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Understanding suicide and suicidal behaviour in Northern Ireland

Understanding suicide

It is important to note that death by suicide is the outcome of a behaviour. The many academic theories of suicide available conceptualize this behaviour as a consequence of an interaction between a range of social and cognitive processes that, along with acquired capability (the means of completing suicide and the ability to carry out the act), result in death (Joiner, 2005; O'Connor, 2011). Mental illness is one of the strongest predictors of suicidal thoughts and behaviours, and death by suicide. High levels of mental disorders have been noted previously in the Northern Ireland (NI) population (Bunting, Murphy, O'Neill, & Ferry, 2012). Yet most people with mental disorders do not go on to die by suicide, and the analysis of service use prior to death by suicide in NI demonstrates that many of those who die by suicide are not known to mental health services (O'Neill, Corry, et al. 2014). Indeed many of those people who are suicidal do not consider that their difficulties are related to mental illness. In order to prevent suicide in NI and elsewhere, in keeping with the theories of suicide, we need to consider not only how we prevent and treat mental illness but also how we address the other factors that increase the likelihood of suicidal thoughts, plans and behaviours. The research evidence now demonstrates that these factors include negative life events, physical health, social connectedness, hopelessness, burdensomeness, isolation, and prior exposure to death and suicide (either directly or indirectly, through media reports). The studies presented here give us an understanding of the factors that are particularly important in NI and should inform suicide prevention policies in the region.

Study 1: Deaths by suicide

NI comprises a single coronial district and is currently the only region of the UK where coronial files have been examined to establish a database of deaths by suicide. This database therefore offers a unique opportunity to collate and examine demographic, psychological, and contextual factors at play prior to death by suicide. This study examined the characteristics of the deceased and the circumstances surrounding deaths by suicide in Northern Ireland from 2005 to 2011. The study analyzed 1,671 suicides (77% male and 23% female cases) using information contained from the coroner's files on suicides and those undetermined deaths which were probable suicides.

Study 2: Suicidal thoughts, plans and behaviour and mental illness in NI

In this study, data from the NI Study of Health and Stress (NISHS) was used to assess the associations between conflict- and non-conflict–related traumatic events and suicidal behaviour and mental disorders. Mental disorders and suicidal ideation, plans and attempts were assessed using the Composite International Diagnostic Interview in a representative sample of the general population (N=4,340, response rate 68.4%). The traumatic event categories were based on event types listed in the Post Traumatic Stress

Disorder section of the CIDI. This study was part of an international research programme, known as the World Mental Health Survey Initiative, involving over 30 countries, led by the World Health Organisation and Harvard University. The NI study was undertaken at Ulster University by Professors Bunting and O'Neill and Dr Sam Murphy.

Age and gender

Gender ratios for suicides were 3:1, 77% male and 23% female. Of these, gender proportions were similar in those under 19 years (9.3% and 7.9% respectively), while males demonstrated somewhat higher rates aged between 20 and 39 years. Female suicides were highest in those aged between 40 and 69 years. As such, this study confirms the gender differences in suicide rates and the international trends of high rates of suicide among middle-aged men (Snowcroft, 2013).

Previous attempts

The fact that over a third of those who died by suicide had a previous recorded suicide attempt indicates that attempt remains one of the biggest predictors of suicide and a related behaviour, self-harm, is highly prevalent in the UK and Ireland (O'Connor, Rasmussen & Hawton, 2014). Statistically significant gender differences were identified with regard to number of previous suicide attempts. Males were more likely to have made only one previous attempt relative to females (17.3% and 15.4%); with females having increased proportions of non-fatal attempts prior to death. The fact that women were more likely to have a history of suicide attempts, and had more recorded previous attempts than males again supports prior research, however it may also reflect women's′ increased tendency to report suicidal behaviour. In the general population study, women are more likely than men to report having seriously considered suicide (10.6% compared with 7%). Similar proportions of men and women report having made a plan for suicide. Women are also significantly more likely than men to make a suicide attempt (4.3% and 2.3%).

Policy implications: The current research indicates that whilst suicide prevention efforts typically target the young, the average age of the individuals in this population was 40 years and the rates of suicide were highest in those aged 20–50 years. The increased proportion of suicides among older women should not be neglected, nor should suicide prevention and mental health interventions for women generally. In order to identify the factors predicting future attempts among people who self-harm in NI, particularly for women, it is necessary to facilitate the maintenance of the suicide database and linkage of the suicide and self-harm databases.

Method of suicide

In NI hanging was the most common method of suicide, particularly among males, and among the younger age groups. This was followed by overdoses as the second most common method. The patterns of methods of suicide in NI are broadly similar to those reported for the UK. Whilst the gender breakdown of suicides in NI is almost the same as in the UK, the proportions of males who die by hanging in NI is higher (65% in NI, compared with 56% for the UK as a whole) (ONS, 2013). This may be a consequence of contagion effects (clusters and "copycat" suicides). It is important to note that the proportions of "narrative verdicts" vary across the regions in the UK thus affecting the comparability of the figures (ONS, 2013).

Policy implications: These findings highlight the need for continued vigilance of those who are at risk of suicide and consideration of the ways in which to restrict access to items that may be used as ligatures. In addition there is evidence that restricting access to detailed information about means of suicide, such as information from the internet about specific methods of hanging, may influence rates and methods used. The media reporting of methods used in high profile suicides has been shown to influence suicide methods in the period following the death (Suh, Chang, & Kim, 2015). This also suggests that efforts to restrict access to detailed information about hanging and other methods remains important and that the media have a central role to play in this regard.

Mental health, general health, and use of services prior to death by suicide

Overall, 69.5% of all those who died by suicide had a diagnosed health condition, which means that under a third (31%) of the deceased had no recorded condition at time of death. Combined physical and mental health conditions were recorded for 22% of the sample, a mental disorder only was recorded for 36% while 12% had only a recorded physical health condition. At 58%, the proportion of those with a recorded mental disorder is relatively low, particularly for males, when we consider that psychological autopsy studies

indicate rates of mental disorders of over 90% among those who die by suicide (Foster et al., 1997, Cavanagh et al., 2003 and Mann et al., 2005).

Women were significantly more likely than men to have a recorded health condition, women were also more likely than men to have only a mental health condition (39.1% vs.34.8%, respectively). Almost twice as many men had only a physical condition. In contrast, women were significantly more likely to have a combined mental and physical health disorders at the time of death. Age was a significant predictor of having all the health conditions. While there was no significant difference between males and females for physical disorders, women were more likely to have a mental disorder and almost twice as likely to have combined mental and physical disorders at time of death.

Women were most likely to present for services in the period up to 14 days before end of life, relative to men (18.2% vs. 23.9% respectively). A higher proportion of men had not utilised any service in the year prior to death (3.1% vs. 1.1%). Similarly, a statistically significant difference was found among for gender and use of secondary and tertiary services. Men were more likely not to progress beyond primary service level (52.6% of men compared with 41.8% of women). This gender difference in services used was also evident for tertiary care, with higher rates of use among females. Those aged over 40 years were more likely to engage with services in the week before death. The highest overall service presentations were recorded in those over 70 years (27%).

In keeping with the literature on gender and mental health service use (Kovess-Masfety et al., 2014), females were more likely to engage in help seeking behaviour, to receive referrals to secondary care, and to have a recorded mental disorder than males. Additionally, males were less likely to receive services beyond primary care. There are a number of possible explanations for this. There is a wealth of evidence to indicate that men are reluctant to disclose mental health concerns with their General Practitioner and other health care providers (Snowcroft, 2013). Men were more likely than women to have a physical health diagnosis only; however their physical conditions may in fact reflect the physical symptoms of an undiagnosed affective disorder. Contemporary theories of suicide view suicidal behaviour as goal directed, as a means of addressing pain and distress (Klonsky and May, 2014, Joiner, 2005 and O'Connor, 2011) and somatic symptoms are a key feature of depression. The patterns revealed in this study suggest that some men attended to the physical or somatic, symptoms of mental disorders such as depression or anxiety, rather than disclosing emotional distress or low mood. In addition, men may have been unwilling to recognise suicidal ideation as indicative of a mental health problem meriting disclosure. The study shows that primary care remains the most common health service used in the period prior to death by suicide. This finding concurs with other studies of service used prior to death by suicide (Luoma et al., 2002 and Pearson et al., 2009). Those with only mental disorders were more than twice as likely to have made primary care contact in the two weeks preceding death, while those with combined disorders were over four times more likely to have utilised services during this time. Being in contact with health services for physical illnesses in the last three months was associated with an increased likelihood of receiving help for mental-health problems.

Policy implications: This evidence, along with the high levels of mental disorders in NI (Bunting et al., 2013), and associations between conflict related trauma and suicidal behaviour (O'Neill et al., 2014), indicate a need for heightened consideration of the ways in which people with mental disorders are identified and treated in NI. With regards to suicide prevention specifically, it may be argued that service contact within the two weeks prior to suicide represents an opportunity for intervention if suicidal ideation is assessed by clinicians and ideation reported. However only one in five of those who died by suicide in this study (18.2% and 23.9% for males and females respectively) presented to health services during this period of time. In fact these results show that males had a tendency to disengage with services prior to death. Help-seeking should be therefore be promoted among those who are vulnerable to suicide. The apparent rates of undiagnosed disorders among those who died by suicide, particularly males, are a cause for concern. The research therefore supports efforts to raise awareness of the benefits of disclosing mental health difficulties and suicidal ideation. Efforts to reduce the stigma of mental disorder and recognition of suicidal ideation as indicative of disorder, particularly among males, are also to be welcomed.

Primary care continues to play an important role in suicide prevention and these findings add weight to the argument for enhanced screening for suicidal ideation in this setting. It remains important to strengthen clinicians' knowledge of specific manifestations of suicidal ideation which may or may not be identified by service users as related to mental health. The capacity of primary care services to provide services to people who are suicidal also requires examination, particularly since many deaths by suicide occur outside of General Practitioner surgery opening hours.

Alcohol and other substances

Alcohol and substance use has been implicated in suicide in terms of its association with impulsive behaviour and as comorbid mental disorders. There was evidence of alcohol in the systems of 56% of the deceased. However this is an underestimate because in certain cases, for example, death by drowning, it would not have been possible to assess postmortem alcohol levels. Males were more likely to have taken alcohol (46%) than females (33.9%). 44% of the deceased did not have alcohol present at the time of death, particularly those in older age categories (61.3% aged between 60 and 69 years, and 67.5% aged 70 years and over). Those aged between 20 and 29 years were less likely to have a zero blood/urine alcohol reading (36.3%) than other age cohorts. At least 8.2% of the deceased were known to have had difficulties with substance use. The rates of alcohol involvement in suicides in NI appear to be slightly higher than in the UK and other countries (Ness et al., 2014). There are numerous explanations for this pattern. Mental disorders are common in NI in comparison with the UK and other countries and at 14.1%, the rates of substance disorders are also high (Bunting et al., 2012). A proportion of the deceased would therefore have had substance disorders including alcohol addiction. Many would have used alcohol to deal with stress or manage mental health problems. In certain cases the impulsivity associated with the effects of alcohol intoxication may have contributed to the suicide. Alternatively, individuals may have taken alcohol to reduce the fear or pain associated with the suicidal act. Alcohol use is common in NI culture and the abuse of alcohol has widely been regarded as a way that the population has managed the stress and mental health effects of the conflict (Bunting et al., 2012).

Policy implications: Population alcohol and substance strategies are relevant to suicide prevention and efforts to address the harmful use of alcohol and other substances in the NI population may impact upon suicide rates.

Life events, employment and trauma exposure

In NI suicide rates have steadily increased over the past number of years, which has been partly attributed to the recent relative stability (Tomlinson, 2012). This is in keeping with Tomlinson's (2012) contention that the increased rates of suicide in NI since the peace agreements are a consequence of the decline in social cohesion and social connectedness which was characteristic of the conflict. The breakdown in social connectedness, along with exposure to violence and high levels of mental disorders may have promoted the increase in suicide rates. This can impact upon social connectedness and increase isolation in the marginalised and deprived population groups who have been exposed to violence. The possible link between suicide and the conflict is supported with the evidence of the role of the conflict in elevating the rates of mental disorders (Bunting et al., 2013 and Ferry et al., 2013) and the links between conflict related trauma and suicidal behaviour (O'Neill et al., 2014). It is believed that exposure to violence and trauma habituates the individual to pain and increases the likelihood of impulsive violent action against the self in response to stress. The cohort of people who were most at risk of suicide several decades ago continue to remain at risk as they grow older. In NI, this is the population who witnessed the years of the conflict when violence was at its peak.

61% of cases had recorded adverse events; most had multiple and complex combinations of experiences. Relationship and interpersonal difficulties were the most common category of adverse event (40.3%). This category included romantic relationships for those who were both married or co-habiting, dating relationships as well as peer relationships. However, illness and bereavement, employment /financial crisis, and health problems were also common. The death/illness category (12%) included the deaths or illnesses of, among others, spouse, family members and romantic partners. This category also included the deaths of others by suicide. The "Fears for own health" category (7.9%) included those with chronic health conditions, accidents, disability or a recent diagnosis. Financial/ employment crisis (12.8%) included reports of recent job loss or bankruptcy, debt worries and business failure or employment difficulties related to issues such as fear of redundancy and pending disciplinary action.

Aetiological theories of suicide acknowledge the role of life stress in leading to the development of suicide behaviours (Foster, 2011; O'Connor, 2011). Previous studies of suicide in NI have also highlighted the associations with stressful life events (O'Connor & Sheehy, 1997). In this study the types of life events that are associated with suicide are also those which are, in an indirect way, associated with mental disorders generally and the legacy of the conflict. Employment status is likely to represent one such factor since a litany of studies has demonstrated a link between unemployment (e.g. job loss or long term unemployment) and suicidality (Eliason & Storrie, 2009; Lundin & Hemmingsson, 2009; Schneider et al., 2011). This is particularly the case for males, and is reflected in this data which show us that at least half of those who died by suicide were known to be unemployed, and employment

related problems were recorded prior to the death in at least 5.1% of cases. Financial concerns, which were recorded in 5.3% of cases, may also be related to employment issues, or associated with debts.

Approximately 35% (N=583) of those who died by suicide were employed at time of death compared to 50.3% who were classified as unemployed (including unemployed, retired, student, homemaker). For the remainder of the sample, no information concerning the employment status of the deceased was available. Descriptive statistics relating to employment status, gender and mental disorders for individuals who were in employment at time of suicide in Northern Ireland are presented in Table 6. The mean age of deceased employees was 37.46 years (s.d.=12.5). Of those who were employed, males represented the highest proportion of suicides equating to 84% of the sample compared to 16% of female employee suicides, and the highest proportion were either married/cohabiting or single (40.8%, 40.3% respectively). Just over half (50.1%) had at least one mental disorder prior to death.

Policy implications: Suicide prevention initiatives should target those individuals affected by each category of adverse event (relationship difficulties, health problems, financial difficulties, employment difficulties, death and loss, and those people affected by traumatic events associated with the Troubles). These figures suggest a continuing need to direct suicide prevention efforts to those affected by the economic recession and to be cognisant of the potential impact of economic and social policy decisions on mental health and suicide rates. Epidemiologists should continue to monitor the associations between social and economic policies and suicide rates and monitor the cost effectiveness of public health interventions as suicide prevention initiatives.

Limitations and future research

Data on events prior to death tend to be unreliable owing to the reliance on secondary sources of evidence such as witness statements and medical reports. In an attempt to address these issues, the current study uses qualitative data from coronial files, based on a range of sources, to analyze the events prior to death by suicide in NI from 2005 to 2011. In common with the rest of the UK, the data on suicide in NI are subject to issues of data reliability, most prominent perhaps the delay between death and registration. Also problematic is the issue of determining cause of death; this ambiguity was addressed in 1968 with the inclusion of an ‘undetermined’ category whereby suicide is implied. In this study, both deaths categorised as suicide and undetermined deaths were examined in order to obtain a more accurate indicator of the characteristics of those who die by suicide. However there invariably remains a proportion of deaths by suicide which are not recorded in either category (Tomlinson, 2012). The data on marital status and mental and physical disorders were based on information recorded by police officers from relatives and other informants. Information on medical records was inconsistent and in some cases medical records were not available. As such, this study carries the risk of an under estimation of health disorders, related risk factors and history of service use. This key limitation highlights the need for improvement in the consistency of data collected following a death by suicide and where possible, clear protocols for the collection of detailed information following a death by probable suicide. In NI, as with other parts of the UK, out-of-hour suicide prevention initiatives are also provided by organisations such as “Lifeline” (a 24-h crisis helpline and counselling service for people who are suicidal) and other suicide helplines, such as the Samaritans. Contact with these organisations was not routinely included in the coronial records of the deceased and as such we have no consistent information on levels of contact with these services prior to death. Furthermore, there is evidence of a high risk of suicidal behaviour among gay and lesbian people in NI (O’Hara, 2012), however information on sexual orientation is not collected in the case of suicide deaths. The maintenance of an accurate and up to date database of information on suicide deaths is essential to enhancing our understanding of the factors influencing suicides in NI, the impact of social, economic and suicide prevention policies and the rapid identification of trends and patterns.