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SUICIDE AROUND ANNIVERSARY TIMES*

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ABSTRACT

The anniversary of the loss of a loved one is known to induce negative emotions, which for some can be significant. The present study examined the incidence of suicide around the time of such anniversaries using data from the Queensland Suicide Register for the years 1998 to 2008. There were statistically significant increases in suicide events immediately after the loss of a loved one and around the anniversary of the loss. Limitations of the study are noted.

INTRODUCTION

The loss of a loved one has been linked to increased mortality, including death by suicide, in bereaved spouses (Martikainen & Valkonen, 1996), siblings (Rostila, Saarela, & Kawachi, 2012), and parents (Li, Precht, Mortensen, & Olsen, 2003) in the period following the death. Additionally, it has been suggested that the effects

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of the bereavement of a loved one may be long lasting, with reactions such as psychiatric and physical disorders occurring on or around the anniversary of the death (Renvoize & Jain, 1986). Bornstein and Clayton (1972) tested for an "anniversary reaction" in 92 widowed individuals through structured interviews 1 month after the death, and again 12 months later. The study found that 67% of participants experienced "mild" or "severe" reactions to the 1-year anniversary of the death of their spouse. Mild reactions were defined as those reactions lasting 1 day or less, including sad or lonely mood without crying, or with crying only at the church or grave. Severe reactions included low mood (described as being "miserable") and excessive crying in places other than the church or grave of their loved one, lasting for longer than 1 day (Bornstein & Clayton, 1972).

Despite these reports, very little research has been conducted into the occurrence of suicides on or around the anniversary of a loved one's death, and no recent research seems to have been reported on this topic. In an early study, Bunch and Barraclough (1971) predicted that more suicides than expected by chance would occur within 30 days either side of the anniversary of a parent's death. They studied the 52 suicides occurring in a 12-month period in the English counties of West Sussex and Portsmouth, and reported that there was no significant difference between the expected and actual number of deaths within 1 month from the anniversary of a mother's death. However, the difference between expected and actual numbers within 1 month of a father's death was significant. McMahon and Pugh (1965), in a study of the consequences of suicide bereavement, reported that suicides occurred more frequently in the first 4 years—and particularly in the first year—of widowhood for those widowed by suicide compared to those widowed by other causes. None of the suicide deaths occurred on the anniversary of a spouse's death, and only five occurred within 1 week of the anniversary, which was less than the 10 deaths to be expected by chance (MacMahon & Pugh, 1965).

The aim of the present study was to address the problem of limited recent research by evaluating the anniversary of a loved one's death as a risk factor for suicide.

METHOD

The Queensland Suicide Register (QSR) holds mortality data for all suicides across Queensland, Australia. The current project examined all suicide cases by residents from 1998 until 2008 to identify suicides that occurred around the anniversary of a loved one's death. In the 11-year interval examined, the QSR recorded a total of 6,541 cases. Of these, 526 cases had bereavement listed as a possible trigger for suicide. Nine of these cases were excluded because the bereavement involved the loss of a pet. Of the remaining 517 cases, 137 had the exact date of death of the loved one recorded in the available documents. For these cases, the number of days between the suicide and the anniversary of the death of their loved one was calculated. For suicides in the first year since the death of the

loved one, there was only one anniversary day but for those in later years there were two possible anniversaries, one past and one forthcoming. The date taken for the anniversary was the one that occurred closest to the date of the suicide. A further complication was that for those suicides in the first year of the loved one's death it was possible to have from 0 to 365 days between suicide and anniversary, 0 if the suicide occurred on the anniversary day and 365 if the suicide occurred on the day of the death. For subsequent anniversaries the maximum number of days between suicide and anniversary was 183. Suicides occurring within 183 days of the death were considered in relation to the death and the remainder were considered in relation to the anniversary.

RESULTS

Of the 137 suicides, 94 occurred within 1 year of the death of the loved. The average number of days from death to suicide for the sample was 220.5 days.

Of the 137 suicides studied, 97 (70.8%) were by males. The average age at time of death was 40.8 years. A total of 111 (81%) were Caucasian, 9 (6.6%) were Aboriginal or Torres Strait Islanders, and 2 (1.5%) were Asian. The ethnicity of the remainder could not be determined. Hanging was the most common method of suicide ($f = 69$, 50.4%), followed by carbon monoxide poisoning ($f = 27$, 19.7%), drug overdose ($f = 17$, 12.4%), firearms ($f = 10$, 7.3%), and fall from a height ($f = 6$, 4.3%). All other methods recorded fewer than five cases each.

The sex of the loved one was unknown in 39 cases (28.5%). Of the remainder, 46 (33.5%) were male and 52 (38%) were female. In 24 cases (17.5%) the loved one was a spouse, in 77 cases (56.2%) it was a family member, and in the remainder some other type of relationship was involved. For 47 cases (34.3%), the loved one died by suicide, while for 71 cases (51.8%) the loved one died by other causes. For the remaining 19 cases (13.9%), the cause of death was unknown.

Of the 137 suicides, 79 occurred within 183 days of the death of the loved one. Of these 79, 20 occurred within 5 days of the death and 39 occurred within the first 30 days of the death. The expected frequency, if the suicides were randomly distributed over six 30-day periods from the death, would be 13.2 per period. If a Poisson process is assumed, the probability of 39 deaths in the first 30 day period is unlikely (4.57×10^{-9}).

Of those suicide cases that occurred within 30 days of the actual death, 25 were male and 14 were female. The gender difference, when compared with that for suicides from 31 to 183 days of the death, was not statistically significant (Fisher's Exact Probability = .474). The median age of suicides within 30 days was 30 years compared to 42.7 years for those occurring from 31 to 183 days of the death. The difference was not statistically significant when tested by the median test ($p = .09$). Five of the 17 suicide cases that occurred within 30 days of the anniversary presented no information on the cause of death of the loved one. Of the remainder,

seven of the suicides involved death by suicide of the loved one, while five involved a death by other causes.

Of the 58 suicides that occurred more than 183 days after the death, 13 occurred within 5 days of an anniversary of the death and 17 occurred within 30 days. Using the binomial distribution to test the effect of an anniversary in the way used by Bunch and Barraclough (1971), the probability of obtaining 17 suicides within 30 days of an anniversary is .002.

For those suicides that occurred within 30 days of the anniversary ($n = 17$), 15 suicide deaths involved the anniversary of the death of a family member, while 2 involved the death of some other loved one (e.g., friend, work colleague). Interestingly, no deaths within 30 days of an anniversary involved the anniversary of the death of a spouse. All but two of the suicide deaths within 30 days of the anniversary were males. When compared with suicides occurring more than 30 days from the anniversary, the gender difference, however, was not statistically significant (Fisher's Exact Probability = .188). The median age for suicides within 30 days of the anniversary was 35.1 years and for those beyond 30 days was 40.5 years. The difference tested by the median test was not statistically significant ($p = .77$).

DISCUSSION

The loss of a loved one is a significant life event that might be expected to have some etiological significance for suicide. It is unclear if this influence may continue and increase at about the time of the anniversary of the death. The difficulties in providing answers to this question probably account for the dearth of relevant evidence. The incidental observations of McMahon and Pugh (1965) provided no evidence for an anniversary reaction, whereas the more systematic data collection of Bunch and Barraclough (1971) provided some support for it, at least in the case of death of a father. The present study has identified a remarkable number of suicides in the days following the loss, and a lower but still relevant incidence of suicide occurrences within 30 days of the anniversary.

Suicide has been shown to be sensitive to temporal events such as seasonality and day of the week. The anniversary of a loss is likely to engender memories of a loved one and associated emotions, as suggested by studies of anniversary reactions. That these may include suicide is strongly suggested by the present findings, which point to the need for increased vigilance by those in the bereaved person's social environment.

The loss that appeared to have the greatest impact around the anniversary was that of a family member (88%), while none of the suicide deaths around the anniversary involved a spouse. Finally, while the majority of the suicides in the overall sample occurred after the death of a loved one to other causes (52%), more suicides within 30 days of an anniversary involved the suicide of a loved one (41%) than a death by other causes (29%). This finding appears to be consistent

with previous research suggesting that the bereavement process after a death by suicide may differ from the bereavement process for other causes of death (Jordan, 2001).

When analyzing the effect of particular dates on deaths, there exists the possibility that “death heaping” can occur, when certain dates, particularly the 1st or the 15th are used in a database for missing data (Abel & Kruger, 2006). Abel and Kruger (2006) demonstrated this effect using United States Social Security Death Index data (SSDI). They showed that there was a statistically significant over-representation of deaths on these dates, consistent with a false association between significant days and dates of death (Abel & Kruger, 2006). Strength of the current study is the use of data from the QSR, which combines information from police forms and coroner’s reports to ascertain the date of death (recorded when police attend the incident). The QSR does not substitute a standard number when exact dates are missing. Instead cases were excluded where exact dates of death of a loved one were not available, and hence the possibility of “death heaping” in this study does not arise.

The study has several limitations. We must rely on the accuracy of the recording in the QRS of events that potentially triggered the suicide. Considerable efforts have gone into ensuring comprehensive and systematic recording but there is no guarantee that all cases in which bereavement was a potential trigger have been included. Second, the sample studied represents a sub-sample of a larger group who suffered loss and subsequently died by suicide. We had data on only 137 of 517 suicides where bereavement was a potential influence. It is possible that if data were available on date of bereavement for all members of this larger group, a different result would have been observed. However, there is no reason to expect that the availability of information on the date of the loss constituted a systematic bias able to affect the results. Nonetheless, a prospective study is clearly called for to attempt to replicate the present findings.

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