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SUICIDE IN OLDER ADULTS: NURSING ASSESSMENT OF SUICIDE RISK

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Abstract

A fundamental objective of the National Strategy for Suicide Prevention is the prevention of suicide in older adults, especially elderly males, because these individuals are at higher risk for suicide than any other age group. Furthermore, they are the fastest growing segment of the population. The suicide rates for older Caucasian men are particularly high. Because nurses play an important role in the identification of persons at risk for suicide, it is important that they be cognizant of the complex risk factors involved in late life suicide. Toward that end, we review the prevalence of suicidal behaviors in older adults and discuss risk factors that contribute to completed suicide in these individuals. Lastly, we discuss the role of nurses in the identification of older adults at risk for suicidal behavior so that life-saving treatment measures can be implemented.

Older American's currently comprise about 13% of the population in the U.S., yet they account for 18% of all suicide deaths (Arias, Anderson, Kung, Murphy, & Kochanek, 2003). Suicide is the thirteenth leading cause of death in persons age 65 years or older (National Institute of Mental Health, 2004) and these individuals are at the highest risk for completed suicide. Furthermore, Caucasian men over the age of 85 have an especially high rate (59 per 100,000 persons) of completed suicide. Recognized as a major public health concern, the Office of the Surgeon General of the U.S. released the *National Strategy for Suicide Prevention: Goals and Objectives for Action* (Office of the Surgeon General, 1999). A central mandate of that strategy is the prevention of suicide in older adults because these individuals are at higher risk for suicide than any other age group and they are the fastest growing segment of the population (Arias et al., 2003).

Older adults, however, present special challenges to suicide prevention efforts. For example, suicide and attempted suicide are often associated with depression, psychosis, and substance abuse among younger individuals, yet among older adults, depression and comorbid medical conditions play important contributory roles. (Alexopoulos, Bruce, Hull, Sirey, & Kakuma, 1999; Caine & Conwell, 2001; Conwell, Duberstein, & Caine, 2002; Miles, 1977; Pearson & Brown, 2000; Tuvey et al., 2002). Because nurses play a vital role in the identification of persons at risk for suicide, and the current “baby boom” cohort have substantially higher suicide rates than preceding generations (McIntosh, 1992), it is important to be cognizant of the complexity of risk factors associated with late life suicide. The purpose of this paper is to focus attention on the prevalence of suicidal behaviors in older adults and lay a foundation for understanding the role of risk factors in the prevention of suicide. We identify risk factors that contribute to completed suicide in these individuals and review the role of nurses in identifying older persons at risk for suicidal behavior so that life-saving treatment measures can be implemented.

PREVALENCE OF SUICIDAL IDEATION AND BEHAVIORS IN OLDER ADULTS

Suicidal Ideation

While estimates of the prevalence of suicidal ideation in older adults vary widely, older adults are less likely to endorse suicidal ideation than are younger adults (Blazer, Bachar, & Manton, 1986; Duberstein et al., 1999). Epidemiologic studies suggest that approximately one out every six young adults (16%) describes having suicide ideation (Gaynes et al., 2004), yet, in a community survey conducted in Florida, less than 6% of persons age 60 years or older endorsed ever having had suicidal thoughts (Schwab, Warheit, & Holzer, 1972). Similar rates were endorsed by a U.S. sample of elderly Veterans Affairs Medical Center patients and a another community-based sample in Great Britain, where 7.3% and 7% of the respective samples acknowledged suicidal ideation within the past two years (Lish et al., 1996; Rao, Denning, Brayne, & Huppert, 1997).

Suicidal ideation is more commonly endorsed by persons in the oldest-old age group. In a community sample of non-demented Swedish persons age 85 years or older, 16% of the sample had either active thoughts of taking their own life or passive suicidal ideation (e.g., wishing for death or feeling like lifewas notworth living) within the previous month (Skoog et al., 1996). Also, in the community-based Great Britain study cited above, 16% of the sample age 81 years and older endorsed a strong wish to die (Rao et al., 1997).

Psychiatric morbidity may play a role in the prevalence of suicidal ideation. Studies show that the frequency of suicidal ideation is significantly higher in older adults with mental disorders, those taking anxiolytic and/or neuroleptic medications, and those with a history of cardiac disease, peptic ulcer disease, and three or more physical disorders (Skoog et al., 1996). In a study using stringent criteria to define suicidal ideation (e.g., occurring within the past week, having a plan, or actively struggling against the thoughts) Callahan and associates found from 0.7–1.2% of elderly patients to be suicidal, when they also had an affective disorder (Callahan, Hendrie, Nienaber, & Tierney, 1996). Similar results were found in the Berlin Aging Study, where 80% to 100% of the sample endorsing suicidal ideation were found to have a psychiatric illness (including depressive symptoms, major depression, or dementia) in independent psychiatric assessments (Linden & Barnow, 1997).

Attempted Suicide

Data on attempted suicide are far fewer and less reliable than completed suicide because there is no systematic surveillance mechanism in the U.S. to track its incidence. Yet, as with suicidal ideation, attempted suicide is far less frequent in later life than among younger age groups

(Moscicki, 1997). In adolescence and young adulthood, the ratio of attempted to completed suicides has been estimated to be 200:1 (Langley & Bayatti, 1984; Curran, 1987), while the estimated risk for the general population ranges from 8:1 to 33:1 (Paykel, Myers, Lindenthal, & Tanner, 1974). In contrast, there are approximately four attempts for each completed suicide (4:1) in later life (Parkin & Stengel, 1965; McIntosh, Santos, Hubbard, & Overholser, 1994). The increased lethality of self-destructive behaviors in older adults may reflect their diminished physical resilience and greater social isolation (with less likelihood of rescue), as well as a stronger determination to die (Conwell et al., 1998). When compared to young adults, older adults who commit suicide give fewer warnings to others, use more violent and potentially lethal methods to commit suicide, and apply those methods with greater planning and resolve (Conwell et al., 2002). These findings suggest that preventive efforts instituted after the onset of a suicide attempt may be less successful with older, versus younger, adults (Conwell, 1997).

Completed Suicide

In contrast to suicidal ideation and suicide attempts, the rates of completed suicide are higher in older (versus younger) adults. In 1950, the suicide rate among people age 65 years or older in the U.S. was 30.0 per 100,000 residents. In 1998, the rate had decreased to 16.9 per 100,000 persons. Yet, this rate is still higher than the rate for people aged 45 to 64 (14.1), aged 25 to 44 (14.6), or age 5 to 24 (11.1) (Pearson & Conwell, 1995).

The suicide rates for older Caucasian men are particularly high and did not see the decrease observed in other older adults over the past 50 years. In the U.S., suicide rates for Caucasian men increase with age to a peak of 62 per 100,000 persons, over five times the nation's age-adjusted rate (Conwell et al., 2002). In contrast, suicide rates among non-Caucasian men peak in younger adulthood, while those of women peak in midlife and remain stable or decline slightly thereafter (Conwell et al., 1998). In 1998, the death rate for Caucasian men aged 65 years or older was 36.6, compared to 11.6 for older African American men, 21.0 for older Asian men, and 20.0 for older Hispanic men. Among women, the rate was much lower, 4.7 per 100,000 residents age 65 years or older (National Institute of Mental Health, 2004).

PREVENTION OF SUICIDE IN LATE LIFE

It is crucial that nurses use terms endorsed by the Institute of Medicine, Mrazek & Haggerty (1994) when discussing the prevention of suicide. Preventive interventions are classified as either "universal," "selective," or "indicated." Universal preventive interventions are strategies that target the general population. Selective preventive interventions target individuals or subgroups of the population with a higher than average risk of suicide. Lastly, indicated interventions target high-risk individuals, those in more immediate danger (Gordon, 1987).

The effectiveness of any measure designed to prevent suicide will depend upon the degree to which causal factors have been identified, the strengths of the causal relationships to suicide, their prevalence in the elderly population, and their "alterability" (Somers, 1985). Existing data suggests that affective illness, a past history of suicidal behavior, hopelessness, and physical disorders with functional impairments should be the emphasis of future preventive efforts (Conwell, 1997). More information will be available in coming years, as four controlled psychological autopsy (PA) studies of completed suicide are now in progress (in New Zealand, Sweden, Great Britain, and Western New York State).

No study to date has included contemporary control samples, comparable informant sources, and standardized instruments (Beskow, Runeson, & Asgard, 1990). Therefore, we do not currently have the data from which to distinguish causal risk factors (those that can be manipulated or may modify the outcome) from correlates or fixed markers of risk (Kraemer

et al., 1997). Data are not yet available from which to calculate the potency of presumed risk factors (i.e., population attributed risk, odds ratios, risk ratios, or relative risk). When the controlled studies described above are complete, far more precise estimates will be possible concerning which risk factors for suicide in late life are most amenable to preventive interventions. Until that time, nurses committed to late life suicide prevention must rely on a relatively incomplete data and knowledge base.

RISK FACTORS FOR SUICIDE IN LATE LIFE

General understanding of suicide in late life is often oversimplified, ascribed to a single factor such as severe physical disability or depression. The reality is far more complex. Suicide is better characterized as an interdependent network of numerous, diverse circumstances rather than an isolated cause (Havens, 1965). Just as there is no single cause for any suicide, no two suicides can be understood to result from exactly the same constellation of factors (Conwell, 2001).

Just as no single factor is universally causal, no single intervention will prevent all suicides. The multi-dimensionality of suicide presents great challenges, but also has important implications for prevention. In the following sections, evidence for late-life suicide risk factors are summarized under four broad headings: demographic characteristics, mental health, physical health, and social functioning. Each section provides a brief summary of studies that are important in characterizing older adults at risk for suicide.

Demographic Characteristics

Demographic characteristics associated with elevated risk for suicide include older age, male gender, and Caucasian race. Epidemiologic studies provide strong evidence that unmarried conjugal status also confers risk for suicide (Conwell, 2001).

Mental Health

Conwell and associates (1996), in a review of late life suicide studies, found that from 71% to 95% of suicide victims age 65 years and older had a major psychiatric disorder, often, major depression, at the time of death. Furthermore, primary psychotic illnesses (e.g., schizophrenia, schizoaffective disorder, and delusional disorder), personality disorders, and anxiety disorders appear to play a relatively small role in suicide among older adults. Similarly, alcohol and other substance use disorders are present in a smaller proportion of completed suicides at older versus younger ages (Conwell et al., 1996).

In contrast, elderly suicide victims are more likely to have suffered from depressive illness than their younger counterparts (Conwell, & Brent, 1995). In a PA study of 141 completed suicides, Conwell and associates demonstrated that greater age at death was significantly associated with a diagnosis of single episode, unipolar major depression (Conwell et al., 1996). The clinical depression was of moderate severity and infrequently associated with comorbid substance use disorders, suggesting a likelihood of response to standard therapies (Conwell et al., 2002). Relative to its prevalence in older adults, dementia is infrequently diagnosed in completed suicides in younger individuals, as determined by the PA method. Overall, these studies suggest that affective illness is the predominant psychopathology associated with suicide in late life (Conwell et al., 2002).

Results of the only prospective, non-clinical cohort study of suicide in older adults completed to date suggests that in addition to being widowed or divorced, the strongest predictor of suicide was self-rated depression symptom severity (Ross, Bernstein, Trent, Henderson, & Paganini-Hill, 1990). The generalizability of these findings has been called into question because subjects were residents of a retirement community (which is not representative of older adults)

and two-thirds of the sample was female. Nevertheless, subjects in the poorest summary score category were 23 times more likely to commit suicide than subjects endorsing less depressive symptoms (Ross et al., 1990). Further, sleeping nine or more hours per night and drinking more than three alcoholic beverages a day also were significant predictors of completed suicide in this sample (Ross et al., 1990).

Five PA studies of suicide in late life have included comparison samples with which to establish base rates of presumed risk factors, and thus, the relative risk associated with each factor (see Conwell et al., 2002, for review of these studies). In these studies, the presence of an Axis I mood disorder was clearly and powerfully (odds ratios ranging from 27.4 to 113.1) associated with elevated risk for suicide in older adults. Recurrent major depression was associated with the greatest risk, yet single episode major depression, dysthymia, and minor depression also were significant predictors of completed suicide. Three of four PA studies examined individuals with a diagnosis of dementia and found no significant difference between suicidal subjects and controls. Psychotic disorders were predictive of suicide in only one of five studies. The results for substance abuse disorders were mixed, with three of five studies showing a statistically significant elevation of risk. And finally, all three studies that examined a prior history of suicide attempts found it to be a statistically significant risk factor as well (Conwell et al., 2002).

Two studies included standardized measures of personality traits. Duberstein and colleagues (Duberstein, Conwell, & Caine, 1994) demonstrated that suicide victims over age 50 years were distinguished from age-matched controls by higher levels of Neuroticism (N) and lower scores on the Openness to Experience (OTE) factor on Costa and McCrae's NEO Personality Inventory (Costa & McCrae, 1992). Low OTE describes individuals with muted affective and hedonic responses, a constricted range of interests, and comfort with the familiar. The authors hypothesize that suicide risk is increased in older persons with low OTE because of their restricted adaptability to the challenges of aging and because their distress may be more difficult for others to detect. Harwood and associates compared suicides and natural death controls age 60 years and over on ICD-10 personality trait accentuation (Harwood, Hawton, Hope, & Jacoby, 2001). Anankastic (obsessional) and anxious traits, which the authors note are qualitatively similar to low OTE scores, significantly distinguished the groups (Harwood et al., 2001). The relationships of these personality traits to the depressive conditions common in older suicide victims, and their potential role as moderators of other potential risk factors remain to be studied.

Physical Health

The prevalence of physical illness in late life, as well as its contribution to the overall well-being of older adults, contribute to the common assumption that physical health factors are related to late life suicide risk. Yet, case control studies concerning the risk for suicide associated with physical illness in older adults show mixed results. Conwell and associates (Conwell et al., 2000) found that physical illness burden and the presence of a current serious physical condition significantly distinguished suicides from controls; however, the presence of depressive symptoms or syndromes was not accounted for in the statistical analyses. Waern and colleagues did report that serious physical illness was an independent risk factor for suicide, but when gender was analyzed separately, serious physical illness was associated with suicide in men only (Waern et al., 2002). Conwell and associates (2000) reported that greater physical illness burden, the presence of serious physical illness, and associated functional impairment all significantly distinguished elderly suicides in primary care from age-matched controls. Importantly however, after controlling for mood disorders, physical health and functional measures no longer distinguished the groups (Conwell et al., 2000). These data suggest that although physical illness and functional impairment are associated with suicide in older adults

much, if not all, of the risk associated with physical health factors is mediated by their relationship with affective disorders.

Social Functioning

Stressful life events cluster in the weeks and months before suicide attempts in older adults (Luscomb, Clum, & Patsiokas, 1980). The specific types of life events most pertinent to suicide in late life differ from those of younger victims. Interpersonal discord, financial and job problems, and legal difficulties are more typical of suicides in young and middle adulthood, whereas physical illness and other losses are the most common stressors in older adults who commit suicide (Carney, Rich, Burke, & Fowler, 1994; Conwell, Rotenberger, & Caine, 1990; Heikkinen & Lonnqvist, 1995). Studies comparing the living situation of suicide victims with census data conclude that older adults who commit suicide were more likely than other older adults in the community to have lived alone, suggesting that social isolation and loneliness are important factors to consider (Barracough, 1971). Studies do not show a difference between younger and older suicide victims in the extent of their social contacts (Carney et al., 1994; Heikkinen & Lonnqvist, 1995). More pertinent may be the complex construct of social support and the moderating role that it may play in determining the risk for suicide associated, for example, with stressful life events such as bereavement. Uncommon, but high-profile cases of homicide-suicide in older adults suggests that risk may be associated with caregiver burden as well (Cohen, Llorente, & Eisdorfer, 1998).

Several studies used the PA method to compare the proportions of individuals who completed suicides and controls that lived alone (Beautrais, 2002; Conwell, 2001; Conwell et al., 2000) one of which found a significant difference between groups (Conwell, 2001). Two studies examined specific stressors in cases and controls. Financial and relationship problems (Beautrais, 2002) and family discord (Rubenowitz, Waern, Wilhelmsson, & Allebeck, 2001) distinguished the groups. Again, it is important to note that when depressive symptoms were statistically controlled for, only family discord remained predictive of late life suicide (Conwell et al., 2002).

Results concerning social support are more consistent across studies than findings regarding living situations and stressful life events. Miller reported that controls were significantly more likely than suicide victims to have had a confidant and to visit with friends and relatives (Miller, 1978). Also, Conwell and colleagues found that elderly controls had received significantly greater support with the practical tasks of day-to-day life and had greater social interaction than elderly suicide completers (Conwell et al., 2000). Low social interaction was also a significant risk factor for suicide in a New Zealand sample studied by Beautrais, even after adjusting for physical and mental health variables (Beautrais, 2002). Therefore, life events and social supports appear to constitute risk factors and/or buffers to suicide in later life. However, it is unclear the extent to which their effects may be mediated by associations with other variables, such as depression. Further, the potential roles of moderators such as personality and culture warrant continued investigation.

SUMMARY OF RISK FACTORS FOR SUICIDE IN LATE LIFE

In almost all industrialized countries, men age 75 years and older have the highest suicide rate among all age groups. Although in younger age groups, suicide attempts are often impulsive and communicative acts, suicide attempts in older adults (defined as age 65 years and older) are often long-planned and involve high-lethality methods (Szanto et al., 2002). In addition to the fact that the elderly are more fragile and frequently live alone, the above characteristics more often lead to fatal outcomes (Szanto et al., 2002).

Major depression is the most common diagnosis in older adults (of both sexes) who attempt or complete suicide. In contrast to other age groups, comorbidity with substance abuse and personality disorders is less frequent. Physical illness plays an important role in the suicidal behavior of older adults. Most frequently, depression and physical illness co-occur; less often, physical illness or the treating medications are causally related to the depressive symptoms. However, only 2% to 4% of terminally ill older adults commit suicide. In addition to physical illness, complicated or traumatic grief, anxiety, unremitting hopelessness after recovery from a depressive episode, and a history of previous suicide attempts are risk factors for suicide in late life (Szanto et al., 2002).

THE ROLE OF NURSES IN THE IDENTIFICATION OF OLDER ADULTS AT RISK FOR SUICIDE

While acknowledging that any risk assessment tool represents only one aspect of the broader aspect of risk assessment, the Scale for Suicide Ideation (SSI; Beck, Kovacs, & Weissman, 1979) and the Nurses' Global Assessment of Suicide Risk (NGASR; Cutcliffe & Barker, 2004) are two useful tools for the comprehensive assessment of suicide ideation and suicidal behavior. It is important to note that currently, no wide-scale validation studies have been conducted on the NGASR. Yet, the NGASR might provide valuable support for nurses who are novice at such assessments (Cutcliffe & Barker, 2004). The assessment of suicide risk includes the assessment of risk factors such as previous suicide attempts, severity of depression and hopelessness, any diagnosis involving mania or psychosis, substance use, poor impulse control, treatment noncompliance, lack of social support, lack of reasons for living, and recent stressful life events (see Figure 1 for key areas assessed with the NGASR).

Epidemiological risk factors can only guide the evaluation of suicide risk in an individual patient. Good communication among all health care personnel involved in the treatment of a suicidal patient is crucial. When older adults report sad mood or loss of interest in pleasurable activities, or when they appear to be depressed, the following questions should always be asked:

1. Have you been feeling so sad lately that you were thinking about death or dying?
2. Have you had thoughts that life is not worth living?
3. Have you been thinking about harming yourself?

These questions should be followed by more direct questions about suicide intent. If the answer is yes, patients should be asked whether they have thought about a specific method and whether they have access to lethal means (Szanto et al., 2002). The availability of firearms should always be assessed and, if available, they should be removed from the patient's house. Although most *suicide attempts* in the U.S. are by overdose of medications, the majority of *completed suicides* are carried out using firearms. When patients deny suicidal ideation, or endorse suicidal ideation but state that they would not act on it, they should be asked about deterrents against suicide (e.g., religious beliefs, fear of disapproval, concerns about their legacy if death is by suicide). Further, family members or friends should be asked whether the patient is giving warnings or clues such as making a will or giving away property.

If a patient reports suicidal ideation with a plan, and lethal means are available, hospitalization is necessary. The clinician should not say that hospitalization is necessary to avoid suicide. Rather, the clinician should communicate the conviction that hospitalization is necessary because treatment in the hospital will make the patient feel better. The best way to decrease suicide risk is to treat the underlying psychiatric disorder, which is typically depression (Szanto et al., 2002).

If the patient endorses suicidal ideation, but does not have a plan, is not psychotic, has good judgment, has few risk factors (in particular, absence of a previous high-lethality attempt) and lethal means are not available, the patient's social support system needs to be activated. Permission to contact family members or a friend should be obtained immediately and they should be informed about the patient's suicidal thoughts. Follow this with an assessment of how much contact they will have with the patient in the next few days, and then assess the appropriateness of in-patient versus out-patient treatment options. For a comprehensive description of high-risk management strategies for elderly suicidal patients, the reader is referred to an article by Brown, Bruce, and Pearson (2001).

The "no-suicide" or "no-harm" verbal or written contract, in which a patient agrees to inform a relative, friend, or health care provider of their suicidal ideation and/or intent and to not act on their thoughts, is widely used in clinical practice. However, evidence-based research has been sparse, and has not supported the use of no-suicide contracts as a deterrent to self-harm (Farrow & O'Brien, 2003; Kroll, 2000). Furthermore, there may be ethical issues related to the question of informed consent concerning asking patients to enter into a verbal or written no-suicide contract while in the midst of a psychiatric crisis. The no-suicide contract may alleviate the mental health professionals' anxiety but studies show they do little to prevent people from attempting suicide (Farrow, & O'Brien 2003; Kroll, 2000). If a no-suicide contract is used, it should never be used with a new patient since the contract against self-harm is only as good as the underlying soundness of the therapeutic alliance (Szanto et al., 2002).

CONCLUSION

Suicide in late life must be understood as a complex combination of interactive effects in which mood disorders take a central role. Our ability to more precisely target preventive interventions will hinge on a better understanding of those relationships. Until then, nurses and others must be diligent in the identification of older adults at risk for suicide. Subgroups of older adults at high risk for suicide include those with depressive illnesses, previous suicide attempts, physical illnesses, and those who are socially isolated. Male gender and Caucasian race are associated with elevated risk. Older adults with multiple risk factors warrant special attention. Because elderly individuals are less likely to volunteer that they are experiencing suicidal ideation (O'Connell, Chin, Cunningham, & Lawlor, 2004), and because these patients may have few depressive symptoms, they must be asked about these feelings directly.

The implication is clear that reduction in the prevalence of mood disorders in older adults should be a prime target of the National Strategy for Suicide Prevention (Office of the Surgeon General, 1999). This objective can be operationalized as universal prevention strategies (e.g., public education about the signs, symptoms, treatment options, and prognosis for depression in late life) as well as selected and indicated interventions. Examples of the latter include outreach programs to engage undiagnosed depressed older adults in diagnostic and treatment systems and models of collaborative care to improve the effectiveness of late life depression treatment (Conwell, 2001). The objective of educational programs should be to foster an appreciation of healthy aging, improve understanding of signs and symptoms of depression in older adults, and to teach older people and their support systems about the risks, warnings signs, and treatment responsiveness of suicidal ideation and behavior in late life.

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- Recent stressful life events
- Presence of chronic/terminal illness with disability
- Recent bereavement or relationship breakdown
- Widow/widower
- Evidence of depression/loss of interest or loss of pleasure
- Evidence of withdrawal
- Warning of suicidal intent
- Evidence of a plan to commit suicide
- History of psychosis
- Evidence of persecutory voices/beliefs
- Family history of serious psychiatric problems or suicide
- Presence/influence of hopelessness
- Prior suicide attempt
- History of socioeconomic deprivation/financial worries
- History of alcohol and/or drug misuse

FIGURE 1.

Key risk identified in the Nurses' Global Assessment of Suicide Risk (NGASR) Adapted from Cutcliffe & Barker (2004).