age in all societies, this increase accelerates after the age of 65 years and the highest rates are reached after the age of 75 years.<sup>11</sup>

The aim of this study was to evaluate the demographic features, suicide methods and reasons for suicide in geriatric suicide cases between 2009 and 2013 using the data of the Turkish Statistics Institute (TUIK).

#### 2. Materials and methods

A retrospective evaluation was made of the TUIK data related to proven suicide cases aged 65 years and older in the 5-year period of 2009—2013. The findings were analysed using SPSS 15.0 for Windows statistics software, presented as graphs and tables and evaluated in the light of relevant literature.

#### 3. Results

A total of 15,047 suicides were determined in Turkey in the period 2009–2013. These comprised 10,773 males and 4264 females, thus giving a male:female ratio of 2.52.

In the same time period, 1723 geriatric suicides were determined. These comprised 1284 (74.5%) males and 439 (25.5%) females, showing a rate of males approximately 3 times higher than that of females. Graph 1.

The fewest elderly female suicides were determined in 2011 (n:69) and the most in 2012 (n:111). For elderly male suicides, the lowest rates were in 2010 (n:239) and 2011 (n:240) and the highest was in 2013 (n:279). The rates for total elderly suicides were determined as lowest in 2011 (n:309) and highest in 2012 (n:381).

The increase in the deaths by suicide in 2013 compared to 2009 was determined as 9% in males, 13% in females and approximately 10% in total. The increase in both geriatric male and geriatric female suicides between 2009 and 2013 was determined to be statistically significant. Table 1.

In the table a continuous increase can be seen in the geriatric deaths from 2009 to 2013. Within the total deaths, there is a noticeable increase in the deaths by suicide over the 5-year period. The highest rate of geriatric suicides within total geriatric deaths was observed to be in 2012 (15.2%) and the lowest rate was in 2010 (12.4%). The highest rate of geriatric male suicides within total geriatric male deaths was observed to be in 2013 (22.4%) and the lowest rate was in 2011 (19.3%). The highest rate of geriatric female suicides within total geriatric female deaths was observed to be in 2012 (8.9%) and the lowest rate was in 2011 (5.6%). Table 2.

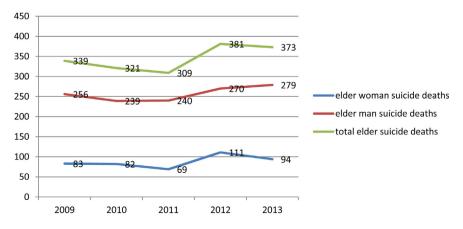
A continuous increase can be seen in the geriatric population from 2009 to 2013. The rates of geriatric suicide can be seen to decrease over the years as a proportion of the total geriatric population. The lowest rate of geriatric suicide for both genders compared to the total geriatric population was determined to be lowest in 2011 (male: 10.0%, female:2.2%). The highest rates of geriatric male suicides was observed to be in 2009 (11.5%) and of female geriatric suicides in 2012 (3.4%). Graph 2.

The most common method of death by suicide was observed to be hanging in both genders. In geriatric male suicides, hanging was the method used in 70.8%. Although the second most common method for males was firearms, this method was seen at a very low rate in females. Of all the geriatric suicides committed by firearms, 98.4% of these were by males at a rate 60.2-fold higher than females. The second most common method of suicide in geriatric females was determined to be jumping from height. Graph 3.

In both genders, the reason for suicide was not known in a high proportion of cases. Of cases where the reason was known, the most frequent reason for geriatric suicide in both genders was determined to be illness. Failure in business was not seen as a reason for suicide in any female case. Difficulty in maintaining standard of living was observed as a reason for suicide at a rate 10.5-fold more in males than females.

#### 4. Discussion

The rates of death by suicide in the geriatric population in Turkey between 2009 and 2013 were seen to vary between 5.6 and 6.7 per 100,000. In the USA, geriatric suicides in 2002 were determined as 15 per 100,000. According to the Australian National Suicide Prevention Plan, published in 1998, despite precautions



**Graph 1.** Suicide numbers according to years.

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