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Review

Suicide in elderly people: a literature review

ABSTRACT

A literature review was carried out focusing on the main factors associated with suicidal ideation, attempts and completed suicide in elders. The following databases were searched: MEDLINE, PsychINFO, SciELO and Biblioteca Virtual em Violência e Saúde da BIREME (BIREME's Violence and Health Virtual Library), referring to the period from 1980 to 2008. Fifty-two references were selected and analyzed. They showed a strong relationship among suicide ideation, attempt and completion in elderly individuals, which results from the interaction of complex physical, mental, neurobiological and social factors. Suicide associated with depression in the elderly can be prevented, provided the person is properly treated. In Brazil, it is necessary to invest in research, given the persistent increase in suicide rates among aged people, especially among males.

DESCRIPTORS: Aged. Suicide. Suicide, Attempted. Risk Factors. Review.

INTRODUCTION

According to the World Health Organization (WHO),[45] suicide victimizes approximately one million people in the world per year. To the WHO, self-directed violence manifests itself in two ways: by means of suicidal behavior (thoughts, attempt and completed suicide) and by means of violent acts committed against the person him/herself, as is the case of mutilations.

Information from the literature shows that suicide statistics are unequally distributed across the world, within countries, between sexes and among age groups. For example, in the case of the geographical dispersion among countries, Japan and some European societies gain relevance: their rates are similar to those of homicides in Brazil.[18,19] In the world as a whole, in absolute figures, suicides kill more than homicides and wars taken together. In Brazil, suicide rates are low compared to that of the majority of countries, oscillating between 3.5 to 4.00 per 100,000 inhabitants, and contrasting with homicide rates, which are much higher.[35]

Nowadays, suicide in elders is a serious problem for societies from diverse parts of the world. A study conducted by WHO/EURO Multicentre Study of Suicidal Behaviour[18] in 13 European countries shows that the average suicide rate among people who are older than 65 years in these societies achieves 29.3/100,000 and suicide attempt rates, 61.4/100,000. In addition to the fact that data on self-destruction in elders are very high, the ratio between attempts and completed suicides is very close, almost 2:1. A set of research studies focusing on the same question leads to the conclusion that, when an elderly individual attempts to commit suicide, his/her gesture must be taken seriously, because it is likely that any attempt will result in the act of ending his/her own life.[34,35] De Leo et al[18] also emphasize that in Eastern Europe, suicide attempts among

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the elderly decrease with age and, inversely, there is an increase in completed suicides. This growth of completed suicides at the end of life was also shown in the USA, in a research carried out by Nock et al.[37]

The population over 60 years of age is the one that grows most in Brazil and in the largest part of the world, which justifies an attentive look at the social and health problems that affect it. According to Beeston, "the steady rate of increase in the suicide rate with increasing age may indicate age-related biological and psychological processes involved in causation"[5] of the phenomenon. This situation may be verified also in Brazil: although the Brazilian suicide rates are relatively low, those referring to the population belonging to the age group over 60 years are twice as high as the rate presented by the population in general, mainly because of the increasing growth of the rates related to the group of elderly men.[34]

Although relevant, suicide in elders has received little attention, not only in Brazil, but in the entire world.[5,7,16,36,47-49] No reference to suicide in elders was found from Brazil or Spanish-speaking countries in the SciELO database, only to suicide in general: 340 references from 1981 to 2009, mainly studies conducted in the last decade.

The objective of the present study was to analyze factors (mental illness, physical illness and social problems) associated with risk of suicide in elderly individuals, based on the national and international literature.

METHODS

A narrative and comprehensive review of studies and research on the phenomenon of suicide in elders was carried out. Suicidal attempts and ideation were also considered, due to the close relationship among these three moments and movements when the focus is on this age group.[57]

We followed the recent trend of searching for the strength of evidence in different sources, approaches and methodologies, especially in developing countries. Clinical and randomized studies, guided by the strength of internal validity or by effectiveness and evidenced by quantitative data should not be the only source to ensure the quality or rigor of a literature review, especially when less explored themes in public health are approached.[39,56]

Studies that approached care to the elderly in the areas of psychiatry, neurology, nursing, psychology, and social sciences were selected. More recent areas like neuroscience, neuropsychiatry, neuropsychology, psychogeriatrics and medical psychology aggregated new specificities that enriched the notion of prevention, diagnosis, treatment, evolution and handling of factors associated with suicide in the elderly or of life conditions and mental or physical illness conditions.[52] In addition, clinical case-control studies, psychological autopsies and multicentric studies about the phenomenon were reviewed.

The references to suicide in elders presented by the literature were collected from the databases Medline, PsychINFO, SciELO, Biblioteca Virtual em Violência e Saúde da BIREME (BIREME's Violence and Health Virtual Library) and from the book by Chesnais,[10] who studied the behavior of the phenomenon during 200 years in Europe. Studies that investigated the diffusion and impact of suicide on the health sector were also analyzed.[56-57]

The keywords that were used in the search were: "suicide and elderly"; "suicide and older people"; "suicide and aged people"; "suicide and suicide attempts and older people". The following terms were also searched for: "suicídio entre pessoas idosas" (in Portuguese) and "suicidio de personas mayores" (in Spanish). The study encompassed publications from the 1980s until 2008. The most relevant database to the study was MEDLINE, followed by PsychINFO. No studies were found in the SciELO database. Fifty-seven references were analyzed, of which 52 are about the proposed theme; the remaining five refer to methodology for suicide studies and procedures of the narrative review modality.

The selected references were analyzed by means of the trends of the last three decades. Between 1980 and 1989, it was observed that the theme was incipient: five papers were found. From 1990 to 1999, the studies quadruplicated. There were 19 studies whose thematic axes are suicide, co-morbidity with mental disorders, diagnosis and treatment. In the last decade, from 2000 to 2009, 28 references were selected, and there was a growth in terms of quantity and diversity of research studies into the subject. The main thematic axes are *suicide, depression and prevention; suicidal behavior, mental and physical illnesses and life conditions*. Due to the diversity of investigative procedures and methods, it was not possible to hierarchize evidences based on the rigor with which the concept is treated today. However, we attempted to highlight the strength of recurrent categories based on different sources.

The data were systematized into five categories: 1) a view of the literature of the last decades; 2) relations between ideation, attempts and completed suicides in elders and relationship between suicide and 3) mental illness, 4) physical illness and 5) social factors.

THE LITERATURE IN THE LAST DECADES

Of 52 references, 90% regarded works developed in the last 20 years. In the 1990s, there are studies based on psychological autopsies and clinical descriptions, aiming to understand suicidal thoughts, situate

predisposing factors and increase the evaluation and treatment of the elderly at risk of suicide. From 1995 onwards, the investigations are enhanced and case-control studies emerge, as well as studies about prevalence and co-morbidity with mental illness. Focuses on the wish to die in elders over 85 years and on the prognosis for aged people with depression and risk of suicide already began to be highlighted in this period.

In the decade of 2000 there is a substantial volume of works. The number of case-control studies increases, national and international multicentric researches are developed, and there is a great investment into strategic and evidence-based research, in an attempt to join technical rigor and social relevance.[46] The term "suicidal behavior" appears in studies with clinical and epidemiological focus.[18,37] The number of studies on depression, suicide and ageing increases. Primary care and mental health care begin to integrate forms of prevention of suicide associated with depression and other psychiatric illnesses. More specific studies emphasize personality traits, factors associated with physical illnesses, psychosocial stress and their medical, psychiatric and neuropsychological implications.

RELATIONSHIP BETWEEN SUICIDE, ATTEMPTS AND IDEATION

A review carried out by Beeston[5] indicates a consensus between researchers regarding the intrinsic relationship between ideation, attempt and suicide completion.[21,24,27,29,39,50] Forsell et al[21] show a relationship between ideation and depression and between ideation and multiple dependences, institutionalization, severe visual problems and use of psychotropic drugs. Any investigation about the theme of ideation is problematic, as this phenomenon is seldom asked by researchers and reported by elders and, when this occurs, it may be confounded with depressive processes. Researchers say that many of them refer to "death thoughts", "wishes to die", "tiredness of living", "lack of meaning in life" and "sadness about the current direction of one's own existence".

Concerning the attempts, there are more concrete data. For example, studies analyzed by Beeston[5] show that in the United States there is a relationship of 36:1 between attempts and completed suicide in youths, of 8:1 in the general population, and among older people, this relationship is very close: 4:1. Hawton et al[24] also identified that the habit of hurting oneself or suicidal attempts should be considered strong predictors of suicide in the elderly population, emphasizing the small difference between the number of elders who attempt and the number of elders who complete the act. All the analyzed papers that deal with the gender issue mention that elderly women think more about suicide and more men commit the fatal act.

Osgood & Thielmann[38] consider that the relationship between ideation, attempts and suicide completion can be found in verbal communications, behaviors, situational cases and some sets of signs. In the case of verbal manifestation, the elderly person can touch the matter directly, confiding to intimate people or answering someone who insults him/her, that he/she wants to die. Many times, however, the elderly person only insinuates his/her desire for death, commenting on it with relatives, friends and partners.

In the case of symptomatic behaviors, the most predictable one is the attempt. According to researchers, there are many conducts that should be considered true alerts to caregivers and relatives: carelessness about medication, tidying up of personal belongings or assets, lack of interest in the things of life, sudden search for some religion or church, lack of interest in taking care of themselves, frequent visits to the doctor with vague symptoms.[13] In some countries, like the USA, the purchase of a gun by an elderly man should be considered a strong sign that he is thinking about suicide.[8]

Situational factors are all the events that are happening in the life of an older individual that cause depression, melancholy and sadness. Some can be mentioned as the most common ones in the analyzed literature: the status of retired person when this results in taking away from the elderly their social function, keeping them at home or isolating them socially; the death of one of the spouses, children or friends; the diagnosis of a serious illness; the loss of social references, like space privation at the elderly person's own home.

Among the syndromic factors, Beeston[5] and Holkup[26] described a set of symptoms: depression accompanied by anxiety; tension, agitation, guilt and dependence on other people; rigidity, impulsivity and isolation; changes in eating and sleeping habits; sudden recovery from profound depression.

RELATIONSHIP BETWEEN MENTAL ILLNESS AND SUICIDE

The literature shows that mental illnesses and disorders are strongly related to suicides in elders. Psychological autopsies – studies that gather postmortem information concerning the circumstances and situations of a person's suicide, with the purpose of understanding the reasons that motivated him/her to commit the fatal act – report that between 71% and 95% of the elderly people who committed suicide had been diagnosed with some mental disorder on the occasion of their death.[2-4,9,12-14,22,25,55] Harwood et al[22] found, in a rather significant sample of elders who committed suicide, that 77% of them suffered from some psychiatric disorder when they committed the act (63% suffered from depression and 44% presented some other problem

like rigidity in the way of seeing life and obsession). On the other hand, Rao et al[40] did not find any association between suicide and Alzheimer, severe dementias and other memory-related illnesses.

In fact, suicide will always be a complex event with multiple causes.[35] However, many researchers show that affective disorders and mainly depression are associated symptoms.[28,30] Bruce et al,[7] in a study conducted with the North American population older than 65 years, observed that major depression was present in approximately 1% to 2% of subjects and 10% to 15% suffered from less severe depressive symptoms. In the case of elders, the process of becoming mentally ill is frequently associated with physical health problems, isolation and lack of social support, factors that are also related to the occurrence of suicide. The main expressions of depression are: persistent bad temper, lack of interest and of joy of living, the feeling that the energy is being drained, sadness, negative attitudes, constant and persistent fatigue, sleep and eating disorders, hopelessness and the wish to disappear or die.[30,43]

To Beautrais et al,[3] the strong association between suicide and depression leads professionals to recommend serious care in relation to those who present this mental suffering. Beeston[5] confirms, based on an extensive review of many research studies,[10,41-43] that the treatment and handling of depression may be the singular most important factor in the prevention of suicide in elderly individuals. Although there is a prejudice according to which elderly people are naturally depressed because of their age, depression is not a normal fact of ageing.[5]

RELATIONSHIP BETWEEN PHYSICAL ILLNESS AND SUICIDE

The presence of some serious illnesses is considered a risk factor for the suicide of elderly individuals. Some studies[10,23,32] show that this association is more significant for the following illnesses: cancer, some problems in the central nervous system, cardiopulmonary complications and urogenital diseases in men. Nevertheless, researchers believe that the experience of a serious physical illness may cause depression in elders (considered a triggering factor), but there is no direct relationship between physical health status and suicide ideation or attempt.[5]

Numerous studies, however, have examined the relationship between suicidal ideation and attempts and coping with terminal illnesses. Brown et al[6] found that one every four people expressed the desire of ending his/her own life, among 44 terminal elderly patients. Of this total, 25% also had a diagnosis of depression. The relationship between terminal illness and suicide was confirmed by studies conducted by Conwell et al.[17] However, such authors conclude that mental problems, mainly depression – which generally occur also associated with the state of severe physical suffering – are the greatest risk factors.[12] Studies carried out by Waern et al,[55] Conwell et al[12,13] and Ahearn et al[1] show that the association between risk of suicide and severe illnesses in elders exists mainly for men.

Recently, works in the area of neurobiology have investigated possible associations between neurological disorders and suicide. Mann et al[33] consider that low levels of serotonin may be associated with aggressive and impulsive behaviors of depressed patients who present evidence of sadness, hopelessness and suicidal ideation. Other researches in the same direction were conducted by Ahearn et al[1] and King et al.[28] In general, the neurobiological studies are not conclusive and the authors who work in this line of research emphasize the need of more studies to investigate recent hypotheses. In the same way, the relationship between physical illness and suicide is considered to be appropriate only in cases of terminal illnesses. The precaution of conducting more studies is strongly recommended by Beeston:[5] "There is a clear need for more research in the relationship between neorobiological changes and suicide. As technologies develop research in this area may lead to a much greater understanding of the neurochemistry of suicide and also lead to the development of new therapies".

RELATIONSHIPS BETWEEN SOCIAL FACTORS AND SUICIDE

Many studies show that there are significant differences concerning the social risk factors for suicide that affect young, adult and elderly people. Suicide may happen in any family and in any social group. However, youths and adults who attempt or commit suicide are impelled by interpersonal (mainly love), financial, legal problems or issues related to school or work performance.

For the elderly, such factors are mainly: the death of a beloved person, mainly husband/wife; terminal illness with uncontrollable pain; fear that life might be prolonged without dignity, bringing economic and emotional losses to relatives; social isolation; changes in the social roles that used to grant them recognition; or situations of physical or mental dependence within which the elderly feel humiliated.

Studies conducted through sociopsychological autopsies[12,20,44] have reported that financial problems, relationship difficulties, family conflicts, social isolation and loneliness[18,25] are the most frequent social reasons that trigger suicides in elders. Some authors distinguish between living alone – which may be the elderly person's choice – and loneliness. Loneliness may occur even when the aged person is living with many people. The situation of social isolation and loneliness affects mainly men;[9,20] in their case, it becomes a risk factor for suicide. On the contrary, the cultivation of

friendships and relationships is an important protective factor both against depression and against ideation or self-destruction. Authors like Beautrais,[4] emphasizing the importance of human contact and social support so that the elderly do not put their life at risk, recognize that the lack of social interaction is one of the most relevant problems that must be faced in the prevention of suicide in this social group, even when people do not suffer from mental disorders. This last point is strengthened by Duberstein et al.[20] According to Beeston,[5] "a sense of connectedness and wider social participation appears to be protective against suicide in older people.[31,51] The development of personally valued social networks and personally valued 'circles of support' for older people should be given high priority. It is also worthy of note that older people's social and friendship networks have increasingly been replaced by paid professional services. This may be problematic."

FINAL REMARKS

The information presented above regards other societies, since research into the theme, in Brazil, was not found in the databases, despite the fact that it is in this group that the rates of fatal events due to suicide grew most in the last years in the country.

However, we consider that the appraisal of the texts is innovative because it introduced this discussion into the academic environment and into the field of health policies and practices; in addition, it contributed to raise hypotheses to be tested in studies of national and local scope. The situation that the Brazilian scenario shows is in agreement with the international findings, and this has led the WHO to view suicide among people aged 65 and older as one of today's most serious public health problems.[29]

The analysis of the works presents some issues: (1) the complexity of the phenomenon, which includes contributions from physical, neurobiological, psychological and social problems. The majority of the results indicate as predisposing factors: serious and degenerative diseases, physical dependence, mental disorders and suffering, and above all, severe depression. (2) Depression is the most relevant factor associated with suicide, in almost all the studies. This illness is seen in its own symptomatology or associated with questions of chronic physical suffering and terminality of life, or even social and cultural problems, like losses, abandonments, loneliness or family conflicts;[11,12-17,] (3) gender differences must be taken into account. In keeping with the universal knowledge about suicide at any age, the elderly women have more ideation and make more suicidal attempts; (4) in an age graduation among elders, the group above 80 years is the one that is most involved with thoughts, feelings, attempts and completion of suicide.

From the point of view of the role of public health, there is a close relationship between ideation, attempts and fatal act in the elderly population, in such a way that any manifestation of the desire to kill oneself or any action in this sense should be immediately treated. The more immediate causes should be searched for so that the completion of the act can be avoided, as the literature shows that it is possible to prevent suicide by intervening in the associated factors. From the point of view of medical care, it is necessary to focus on depression as the singular most relevant factor that triggers the process. Other actions should be promoted, like medical care that helps to reduce suffering and dependence, and social actions that help elders to have a life in interaction with their community and to reach the end of their life with dignity.

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