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Preventing Suicide: A Neglected Social Work Research Agenda

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Summary

Social workers encounter suicidal clients; however, little is known about social work's empirical knowledge base for suicide assessment and treatment. In the first comprehensive study of social work's contribution to the suicide literature, the authors conducted systematic electronic and manual searches for suicide research published in peer-reviewed journals by social work investigators for the period 1980–2006, with the purpose of ascertaining the state of clinical knowledge related to suicide risk factors and effective treatments. These findings reveal that despite recent increases to the study of suicide by social work researchers, they have contributed limited evidenced-based knowledge in the last twenty-six years on the treatment or prevention of suicide or suicide-related behaviours. The article outlines the risk factors for suicide and discusses the implications for clinical social work practice and research.

Keywords

suicide; clinical knowledge; research; treatment

Introduction

Suicide is a global public health concern, particularly for Western countries. Suicide accounts for 1.5 per cent of the global burden of disease, which represents 20 million years of healthy life lost due to premature death or disability (Mann *et al.*, 2005). In the USA alone, 31,484 individuals took their lives in 2003, accounting for \$25 billion each year in direct (e.g. health care services, funeral services, autopsies and investigations) and indirect (e.g. lost productivity) costs (Centers for Disease Control and Prevention, 2006). In their practice, social workers will be faced with the pressing public health problem of patient suicide. In the UK, according to recent data, the average social worker will see far more suicide-related problems than highly publicized problems like homicide, including child homicide, which number far less per annum than suicide. In 2004, the number of child homicides in the UK was fifty-eight out of a total of 839 police-recorded homicides (Coleman *et al.*, 2006), while there were 5,906 suicides in adults aged fifteen and over (Office for National Statistics, 2006). Even in the United States, more people die from suicide than homicide (US Public Health Service, 2000). In 2003, the USA, which has among the highest rates of homicide in the West, had 17,732 homicides—approximately half the number of suicides reported (Hoyert *et al.*, 2006). Hence, the average social worker will encounter far more problems related to self-directed violence, and yet social work researchers' contribution to the study of suicide is unclear. While completed suicides represent a major public health problem, they represent only a small fraction of suicidal

behaviours. More ominous are the higher rates of non-fatal suicidal behaviour. It is estimated that for every suicide, there are twenty-five non-fatal suicide attempts (Maris *et al.*, 2000).

Given such a high incidence of self-directed violence in the West, suicide mortality and morbidity represent widespread and devastating outcomes that often have severe interpersonal and economic consequences. Recognizing an urgent and inadequately addressed public health need, several Western countries have declared suicide prevention to be a national priority and have encouraged the development of initiatives dedicated to finding an effective national strategy for its reduction and prevention (Department of Health, 2002; US Public Health Service, 2000). However, the efforts to advance these national strategies are limited by a poorly developed scientific base and the poor co-ordination of existing expertise and knowledge.

Social workers have a significant role to play in preventing suicide. In the USA, social workers are the largest occupational group of mental health professionals (Manderscheid *et al.*, 2004); thus, they have a significant role to play in the national strategy to prevent suicide, but little is known about social work's contribution to the empirical knowledge base for practice in this area or the extent to which social work researchers have focused on this topic. It is important to review the state of social work knowledge regarding suicide risk factors and effective treatment approaches for suicide, particularly in America, where the largest increase in the professional mental health workforce has been among social workers. During the period 1992–98, there was a 309 per cent increase in the number of social workers serving mental health institutions, in contrast to an 119 per cent increase among psychiatrists and a 204 per cent increase among psychologists (Manderscheid *et al.*, 2004). Most professionals rely on their own profession's literature as their primary source of practice knowledge, so it is important to ascertain to what extent social work researchers have contributed to the suicide knowledge base. Although research on suicide from other disciplines abounds, social work investigators need to incorporate social work's unique perspectives (e.g. person-in-environment across levels, client-centredness, case management, environmental interventions) to help build a scientifically developed clinical knowledge base more applicable for use by social work practitioners working with suicidal clients. For instance, social work researchers are in the best position to advance research on how a clients' suicide impacts future social work practice, as well as suicide risk assessment and management.

In an effort to gain a better understanding of the state of social work research on suicide risk, assessment and treatment approaches, we performed the first systematic review of the literature published by social work investigators in peer-reviewed journals during the period 1980–2006. The paper focuses upon identifying social work researchers' contribution to the field and does not seek to explain any potential gaps or growth. The review focuses on (i) the identification of research-based information and (ii) explication of potential means for guiding the development and ethical delivery of relevant intervention services. Specifically, the authors performed a critical review of published articles to assess the state of social work knowledge production to inform preventive and clinical practice with suicidal clients.

Method

Sample

We conducted an extensive review of social work's empirical contribution to the study of suicide and suicide-related behaviours in order to determine the depth of knowledge social work practitioners have available to them in preventing, assessing and treating suicidal clients. We restricted our time frame to work published between January 1980 and January 2006. Journals were reviewed manually and electronically by using the computer databases *Social Work Abstracts*, *Social Service Abstracts*, *Proquest* (wherein only the *Journal of Marital and Family Therapy* was assessed), *JSTOR* and *PubMed*. Phrases used to search these databases

were broad (e.g. suicide, suicidal behaviour, self-harm). The articles were selected only if they were: (i) published in a prominent social work journal or one of three journals specializing in suicide or death studies (see Table 1); (ii) authored by a social work researcher (e.g. faculty, clinician, research scientist), determined by their affiliation with a school or department of social work, or whether they had a social work degree (e.g. B.Sc., M.S.W., Ph.D.); and (iii) included information on suicide or suicide-related behaviour. Additionally, authors identified as social work researchers from the first search were then explored by author name in the databases *PubMed*, *PsycINFO* and *JSTOR* to determine whether they had published additional articles that included information on suicide or suicide-related behaviour in non-social work journals. The review of journals specializing in suicide or death studies was employed to increase the probability of identifying social work researchers publishing on the topic.

Although the review was extensive, the authors acknowledge that some journal articles may have been missed. For the purposes of this study, suicide was defined as self-inflicted fatal injury with the intent to kill oneself (O' Carroll *et al.*, 1996), and suicide-related behaviour was defined as suicidal ideation or non-fatal self-inflicted injury with the intent to kill oneself. The literature was reviewed systematically to affirm that articles identified in the computer searches did, in fact, include suicide or suicide-related behaviour as an outcome.

Classification of articles

Articles were first categorized as research or non-research in nature, and non-research articles were excluded from further review. Research articles were defined as studies in which original data analysis was performed and new knowledge generated. We then classified the empirical studies according to Rosen and colleagues' (1999) taxonomy for the three types of knowledge generated (descriptive, explanatory and control) from research. Reliability was assessed on all research articles found in social work journals and the three journals specializing in suicide or death studies. This totalled to re-examination of eighty-two of the 131 research articles. Three months elapsed between the first classification of the articles and the second classification, and a 90 per cent agreement was obtained from time one to time two for the articles under review.

According to Rosen and colleagues, descriptive studies provide practitioners with information to assess and classify clients and problems, including their central tendencies or distribution, which can be used to make decisions about which services are needed and by whom.

Explanatory reports are defined as studies examining the relationships among two or more variables, such that we understand factors influencing their variability and consequences. They are hypothesis-driven examinations of differences between groups and they may consider multiple variables simultaneously (i.e. risk factor studies). Finally, control studies examine the effects of services delivered or test the efficacy or effectiveness of interventions. Articles containing both descriptive and explanatory knowledge were classified as explanatory, and control articles were classified as control whether or not they contained descriptive or explanatory knowledge.

Control articles were examined to determine whether the study was described in enough detail to make it replicable, such that it could be implemented by a practitioner not involved in the study (Rosen *et al.*, 1999). Articles that did not meet criteria for categorization as replicable were defined as non-replicable. Outcomes of the interventions implemented in the control studies were then differentiated to determine whether the measures attained the intermediate or ultimately desired outcomes (Rosen *et al.*, 1999). Attainment of ultimate outcomes indicates the extent to which the intervention was successful in reaching its goals; intermediate outcomes are those deemed to be necessary preconditions or mediators of ultimate outcomes. Finally, control studies were examined to determine the specificity with which outcomes were measured as an indication of their replicability. Study specificity was categorized as either low, medium or high (Rosen *et al.*, 1999). Articles with high specificity include all standardized

tests and are of a very specific nature. Medium specificity refers to those studies using non-standardized rating scales and definition-guided observations (e.g. client behaviour reports). A low specificity study use unguided observations or self-reports.

Results

Scientific productivity

Over the time period, twenty-nine social work journals were examined, representing 673 years of publishing and a review of 23,180 articles (see Table 1). Additionally, three specialty journals were examined, representing sixty-one years of publishing and review of an additional 2,112 articles. A total of 213 articles were found through the searches, 131 of which met our criteria as research studies. Explanatory studies were most numerous, constituting nearly 65 per cent of the total research studies (see Table 2). Descriptive knowledge articles compose a little more than 27 per cent of the studies, while research for controlled knowledge represents almost 8 per cent of the total number of social work-related research studies published on suicide.

Among the social work journals, the *Child and Adolescent Social Work Journal* produced more suicide research articles than any other social work journal studied, publishing eight suicide research articles written by social workers over the twenty-two years since it began, and composing 6 per cent of the total suicide research articles in the study. *Child Abuse and Neglect* published the second largest number of suicide research articles written by social workers, publishing seven articles over the twenty-six years studied and composing 5 per cent of the total suicide research articles in the study. Of the three specialty journals, *Suicide and Life-Threatening Behaviour* published the most suicide research articles written by social workers, publishing fifteen articles—a little over 11 per cent of the total suicide research articles in the study. The other two specialty journals (*Omega* and *Archives of Suicide Research*) each published ten suicide research articles written by social workers and each compose slightly less than 8 per cent of the total suicide research articles in the study.

The results revealed that social work researchers are significantly more likely to publish suicide research studies in non-social work journals, with 64 per cent of the research articles identified by this study being published in non-social work journals (see Table 2). However, a significant proportion of the studies from non-social work journals are published in the three journals that specialize in suicide or death studies, and make up almost 27 per cent of the total social work-related research studies (see Table 3). A proportion of the variance is due to social work researchers being significantly more likely to publish non-research articles on suicide in social work journals, with 65 per cent of non-research articles being published in social work journals. Finally, there were significant increases in social work researchers' contribution to the study of suicide since 1980, especially in the past ten years, with 77 per cent of research studies (101 of the 131) published occurring during the period 1995–2006. As seen in Table 4, this increase is not the result of an increase in journals or articles being published in recent years but because of a proportionately greater interest in suicide research. Overall, suicide research articles made up only 0.2 per cent of the total articles published from 1980–2006 in social work journals (see Table 4). Suicide research articles written by social workers did slightly better in the three specialty journals, making up a little over 1.5 per cent of the total articles published. However, social workers' contribution to the study of suicide is still in need of improvement.

Replicability and outcome specificity of control knowledge—Our primary interest in the control studies is the therapeutic impact of treatment on suicidal behaviour and the risk for suicide. Out the ten control studies found, two included suicide as a covariate but did not present an examination of suicide-related behaviour or risk as an outcome; thus, they were not included in further analyses. The eight control-oriented studies analysed investigated a total of

thirty-three interventions in relation to suicidal outcomes. Of the thirty-three interventions, twelve were determined to be replicable, and twenty-one were not. The eight control studies investigated eighteen ultimate outcomes and fifteen intermediate outcomes. None of the outcomes was measured with a high degree of specificity, 55 per cent were measured with medium specificity, and the other 45 per cent were measured with low specificity (see Table 5). Due to small sample size, no association between specificity of measurement and outcome type could be drawn to suggest whether ultimate or intermediate outcomes were more likely to be well specified (see Table 6).

Data synthesis

The next three subsections summarize the knowledge that could be gleaned from the social work studies on suicide. A formal meta-analysis of these studies would be limited given the heterogeneity in study methodology and populations across the studies; thus, we present a narrative synthesis of the results for the three domains of suicide knowledge developed by social work researchers.

Descriptive knowledge—Trend analyses reveal significant increases in the suicide rate for males, with the largest proportional increase in fifteen to forty-four-year-olds, and with suicide of youth, aged fifteen to twenty-four, almost doubling (Cutright and Fernquist, 2001a; Lloyd *et al.*, 1987; Pritchard, 1992a, 1992b, 1996a). Additionally, a declining proportion of suicides are occurring among forty-five to seventy-four-year-old men (Cutright and Fernquist, 2001b). Many researchers have hypothesized that the male suicide rate is higher due to males' use of more lethal means; however, even after controlling for highly lethal means (i.e. firearms and hangings), males' suicide rate is still higher than females, suggesting that within each suicidal method, more of the male acts are fatal (Cutright and Fernquist, 2000).

Among African-American and White males, the gap in suicide rates has always been significant; however, recent studies show a narrowing of this gap, which appears to be caused by the disproportionate increase in the rate of suicide among African-American males (Joe and Kaplan, 2002). Trends also reveal a marked increase in attempted suicide (Joe and Marcus, 2003) and a disproportionate increase in suicidal firearm usage among African-American male youth (Joe and Kaplan, 2002). Although the rate of suicide death for elderly African-American males is substantially lower than the rate among elderly White males, the pattern in the rate of suicide is similar for these two groups, which may indicate a connection in suicide among races that is in need of further exploration (Kaplan *et al.*, 1994). It should be noted that the rates discussed here are taken from death certificates, which may not accurately reflect the actual rate of suicide due to underreporting (Joe and Kaplan, 2002; Kaplan *et al.*, 1994). One study has even found suicidal ideation to be more likely among students of colour than among White students (Albers and Evans, 1994).

In the USA, suicide rates among females trend upward through 1985 and then decline (Cutright and Fernquist, 2001b); however, the overall female suicide rate shows few substantial rises (Pritchard, 1992a, 1996a). There is, however, an excessive proportion of female suicides among the elderly (Cutright and Fernquist, 2003; Pritchard, 1996a). In fact, US elderly are at an increased risk for suicide and suicide-related behaviours, and their recent increase in suicidal firearm usage—a highly lethal means—only increases the likelihood that they will succeed in their suicide attempt (Adamek and Kaplan, 1996a, 1996b; Kaplan *et al.*, 1994). Of additional concern is that firearms have become the choice suicide method among African-American and White older women (Adamek and Kaplan, 1996b) and White older men (Kaplan *et al.*, 1996). More recent data show that internationally, between 1974 and 2002, two statistically significant changes have occurred. First, suicides among the over sixty-five population have decreased in every major Western country but especially among females, with the exception

of Spain (Pritchard and Hansen, 2005b). In addition, in many Western countries, suicide among younger aged males (fifteen to thirty-four) has risen considerably, and younger aged female rates are substantially down (Pritchard and Hansen, 2005a).

Among survivors of their parents' suicide, adult children reveal a fear that they will die by suicide like their parents, and some even reveal a sense of relief when they pass the age at which their parent died by suicide (Avrami, 2002–03). Trend analyses also reveal higher incidences of suicide and suicide-related behaviour among particular groups of people. Higher incidences of suicide occur among people living with AIDS (Mancoske *et al.*, 1995). People with a family member or friend who attempted or completed suicide are also at increased suicidal risk (Gilliland, 1995). Additionally, people with a history of physical abuse (Weinman *et al.*, 1998) or sexual abuse (Gilliland, 1995), as well as perpetrators of sexual abuse (Morrison, 1988; Pritchard and King, 2004), have higher incidences of suicide and suicide-related behaviour.

Cross-national suicide rates vary greatly, especially from Western to non-Western countries. In the general population of China, females kill themselves far more frequently than males, with a male-to-female ratio of 0.77 (Pritchard, 1996b), and rural Chinese females have the highest recorded female suicide rate in the world. In fact, the occurrence of suicide in rural China is significantly more frequent than in urban China (Pritchard, 1996b). However, a significant change in the ratio of suicide occurs among people who are fifty-five years old or older; in this group, males have a higher suicide rate than females. Further study is needed that examines the disproportionate suicide rates of women in Asian countries when compared with European countries (Pritchard and Baldwin, 2002).

Explanatory knowledge—Social work researchers devote a significant proportion of their suicide studies to develop explanatory knowledge through which multiple risk and resiliency factors for suicide attempts, suicide-related behaviours and suicide can be established. Research indicates that people in particularly stressful life situations have a higher incidence of suicide, such as people recently moved into nursing homes (Ron, 2002b); youth who are excluded from school (Pritchard and King, 2000); men on probation (Pritchard *et al.*, 1997); and delinquent male youth who are not in a gang (Evans *et al.*, 1996). People in these situations may be particularly prone to feeling alienated and lack strong social supports that would help them cope with these stressful circumstances.

Significant gender differences exist between male and female suicide rates; however, females' higher rate of attempted suicide and males' higher rate of completed suicide are only part of the story. Just as the suicide rates differ between the genders, risk and protective factors also appear to impact male and female suicide rates differently. For instance, people with a history of sexual abuse have a significantly increased rate of suicidal ideation and attempts (Benda, 2003; Chandy *et al.*, 1996; Evans *et al.*, 1996; Freedenthal and Stiffman, 2004; King *et al.*, 2004; Martin *et al.*, 2004; Osgood and Manetta, 2000–01; Rodell *et al.*, 2003; Tubman *et al.*, 2001; Ystgaard *et al.*, 2004). However, Martin *et al.*'s (2004) study found the relationship between sexual abuse and suicidality among females to be completely mediated by hopelessness, depression and family dysfunction. In addition, Benda's (2003) study of homeless, substance-abusing veterans found a history of sexual abuse to be a significant predictor of suicidal thoughts and attempts among both men and women, with the relationship being stronger for women. Further research is needed that determines which populations with a history of sexual abuse are at an increased risk of suicidality and whether sexual abuse is a mediator for depression and suicidality. There are also some studies indicating a positive relationship between sexual harassment (Bagley *et al.*, 1997) and assault with suicidal behaviours among females (Bagley *et al.*, 1997; Osgood and Manetta, 2000–01).

Physical violence, both in the form of physical abuse and domestic violence, has a long-term impact on the psychological well-being of survivors. Higher rates of suicidality are found among both males and females with a history of physical abuse (Benda, 2003; Finzi *et al.*, 2001; Ystgaard *et al.*, 2004) and among adolescent attempters with prior contact with the Department of Social Services, which may be an indication of abuse (Deykin *et al.*, 1985). Additionally, studies indicate that current abuse or domestic violence is related to increased suicidality (Benda, 2005; Chantler *et al.*, 2003; Hsiao-Rei Hicks and Bhugra, 2003). However, the impact of physical abuse may differ by gender, as indicated in Benda's (2005) study in which a positive relationship between physical abuse and suicidality was found only among physically abused women. Additional studies are needed to determine whether the gender difference that Benda found can also be found in further studies, or whether it is a finding specific to homeless, substance-abusing female veterans. Finally, some studies of physically abused children indicate a mediating role whereby children with a history of physical abuse have higher levels of depressive symptoms, which increases their risk for suicidal ideation and attempts (Finzi *et al.*, 2001). Further studies are needed in order to determine whether this mediating role is found across differing age groups, genders and cultures/ethnicities, and whether physical abuse or depression should be viewed as the risk factor for suicide.

In addition, people who abuse substances have increased rates of suicidality (Benda, 2003, 2005; Deykin and Buka, 1994; Freedenthal and Stiffman, 2004; Levy and Deykin, 1989; Rodell *et al.*, 2003), although there is some indication that the relationship is stronger for men (Benda, 2005). A positive relationship between the intensity and longevity of substance abuse and attempted suicide exists among homeless veterans (Benda, 2003), but this finding is in need of further study to determine whether it holds true for other populations. Alcohol abuse in the home is also positively related to suicidality among adolescents (Chandy *et al.*, 1996; Fernquist, 2000), while among Native American adolescents, the positive relationship between suicidality and substance abuse in the home is found only among adolescents who are raised on a reservation (Freedenthal and Stiffman, 2004).

A significant and positive relationship between divorce rates and suicide rates is also established for both genders and across numerous countries (Cutright and Fernquist, 2004; Fernquist, 1995–96; Fernquist and Cutright, 1998). However, some populations appear to be impacted more than others. In Cutright and Fernquist's (2000) study of male suicide rates from 1955 to 1989, a significant positive relationship between divorce rates and suicide rates is found only among males who were aged seventy-five and older from 1965 to 1989, and among males aged fifty-five to seventy-four from 1970 to 1989. A stronger relationship between divorce and suicide rates is found also among elderly females (Fernquist, 1995–96). The increased strength among older populations may be an indication of fewer social supports or less accepting attitudes toward suicide. In another study, a significant positive relationship between divorce rates and male and female suicide rates is found, but only among countries with low levels of divorce (Fernquist, 2003a). Additionally, one study found that women who divorced more often are more likely to complete suicide, suggesting increased suicide risk as the number of divorces an individual experiences increases (Wandrei, 1985). However, Fernquist's (1999) study using gender-age standardized suicide rates from 1985 to 1989 shows a significant positive relationship between divorce rates and male suicide rates, while divorce rates significantly decrease female suicide rates. Further studies are needed to fully understand the relationship between divorce rates and suicide rates, and to establish the gender, age and cultural differences that may exist.

The effect that religion has on suicide rates is another area of interest. Based in Durkheim's theory of social integration, researchers hypothesize that religion will protect people from engaging in suicidal acts because suicidal acts are antithetical to most religious teachings. However, this hypothesis has not resulted in consistent findings in study trials. Many studies

test this hypothesis by comparing religious integration, measured by using the percentage of all religious books published in a nation, to national suicide rates. In general, these studies show an inverse relationship between religious integration and suicide rates; as religious integration increases, suicide rates decrease (Cutright and Fernquist, 2000; Fernquist, 2001a, 2003a, 2003b; Fernquist and Cutright, 1998). Unfortunately, the findings are not that simple: one study indicates this inverse relationship, but only for people aged fifteen to thirty-four and fifty-five to sixty-four (Fernquist, 2001a), while another study found this relationship only for males who were aged forty-five to fifty-four and sixty-five and older (Fernquist, 2003b). A third study's findings indicate that religious integration is inversely related to female suicide rates in countries that are highly religious and those that are not, while the inverse relationship for male suicide rates is found only in highly religious countries. These findings indicate that religion has a protective effect for females regardless of the social norm, while it has a protective effect for men only when there is a social norm to be religious (Fernquist, 2003a).

In findings contradictory to the religious hypothesis, a couple of studies compare elderly suicide rates in Catholic and Orthodox countries with the elderly suicide rates in non-Catholic and non-Orthodox countries, and find the suicide rate in Catholic and Orthodox countries to be significantly greater among elderly men (Pritchard, 2002; Pritchard and Baldwin, 2000). A similar trend is also found for women, although it falls short of statistical significance (Pritchard, 2002; Pritchard and Baldwin, 2000). Further studies are needed to conclusively determine what impact religion has on suicide rates and the differences that exist by gender, age or religious affiliation.

Another factor in suicide appears to be education. In general, a larger percentage of suicides occurs among people with less than twelve years of education, and Asian-Americans appear to place the most importance on education (Fernquist, 2001b). However, higher levels of education in younger African-American and Hispanic females, older African-Americans and Hispanics, and older Native American and White females increase the likelihood of suicide in these populations (Fernquist, 2001b). There are many explanations for the differences in the general trend; however, it appears likely that among these groups, frustration or despair that their education is not paying off as it should results in weakened social integration (Fernquist, 2001b). In a similar study, findings indicate that poverty and education have a significant impact on suicide rates among African-American males, with poverty reducing the risk of suicide while educational attainment increases the risk of suicide (Fernquist, 2004). Further studies are needed to determine whether such a relationship exists for other groups and what role social integration plays in these suicidal rates.

Unemployment is also identified as a risk factor for suicide (Fernquist, 2001a; Pritchard, 1990, 1992a, 1995a, 1995b; Rodell *et al.*, 2003), with studies of unemployment and suicide rates indicating that fifteen to forty-four-year-olds (Pritchard, 1995a, 1995b) and males are more affected by rising unemployment (Pritchard, 1988, 1995b). Additionally, there is a positive relationship between men's and women's suicide rates and female labour force participation (Cutright and Fernquist, 2000; Fernquist, 2003b; Fernquist and Cutright, 2000–01), occupational segregation and gender egalitarianism (Fernquist, 1999). Also, perceived income inequality is related to increased suicide rates, especially for men, which may indicate a link between suicide and societal gender roles (Fernquist, 2003b).

A close relationship between mental health and suicidal ideation and attempts has been established. Some studies have even indicated an association between prior psychiatric hospitalizations and current suicidal ideation and attempts (Benda, 2003; Wandrei, 1985). In particular, self-esteem, hopelessness, locus of control, certain personality characteristics and depression are linked to suicidal ideation and attempts. The factor most strongly studied and established is the positive correlation between depression and suicidality; as depression

increases, suicidal ideation and attempts increase (Benda, 2003; Freedenthal and Stiffman, 2004; Gil, 2003; Gilbar and Eden, 2000–01; Levy and Deykin, 1989; Nugent and Williams, 2001; Osgood and Brant, 1990; Palmer *et al.*, 2003; Ron, 2002*a*, 2002*b*, 2004; Townsend Carlson, 2001; Turner *et al.*, 2002). This relationship is found across age groups, genders and cultures. However, certain populations appear to be at an increased risk to experience depression. Studies reveal a higher rate of depression in female samples (Ron, 2002*a*, 2004), which may explain the greater number of suicidal attempts among females. The elderly is another population that appears to be at an increased risk for depression, especially those who are widowed (Ron, 2002*a*) or living in long-term care facilities (Osgood and Brant, 1990; Ron, 2002*b*, 2004). A contributing factor in suicide among the elderly population living in long-term care facilities appears to be loss, such as loss of personal possessions, health and autonomy (Osgood and Brant, 1990).

Individual mental health is also impacted by a sense of hopelessness; in fact, a positive correlation between hopelessness and suicidal ideation and attempts has been established (Ron, 2002*a*, 2002*b*, 2004). Self-esteem is another factor associated with mental health that is related to suicidal ideation and attempts, with low self-esteem being correlated to increased suicidal ideation and attempts (Nugent and Williams, 2001; Osgood and Brant, 1990; Palmer *et al.*, 2003; Townsend Carlson, 2001; Turner *et al.*, 2002). Nugent and Williams' study (2001) found an interactive co-morbidity between low self-esteem and depression, with the strength of the relationship between self-esteem and suicidal ideation increasing as the severity of depression increases. Additional studies should be carried out to determine whether this interactive co-morbid relationship exists across populations.

Finally, a significant and positive relationship exists among suicidal ideation and novelty seeking and suicidal ideation and harm avoidance (Gil, 2002–03). However, novelty-seeking tendencies are found to be higher among suicide attempters and may appeal to the urge to act out the suicidal ideation through an attempt (Gil, 2003, 2005). A number of personality traits are also associated with suicidal ideation. In fact, it has been indicated that the interaction and combination between rigidity, confidence, disorderliness, impulsivity and pessimism and worry shape suicidal behaviour (Gil, 2002–03).

Particularly concerning, because of the lethality and availability of firearms, is the increase in suicidal firearm usage in the USA. Although young female attempters are still more likely to attempt suicide by overdosing on medicine (Gilliland, 1990), firearms have become the most common suicidal method among US elderly, particularly among women of sixty-five to seventy-four years old and men of sixty-five to eighty-four years old (Kaplan *et al.*, 1996, 1997). Researchers also find a high rate of firearm usage among Latino completers (Queralt, 1993*b*). Although firearm suicide is rare in Europe, further research is needed to determine the causes for this increase in the US population because of the lethality of firearms and the high rate of suicide in America.

Another suicidal method that requires attention is indirect self-destructive behaviours. Although these behaviours may not appear to be suicidal acts, refusing to eat or drink and refusing to take medications among the elderly is particularly concerning (Osgood and Brant, 1990; Osgood *et al.*, 1988–89). These methods may be slower, but due to their poorer health, the elderly have a difficult time recovering from these behaviours (McIntosh and Hubbard, 1988). Further research is needed to determine the prevalence of such behaviours and the impact they have on suicide rates.

Research on suicide in minority groups is limited, and often it is not global enough to generalize the findings to the whole of the minority group. Additionally, some studies that include minority populations use sample sizes that are not representative of the minority groups'

general population; therefore, some research appears to contradict other research. For instance, Albers and Evans' (1994) study found suicidal ideation to be more likely among students of colour than among white students, while another study found being African-American to be a protective factor against suicide (Chandy *et al.*, 1996). Future research is needed that uses representative sample sizes of minority groups and that identifies specific populations instead of lumping them into one group.

Oppression, discrimination, prejudice and acculturation are also factors that have an impact on the well-being of minority groups and may increase their risk for suicidal behaviours. Higher stress levels due to alienation, prejudice and distress resulting from internalized homophobia are found among gay male adolescents (Ben-Ari and Gil, 1998). Additionally, findings indicate that perceived discrimination among Native American youth who were raised on a reservation is significantly related to the history of a suicide attempt (Freedenthal and Stiffman, 2004). In a study of Latino/a attempters, over half of the sample was suffering from considerable stress due to conflict between family values and societal expectations (Queralt, 1993a). Further research should be conducted to determine the effect that each of these stressors has on the suicide rates of minority groups.

Control knowledge—Suicide is a serious health problem that is in need of evidence-based treatments and preventative interventions. Our searches found three types of suicide programmes with social work involvement: prevention, intervention and postvention programmes. Reviewing suicidal warning signs and basic intervention strategies for suicidal peers, utilizing educational videos and conducting structured discussions on healthy and unhealthy messages, current adolescent stressors and community resources are a few common components of prevention programmes (Ciffone, 1993). A programme with these components increases the view of suicide as an expression of a mental illness and increases participants' willingness to seek out mental health professionals (Ciffone, 1993).

Intervention programmes providing direct service to people at risk of suicide and educating professionals working with suicidal and depressed clients have shown mixed results due to significant inequalities in racial group sample size between control and intervention groups and low specificity of outcome measurement (Deykin *et al.*, 1986). An intervention programme of group therapy for women that focused on improving self-esteem and increasing social support resulted in initial significant decreases in depression levels, increases in self-esteem and increases in their ability to identify supports in times of stress (Bagley and Young, 1998). Furthermore, these findings were maintained five years post intervention (Bagley and Young, 1998).

Intervention strategies need to address what role interpersonal difficulties may play in suicide-related behaviours. Individual therapy with an adolescent girl was effective in identifying how problems with peers at school fuelled her threats to complete suicide (Bonnefil, 1979). Additionally, there is a need for interventions that are both culturally sensitive and prove to have a cultural understanding of suicide. For example, suicide may be seen as a rational and honourable act in the Japanese culture, creating less cultural pressure against an act of suicide (Newhill, 1993). This cultural acceptance of suicide will play a role in how interventions are implemented.

Postvention programmes are interventions that are implemented after a suicide. Components found to decrease the atmosphere of suicide and suicidal behaviours include decreasing dramatization, glamorization and aromatization of suicide (Callahan, 1996); educating and facilitating structured conversations about suicide with adults and children; and encouraging dialogue between the adults and children (Romano-Dwyer and Carley, 2005).

Discussion

Suicide is a major social and public health problem. Our review of journal publications focused on the contribution of social work research from 1980 to 2006 to knowledge for guiding suicide risk assessment, intervention and prevention. Professional social work practice, at its core, should be based on relevant and valid knowledge to guide intervention; however, research supporting evidence-based practice has been traditionally underrepresented in social work (Rosen *et al.*, 1999). It appears that the volume of research publications in social work on the study of suicide has increased significantly during the past decade. However, the relative scarcity of articles addressing the development of effective interventions is a concern.

Control studies made up less than 8 per cent of the research studies; thus, one in every thirteen of the studies that included suicide or suicide-related behaviour addressed development of effective interventions. Additionally, most of the control studies are less than ideal, lacking replicable interventions because of failure to accurately describe the interventions in detail. The reliability of some of the findings is also questionable due to the low specificity used to measure change, such as personal observation. Finally, some studies lacked control groups, did not randomize subjects or did not use sample sizes large enough to produce reliable and generalizable results. Future research should aim to correct these errors, thereby contributing evidence-based interventions that may be replicated by others in the field. Similar concerns are shared in general regarding the scarcity in social work on research on intervention (Rosen *et al.*, 1999).

Practice implications

There are several practice implications that we can draw from this survey of suicide research literature produced by social workers. In their practice, social workers must understand the demographic patterns and the trends in suicide—namely that younger members of several Western countries are completing suicide at higher rates—and that, therefore, early preventive interventions with older adolescents and young adults, particularly males, must become an integral part of more co-ordinated suicide prevention efforts. Social work research has contributed to our understanding that males, particularly the elderly, are at highest risk for suicide and must be screened for suicidal behaviour when thought to evidence known risk factors. This is true, despite women engaging in more non-fatal suicidal behaviour (Goldsmith *et al.*, 2002). The results also highlight important psychological, social and cultural risk factors, while emphasizing the need for an integrated understanding of their influences. These factors are global and not specific to the USA or the Western world (Goldsmith *et al.*, 2002). Clinicians should seek to reduce hopelessness, psychiatric disorders, childhood trauma or psychical violence, all of which increase the suicide risk for both males and females.

Suicide risk assessment and management should be focused on patients who experience significant social stress such as a divorce, move into nursing homes, experience incarceration or are caught in frustrating despair due to prolonged unemployment. This risk assessment is particularly important for minority groups experiencing oppression and discrimination. To attenuate the higher stress levels resulting from these experiences, clinical practice should focus on increasing social support and religious integration, particularly for women, because these factors have been associated with a reduced suicide risk. Suicide carries a social meaning across all societies, but where it is stigmatized, it can impact the willingness of individuals to seek treatment or of families to seek support when coping with the suicide of a loved one. Social workers, therefore, must consider the role of stigma related to suicide or mental illness, particularly when working with suicidal African-American clients or their families. Clinicians should also be aware that when working with a service user at risk for suicide, they should seek to limit males' access to firearms and females' access to poisons. Although it is not possible to draw more definitive causal links from the current research on firearm suicide, the connection

between firearm possession and suicides is well documented (Kaplan and Geling, 1998). Therefore, social workers and health professionals need to conduct probing histories of the availability of firearms or other lethal means for suicide with their depressed and suicidal patients.

Future directions in research

Most professionals rely on their own profession's literature as their primary source of practice knowledge. Although research from other disciplines is substantial, our results suggest that social work investigators need to incorporate social work's unique concepts, perspectives and techniques to help build a scientifically developed clinical knowledge base more applicable for use by social work practitioners working with suicidal clients. This is particularly important in the USA, where social workers are the largest occupational group of mental health professionals and are therefore well positioned to intervene with suicidal clients. However, they lack the knowledge derived from well controlled investigations to effectively implement evidence-based interventions with suicidal clients. The interventions currently being used are suspect.

Suicide is a public health concern that should be addressed by social work researchers and in the education of social workers. As a profession, social work is dependent on evidence-based practice. The failure to advance research on suicide may leave many social workers inadequately prepared to respond to the needs and experiences of depressed and suicidal clients. Finally, given that the empirical literature is not sufficient for recommending evidence-based treatment interventions, social work researchers have the opportunity to make considerable scholarly contributions to suicidology.

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Table 1

Journals selected for review of social work research on suicide: 1980–2006

Social work journals	Publishing years reviewed (N years)	Total number of articles produced during that time
<i>Administration in Social Work</i>	1980–2006 (26)	605
<i>Affilia</i>	1986–2006 (20)	552
<i>American Journal of Orthopsychiatry</i>	1980–2006 (26)	1472
<i>British Journal of Social Work</i>	1980–2006 (26)	1025
<i>Child Abuse and Neglect</i>	1980–2006 (26)	2007
<i>Child and Adolescent Social Work Journal</i>	1984–2006 (22)	578
<i>Children and Youth Services Review</i>	1980–2006 (26)	778
<i>Child Welfare</i>	1980–2006 (26)	1186
<i>Clinical Social Work Journal</i>	1980–2006 (26)	713
<i>European Journal of Social Work</i>	1998–2006 (08)	172
<i>Families in Society</i>	1980–2006 (26)	1518
<i>Health and Social Work</i>	1980–2006 (26)	923
<i>Journal of Ethnic and Cultural Diversity in Social Work</i>	1991–92; 94; 96–97; 99–2006 (12)	256
<i>Journal of Gay and Lesbian Social Services</i>	1994–2006 (12)	429
<i>Journal of Gerontological Social Work</i>	1980–2006 (26)	997
<i>Journal of Homosexuality</i>	1980–2006 (26)	1042
<i>Journal of Marital and Family Therapy</i>	1980–2006 (26)	929
<i>Journal of Social Service Research</i>	1980–2006 (26)	454
<i>Journal of Sociology and Social Welfare</i>	1980–2006 (26)	1027
<i>Journal of Social Work Education</i>	1980–2006 (26)	821
<i>Journal of Technology in Human Services</i> *	1985; 1987–2006 (20)	478
<i>Psychoanalytic Social Work</i>	1987–91; 1993–2006 (18)	295
<i>Research on Social Work Practice</i>	1991–2006 (15)	523
<i>The Social Service Review</i>	1980–2006 (26)	730
<i>Social Work</i>	1980–2006 (26)	1364
<i>Social Work Education</i> **	1980–2006 (26)	328
<i>Social Work in Healthcare</i>	1980–2006 (26)	910
<i>Social Work Research</i>	1980–2006 (26)	425
<i>Social Work with Groups</i>	1980–2006 (26)	643
Total articles published by social work journals		23,180
Specialty journals		
<i>Omega</i>	1980–2006 (26)	982
<i>Suicide and Life-Threatening Behaviour</i>	1980–2006 (26)	882
<i>Archives of Suicide Research</i> *	1995–99; 2002–06 (09)	248
Total Articles Published by Specialty Journals		2,112
Total Articles Published by Social Workers		25,292

* Indicates missing data: *Journal of Tech. in Human Services* (1985), 1(2); *Archives of Suicide Research* (2002), 6(2).

** Unable to verify via manual search. Total articles incomplete; represents published articles from 1998 to 2006.

Table 2

Numbers and percentages of suicide research articles published by social workers from 1980 to 2006 by knowledge domain and journal type

Knowledge domain	<i>n</i>	Percentage	Social work journals <i>n</i> (%)	Non-social work journals <i>n</i> (%)
Descriptive	36	27.5	11 (23.4)	25 (29.7)
Explanatory	85	64.9	28 (59.6)	57 (67.9)
Control-oriented	10	7.6	8 (17.0)	2 (2.4)
Total	131	100.0	47 (100.0)	84 (100.0)

Table 3

Number and percentages of suicide articles published by social workers in five-year periods by knowledge domain, method and journal type

	All journals* (N = 213)						Social work journals (N = 100)						Specialty journals (N = 44)							
	Research			Non-research			Research			Non-research			Research			Non-research				
	Total n (%)	Explanatory n (%)	Descriptive n (%)	Control n (%)	All n (%)	Total n (%)	Explanatory n (%)	Descriptive n (%)	Control n (%)	All n (%)	Total n (%)	Explanatory n (%)	Descriptive n (%)	Control n (%)	All n (%)	Total n (%)	Explanatory n (%)	Descriptive n (%)	Control n (%)	All n (%)
1978-79**	2 (1.5)	0 (0.0)	0 (0.0)	2 (20.0)	0 (0.0)	2 (4.3)	0 (0.0)	0 (0.0)	2 (25.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
1980-84	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (6.1)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (7.6)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (11.1)
1985-89	13 (9.9)	7 (8.2)	5 (13.9)	1 (10.0)	16 (19.5)	3 (6.4)	1 (3.6)	2 (18.2)	0 (0.0)	9 (17.0)	5 (14.3)	2 (7.7)	3 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
1990-94	15 (11.5)	7 (8.2)	6 (16.7)	2 (20.0)	13 (15.9)	7 (14.9)	3 (10.7)	2 (18.2)	2 (25.0)	5 (9.4)	1 (2.8)	1 (3.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (11.1)
1995-99	33 (25.2)	19 (22.4)	11 (30.5)	3 (30.0)	20 (24.4)	8 (17.0)	3 (10.7)	3 (27.3)	2 (25.0)	14 (26.4)	8 (22.9)	5 (19.2)	3 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	5 (55.6)
2000-06***	68 (51.9)	52 (61.2)	14 (38.9)	2 (20.0)	28 (34.2)	27 (57.4)	21 (75.0)	4 (36.3)	2 (25.0)	21 (39.6)	21 (60.0)	18 (69.2)	3 (33.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (22.2)
Total	131	85	36	10	82	47	28	11	8	53	35	26	9	0	0	9	0	0	0	9

* 'All journals' category represents social work, specialty and non-social work journals in which suicide articles were published by social workers from 1980 to 2006.

** Represents a two-year time period.

*** Represents a six-year time period.

Table 4

Number of suicide research articles published by social workers in five-year periods as a percentage of the total articles published

	All journals [*] <i>n</i>	Social work journals <i>n</i> (%)	Specialty journals <i>n</i> (%)
1980–84 ^{**}	2	2 (0.05)	0 (0.00)
1985–89	13	3 (0.08)	5 (1.85)
1990–94	15	7 (0.16)	1 (0.25)
1995–99	33	8 (0.16)	8 (1.53)
2000–06 ^{***}	68	27 (0.44)	21 (3.20)
Total	131	47 (0.20)	35 (1.66)

^{*} Percentages could not be calculated for this column because the total number of articles published in non-social work journals would prove too difficult.

^{**} Includes two articles written from 1978–79.

^{***} Represents a six-year period.

Table 5

Ultimate and intermediate outcomes by specificity of measurement

Measurement specificity	Outcomes		
	Intermediate	Ultimate	Total
High	—	—	—
Medium	13	5	18
Low	2	13	15
Total	15	18	33

Table 6
Specificity of ultimate and intermediate outcomes measurement by replicability of interventions

Intervention replicable	Outcome					Total
	Ultimate					
	Intermediate					
	High specificity	Medium specificity	Low specificity	High specificity	MediumLow specificity	
Yes	–	3	–	–	9–	12
No	–	2	13	–	42	21
Total	0	5	13	0	132	33