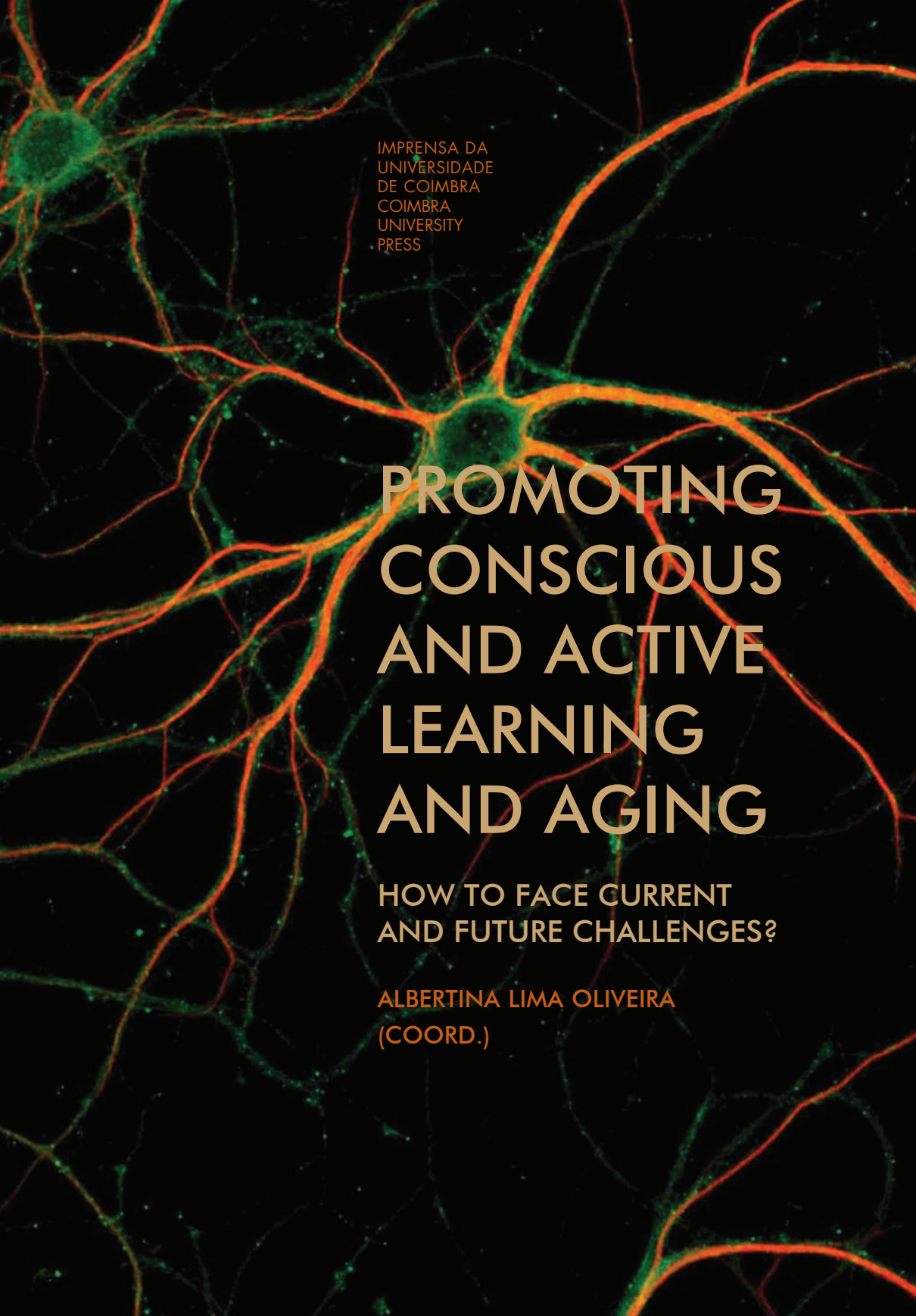

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PROMOTING CONSCIOUS AND ACTIVE LEARNING AND AGING

HOW TO FACE CURRENT AND FUTURE CHALLENGES?

ALBERTINA LIMA OLIVEIRA
(COORD.)

SUICIDE AFTER 65 YEARS OLD: CURRENT DATA IN PORTUGAL

Sónia Quintão[48], Susana Costa, Sandra Alves, Ricardo Gusmão

Abstract

Suicide and self-injury among the elderly are a serious public health problem. There is evidence that diseases and mental disorders are strongly associated with suicide in older people. For example, using psychological autopsy, between 71% and 95% of older people who committed suicide had a diagnosis of a mental disorder at the time of their death. Recent studies show there is a strong relationship between suicidal attempts and carrying out the fatal act in the elderly, which results from the interaction of complex factors: physical, mental, neurobiological and social. In Portugal, and other countries, the highest suicide rates are found among the elderly and especially in men. Suicide methods used in this age group are specific, as they are more lethal and are often used in combination to increase the odds of a fatal outcome. We present the trends in rates of suicide in Portugal, in the period 1980 to 2009, by gender and method used, in the age group older than 64 years comparing it to the population under 65.

Keywords: Suicide Trends; Elderly; Gender differences.

[48] Departamento de Saúde Mental, Faculdade de Ciências Médicas
Universidade Nova de Lisboa – CEDOC
Email: sonia.quintao@fcm.unl.pt

Introduction

A significant increase in suicide rates among the elderly has been verified in many industrialized countries, with incidence rates higher than those in young people (Waern, Rubenowitz, & Wilhelmson, 2003).

Aging is often associated with cognitive and functional problems. This may lead an elderly person to a situation of dependence on a caregiver. Retirement, meaning the end of active life, may be a triggering event of loss of role and social recognition (Kagamimori, Nasermoaddeli, & Wang, 2004).

Being old is often associated with loneliness and social isolation, due to a lack of a support network (Crocker, Clare, & Evans, 2006). It is also linked to a self-assessment of personal life paths, and sometimes to a clinical state of depression – when a sense of ineffectiveness in achieving life goals, and legacy for future generations, prevails (Dittmann-Kohli, 1990).

Suicide is a complex phenomenon, with a multifactorial origin. In this way, one of the most important challenges in suicide research is the identification of biological, psychological and social contributing factors in this age group (Peisah, Snowdon, Gorrie, Kril, & Rodriguez, 2006).

About 80% of individuals older than 70 years, have been diagnosed with a serious disease, and in more than 50% of cases this clinical condition undermines the autonomy and functionality of the elderly (Rubenowitz, Waern, Wilhelmson, & Allebeck, 2001). Moreover, there seems to be an agreement that the existence of a physical illness is a risk factor for suicide (Conwell, Duberstein & Caine, 2002; Erlangsen, Vach, & Jeune, 2005; Hawton & Harriss, 2006; Waern et al. 2002).

Fiske and contributors (2011) have identified the following health conditions as being correlated with an increase of suicide risk in the elderly: cancer, neurological disorders, lung diseases, incontinence, kidney diseases, problems with the central nervous system, heart problems, and vision and hearing deficits. Among these, cancer, neurological and cardiovascular disorders appear systematically associated with a significant risk factor in suicide rates (Levy, Barak, Sigler, & Aizenberg, 2010; Quan, Arboleda-Florez, Fick, Stuart, & Love, 2002). Some studies have sought to determine whether dementia is a suicide risk factor (Erlangsen,

Zarit, You, & Conwell, 2006; Erlangsen, Zarit, & Conwell, 2008; Waern, Rubenowitz, & Wilhelmson, 2003), but there is a lack of conclusive findings (Harris & Barraclough, 1997). Other studies have focused on predictors of suicide in dementia (Seyfried, Kales, Ignacio, Conwell, & Valenstein, 2011). In particular, suicide risk in Alzheimer's disease has attracted a great interest from researchers (Aizenberg & Barak, 2002; Pearson, 2002; Rubio et al., 2001).

Despite this evidence of a relationship between the presence of physical illness and suicide risk in the elderly, it is not yet fully clear whether this is a direct relationship, or one that is mediated by other factors (like depression, pain, limited functionality and autonomy, or personality characteristics leading to emotional rigidity).

Mental disorders are strongly associated with suicide in the elderly. Psychological autopsy studies report that between 71% and 95% of the elderly who committed suicide had a diagnosis of any mental disorder at the time of death (Minayo & Cavalcante, 2010).

Depression is clearly a psychiatric disorder, with features most associated with suicide in the elderly (Harwood, Hawton, Hope, & Jacoby, 2001). Bipolar disorder has also been reported in some studies as a significant risk factor in this stage of development, although less frequent in advanced age (Aizenberg, Olmert, & Barak, 2005).

Beyond these clinical pathologies, the association between personality disorders and suicide has been studied, as well as the association of suicide with schizophrenia and other psychotic disorders. The results of these studies appear to be inconclusive (Barak, Knobler, & Aizenberg, 2004; Conwell, Duberstein, & Caine, 2002; Meltzer, 1998).

To sum up, it seems that the presence of depression and physical illness in the elderly are the two factors consistently associated with suicide risk. In addition, psychosocial factors have been studied.

Living alone, coupled with the consequent social isolation and disintegration, represents a significant risk of suicide for older adults (Beautrais, 2002; Conwell et al. 2000; Szanto, Prigerson, & Reynolds, 2001).

Waern and collaborators (2003), claim that the experience of stressful life events, arising in the last six months (such as somatic illness in itself

or immediate family, family disagreements, financial problems, etc.) may be an important trigger in suicide attempts. In another sense, some studies support the idea that survival of past traumatic life events, allows the acquisition of resources to deal with adversity, thereby acting as a protective factor (Shah & Bhat, 2009; Shah & Bhandarkar, 2011).

When the psychological characteristics of the elderly are considered, a sense of hopelessness in the face of life and perspectives of future seems to emerge (Mishara, 1999; Rifai, George, Stack, Mann, & Reynolds, 1994), a low sense of perceived control over stressful events, a limited capacity for resilience, as well as a tendency for impulsive problems (Gibbs et al., 2009).

Another characteristic that cannot be neglected in suicidal attempts is the access to lethal means, such as the presence of a firearm at home (Conwell, Duberstein, & Caine, 2002). Psychotropic substance dependence and alcohol consumption has also been pointed to as a risk factor for suicide completion in the elderly.

Research suggests that suicide rates in men are higher than in women, and this trend is maintained in the elderly (Szanto, Prigerson, & Reynolds, 2001).

Some researchers explain this gap in gender suicide rates, showing that men seem to be more vulnerable to the effects of depression, as they experience a greater difficulty in asking for help, in opposition to women whose decision-making tends to be embedded in a relational and interpersonal context (Murphy, 1998). Also, widowed or divorced status, as it involves a succession of losses, has been identified by some researchers as a precipitating suicide factor (Li, 1995; Pearson, 2002).

In another sense, women seem to have a greater number of protective factors in the experience of old age. Among them, resilience may be a key indicator of health and well-being (Connor, 2006).

Old people, contrarily to younger populations, seem to plan their own death carefully, using high-lethality methods (Szanto, Gildengers, Mulsant, Brown, Alexopoulos, & Reynolds, 2002).

Sex also appears to influence the method used to accomplish suicide. In suicide attempts, men rely primarily on firearms, as well as

hanging or carbon monoxide poisoning, while women choose drug poisoning most of the time (Dennis, Shah, & Lindesay, 2009; Harwood, Hawton, Hope, & Jacoby, 2000). Poisoning by drugs often results from a combination of painkillers and anti-depressants, as well as the use of paracetamol in great abundance. The use of hypnotics such as benzodiazepines and barbiturates is also a drug category that tends to be used for this purpose.

Research shows that suicide attempts are commonly preceded by some behaviors that can alert caregivers, such as carelessness in medication taking and personal hygiene, lack of interest toward their belongings and life in general, a refuge in church or religion, and a visit to the GP (Minayo & Cavalcante, 2010).

According to a study by Harwood and colleagues (2000), more than 50% of older people visit their general practitioner before committing suicide, often complaining about physical discomfort (Harwood et al., 2000). Similarly, a study of Conwell and Thompson (2008) has concluded that about ¾ of the people who committed suicide have visited a doctor in their last months of life.

Family physicians, as first line health professionals, must be a priority resource in the prevention of suicide. Research has shown that an intervention in affective disorders, coupled with an effective service of primary health care, is the best prevention tool.

An example of the application of this knowledge is the Prevention of Suicide in Primary Care Elderly Collaborative Trial (PROSPECT) (Alexopoulos et al., 2009), which proved it possible to improve geriatric care through a combined intervention of various health care professionals.

Since there is not much reliable information on suicide trends in Portugal, especially in the elderly, our aim was to analyze elderly suicide trends and establish a comparison with those aged 64 or less.

Non-formal hypotheses are: 1) suicide rates in the elderly are increasing; 2) old men have higher suicide rates than old women; 3) there are differences in the method used by gender, in old people; and 4) the elderly use more lethal methods than non-old people.

Methods

Our study consisted of a secondary exploration of a mortality database, for the period between 1980 and 2009, for the Portuguese population, considering only deaths by suicide and the corresponding lethal methods, gender and age groups.

The database was provided by the national statistics agency, the *Instituto Nacional de Estatística* (INE).

Crude death rates of suicide were calculated for the variables mentioned above: gender, age group (64 or less, and 65 or more), and lethal methods (ICD-9, codes E950-E959, years 1980-2001; ICD-10, codes X60-X84, years 2002-2009).

The comparison of lethal methods between gender and age groups was analyzed through a chi-squared test.

The Statistical Package for the Social Sciences (SPSS) was used for statistical analyses and Microsoft Excel for Windows 9.0 for graphics design.

Results

Mortality trends, measured through death crude rates, for the Portuguese population, between 1980 and 2009 illustrate well that, although total mortality has grown only 1.03% and total deaths by external causes have decreased 43.06%, deaths by suicide grew 30.03% and deaths by undetermined cause increased 59.65% (Table 16).

Table 16: Mortality trends (crude deaths rate) per 100 000 inhabitants, 1980 and 2009, all ages

	1980	2009	Variation (%)
Total Mortality	972	982	1.03
Total External Causes	71.24	40.56	- 43.06
Suicide	7.41	9.64	30.03
Undetermined	6.68	10.66	59.65

As for suicide per age group, trends in crude death rates, between 1980 and 2009, clarify that, despite a decrease in suicide in other age groups, in the elderly suicide is still growing (Figure 40). In 2000-2009 an even higher growth is depicted (Figure 41).

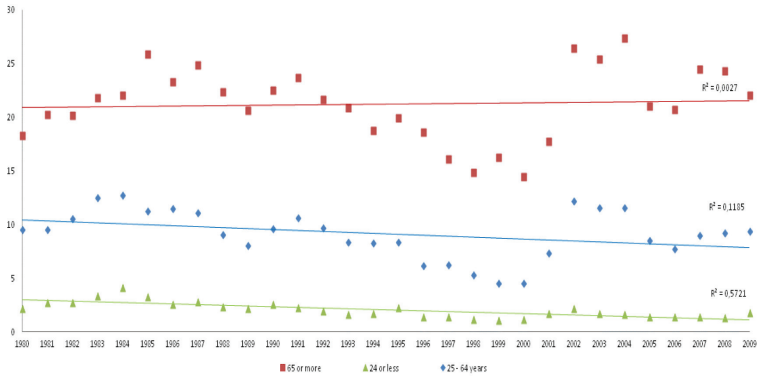

Figure 40: Suicide per age group CDR (1980-2009)

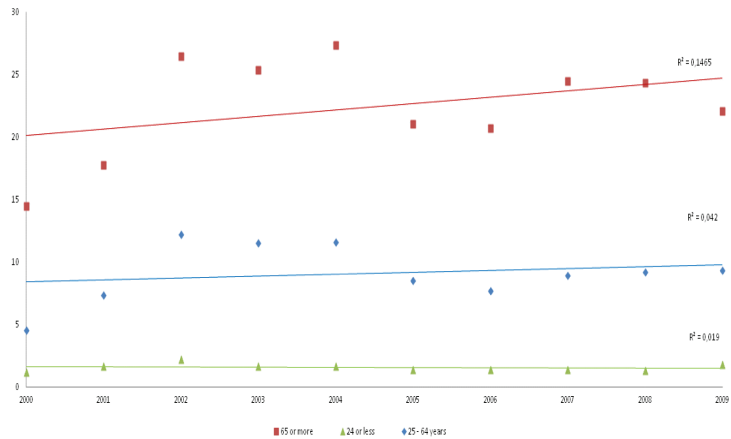

Figure 41: Suicide per age group CDR (2000-2009)

Concerning gender differences, and thus suicide trends by gender, both in the total population and age groups, and in the elderly population, men's rates are growing and women's rates are slightly decreasing (Figures 42 and 43).

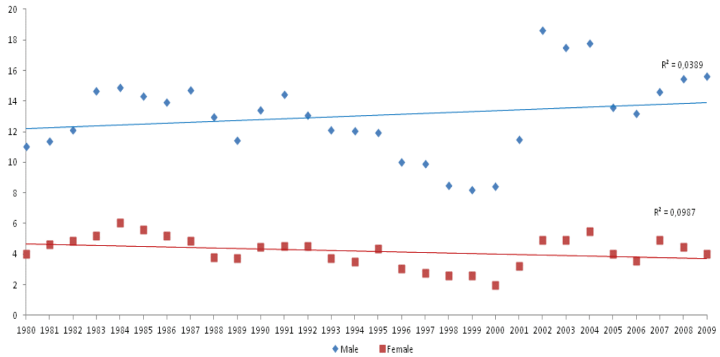

Figure 42: Suicide per gender (all ages – 100 000 inhabitants CDR)

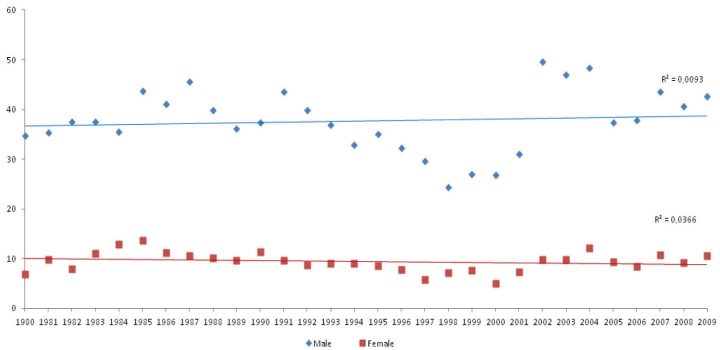

Figure 43: Suicide per gender (≥65 years; 100 000 inhabitants CDR)

The three most used lethal methods were, for men, hanging (57.28%), poisoning (12.07%) and firearms (10.22%) and, for women, hanging (26.73%), drowning (23.76%) and poisoning (18.81%) (Figure 44).

In the elderly, statistically significant differences were found between genders regarding methods used with a chi-square (7)= 75.971; p < .001.

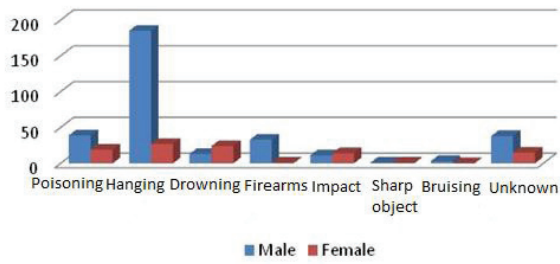

Figure 44: Suicide methods in elderly by gender – 2009 (last year available)

The three most used lethal methods by people with 64 years or less, were hanging (42.88%), impact (11.56%) and firearms (11.39%), and for people with 65 years old or more, were hanging (50.00%), poisoning (13.68%) and drowning (8.73%) (Figure 45).

Statistically significant differences were found between age groups with a chi-square (8)= 36.577; $p < .001$. The elderly presented lower raw numbers in poisoning, hanging, firearms and impact in comparison with people aged 64 or less, but higher rates in poisoning, hanging and drowning in comparison with people aged 64 or less.

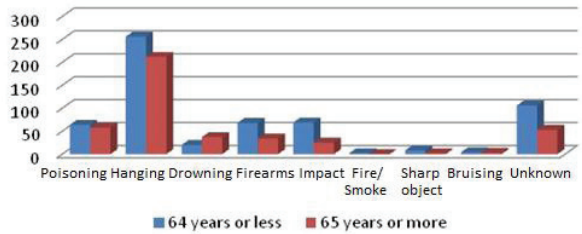

Figure 45: Suicide methods by age group – 2009 (last year available)

Discussion

Our aim was to analyse trends for suicide rates in the Portuguese elderly population, defined as 65 years old or more.

A first stated hypothesis was that suicide rates in the elderly are growing. Results showed that suicide rates in Portugal are decreasing in young people and adults but not in the elderly. Suicide trends, from 1980 to 2009, increased in people of 65 years old or more. However, this growth is even stronger in the period 2000-2009. This data is in agreement with other authors' work (Waern, Rubenowitz, & Wilhelmson, 2003) and supports our first hypothesis.

Another hypothesis was that men would have higher rates of suicide. Results showed that in the total population, considering all age groups, and also in the elderly population, men's rates are higher than women's rates, men's rates are growing and women's rates are slightly decreasing. This second hypothesis was proven and results concur

with the literature (Connor, 2006; Murphy, 1998; Szanto, Prigerson, & Reynolds III, 2001).

It was also expected there would exist differences between genders regarding the suicide method used. Although hanging is the most often used method in men and women in Portugal (Varnik et al., 2008), men presented a much higher percentage of hanging, and a higher percentage of more lethal methods, suggesting that gender appears to influence the method used to accomplish suicide. These results also confirmed this third hypothesis and support other authors' results (Dennis, Shah, & Lindesay, 2009; Harwood, Hawton, Hope, & Jacoby, 2000; Varnik et al., 2008).

Finally, it was expected that people of 65 years old or more would use more lethal methods than younger groups. Results showed that elderly have higher percentages in suicide death by poisoning, hanging and drowning and lower percentages in suicide by firearms, compared with people aged 64 or less. Nevertheless, it seems that globally, older people use more lethal methods than other age groups, as was described by Szanto, Gildengers, Mulsant, Brown, Alexopoulos and Reynolds (2002).

One clear limitation of this study is that only registered suicide deaths were considered though using also registered undetermined deaths could be more comprehensive. Indeed, we know that there are many 'masked' suicides within registered undetermined deaths (Varnik et al., 2010). This problem is particularly acute in Portugal (de Castro, 1989; Varnik et al., 2011) As many suicides as undetermined rates are registered. An estimation of 'masked suicide' within undetermined deaths could give more precision to these results and subsequent efforts of prevention.

Other variables could, and should be entered in the analysis, such as marital status, geographic distribution, activity status, and, if available, mental and physical health. Temporal trends putting suicide in relation with other causes of death in the elderly, in comparison with other age groups, could give us a notion of the relative weight of this cause of death.

All this increasingly descriptive effort will not be useful if a prevention programme is not set in motion in Portugal, adapted to the needs of different risk groups, and notably, the elderly seem to comply with this

late definition. In such a programme, suicide and suicide trends would be outcome indicators.

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