Maturitas 79 (2014) 179–183

Contents lists available at ScienceDirect

Maturitas

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

Review

Suicidal behaviour and suicide prevention in later life

Brian M. Draper*

School of Psychiatry, University of New South Wales, Sydney, NSW, Australia

ARTICLE INFO

Keywords:
Suicidal behaviour
Old age
Aetiological factors
Depression
Suicide prevention

ABSTRACT

Despite a general decline in late life suicide rates over the last 30 years, older people have the highest rates of suicide in most countries. In contrast, non-fatal suicidal behaviour declines with age and more closely resembles suicide than in younger age groups. There are difficulties in the detection and determination of pathological suicidal ideation in older people. Multiple factors increase suicide risk ranging from distal early and mid-life issues such as child abuse, parental death, substance misuse and traumatic life experiences to proximal precipitants in late life such as social isolation and health-related concerns. Clinical depression is the most frequently identified proximal mental health concern and in many cases is a first episode of major depression. Recent studies have identified changes on neuroimaging and neurocognitive factors that might distinguish suicidal from non-suicidal depression in older people. Strategies for suicide prevention need to be 'whole of life' and, as no single prevention strategy is likely to be successful alone, a multi-faceted, multi-layered approach is required. This should include optimal detection and management of depression and of high risk individuals as available evidence indicates that this can reduce suicidal behaviour. How best to improve the quality of depression management in primary and secondary care requires further research.

Contents

* Correspondence to: Academic Department for Old Age Psychiatry, Euroa Centre, Prince of Wales Hospital, Randwick, NSW 2031, Australia.
Tel.: +61 2 9382 3753; fax: +61 2 9382 3762.
E-mail address: b.draper@unsw.edu.au

http://dx.doi.org/10.1016/j.maturitas.2014.04.003
0378-5122/

1. Introduction

In 2013 it was estimated that 8.2% of the world population was aged 65 years and over, yet around 17% of suicide deaths reported to the World Health Organization were recorded in this age group [1,2]. However, suicide only accounts for a small proportion of deaths in older people; in contrast it is among the three leading causes of death in those aged 15–44 [1]. Self harm was ranked 13th in the all-age global causes of death in the 2010 Global Burden of Disease study, but in old age it was ranked much lower to be 17th at age 60–64 and by age 80 years and over it was ranked 32nd [3].

Research into the treatment and prevention of suicidal behaviour in old age is limited but there has long been broad agreement about many risk factors [4]. Depression and social isolation are the most consistent findings as independent risk factors for suicidal behaviour and these are often the factors that contribute to older people having problems in coping with the impacts of physical ill health and functional impairment, particularly in individuals who are challenged in their adaption to ageing due to rigid, obsessional, or anxious personality traits [5]. Rapid population ageing worldwide and the recognition that factors associated with suicidal behaviour vary across the life cycle are drawing attention to this deficit.

This review examines suicidal behaviour in late life with a focus on recent research developments. Systematic reviews and book chapters on late life suicidal behaviour published since 2007 were supplemented by a search of Medline, PsycInfo and Embase databases from 2007 to 2013 using keywords (suicide, deliberate self harm, suicide ideation, attempted suicide, old, elderly, old age).

2. Epidemiology of suicidal behaviour in late life

Over the last 30 years an overall reduction in suicide rates in older people has been recorded [6]. Non-fatal suicidal behaviour declines with age and more closely resembles suicide than in younger age groups, having high levels of lethal intent, less impulsivity, and clinical features that are similar to those found in suicide [7,8].

The prevalence of suicidal ideation in old age varies across studies with the distinction between normal thoughts of death associated with ageing and common life events not adequately delineated from those that reflect psychopathology and increased suicide risk [4]. Recent studies illustrate this. In a study of general practice patients aged 60 years and over, the presence of suicidal ideation was associated with nearly 34 times increased risk of attempted suicide in the previous year [9]. A study of 97-year olds found that 77% of those acknowledging suicidal feelings did not meet criteria for depression [10] and a qualitative study found that older people with a wish to die originally developed thoughts about death as a positive solution to life events or adverse circumstances [11]. There is also evidence that suicidal thoughts in older people are associated with increased risk of mortality by natural causes [12].

Some pathways for late life suicidal behaviour begin early in life and it is often the interaction of distal with proximal factors that provides the lethal mix. There is limited understanding of how factors interact to determine risk in an individual [13]. The motivations that drive the final suicidal act are quite varied and access to an acceptable lethal means plays a critical role [14].

3. Demographic factors

Males have higher suicide rates than females across the lifespan and with advancing age the male to female ratio increases [14]. Females are at higher risk of non-fatal suicidal behaviour than males but rates tend to converge with advancing age [5]. The evidence is inconsistent about whether suicidal behaviour is more common in those that are divorced or widowed [6,14].

There is heterogeneity of suicide rates between countries and ethnicity appears to be a factor with different suicide rates of ethnic groups within multicultural societies [6]. There is also regional variation within countries with higher rates reported in rural areas of some countries [13].

4. Early life factors

Childhood adversity, which includes physical and sexual abuse, parental neglect through death, separation and inadequate care, and traumatic life experiences such as the Holocaust, increases the risk of suicidal behaviour and mental disorders across the life cycle [6,7,13]. Genetic factors contribute to suicide risk by mediating transmission of impulsive aggression or neuroticism and neurocognitive deficits [15].

5. Personality traits

Personality traits are associated with increased suicide risk with the most consistent finding being increased neuroticism [13], although this is less than in middle-aged suicides [16]. Neuroticism might be a proxy for undetected depression in some individuals and this is supported by one study which found that the high level of neuroticism in older suicide attempters did not remain after adjustments were made for major depression [17]. Anankastic (obsessional) and 'low openness to experience' traits have also been reported; such individuals are comfortable with the familiar and have a constricted range of interests leading to difficulties in coping with the challenges related to ageing [13].

6. Neurobiological factors

Earlier studies in older people reporting increased suicide risk with serotonergic neurotransmitter abnormalities, non-suppression of the dexamethasone suppression test, and apolipoprotein E ε4 (ApoE4) carrier status have not been replicated [13].

Older depressives with a history of suicide attempts are more likely to show cerebral atrophic changes than those without a history of suicide attempts, with one case–control MRI study finding widespread but discrete cortical and subcortical volume reduction [18] and a second study showing more discrete striatal lesions, particularly in the putamen [19]. More recently a functional MRI case–control study reported that impulsivity and a history of suicide attempts were associated with a weakened expected reward signal in the paralimbic cortex [20]. Larger studies are required to further elucidate these findings.

7. Neurocognitive factors

Impulsive suicide attempts have long been reported in older people with frontal executive dysfunction secondary to early dementia or mild cognitive disorders [13]. Most research into cognitive function, however, has focussed on older people with major depression with and without a history of suicide attempts. In a preliminary investigation for a series of case–control studies, poor performance on tests of executive function, attention, and memory were found to be associated with suicidal behaviour in older people with major depression [21]. Subsequent findings distinguishing older depressed suicide attempters from those without a history of suicidal behaviour included a perception of life problems as threatening and unsolvable and an impulsive approach to