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Research paper

Loneliness, common mental disorders and suicidal behavior: Findings from a general population survey

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ABSTRACT

Background: Loneliness has been linked to an increased risk of engaging in suicidal behavior. To date, however, there has been comparatively little research on this in the general adult population, or on the role of common mental disorders (CMDs) in this association. The current study examined these associations using nationally representative data from England.
Methods: Data came from the Adult Psychiatric Morbidity Survey 2007. Information was obtained from 7403 household residents aged ≥16 years on perceived loneliness and lifetime and past 12-month suicide ideation and attempts. The Clinical Interview Schedule Revised (CIS-R) was used to assess six forms of CMD. Logistic regression analysis was used to examine these associations.
Results: Loneliness was associated with suicidal behavior. Although adjusting for CMDs attenuated associations, higher levels of loneliness were still significantly associated with suicidal ideation and suicide attempts with odds ratios (OR) for those in the most severe loneliness category ranging from 3.45 (lifetime suicide attempt) to 17.37 (past 12-month suicide attempt). Further analyses showed that ORs for suicidal behavior were similar for individuals who were lonely without CMDs, and for those respondents with CMDs who were not lonely. Lonely individuals with CMDs had especially elevated odds for suicidal ideation.
Limitations: This study used cross-sectional data and a single-item measure to obtain information on loneliness.
Conclusion: Loneliness is associated with suicidal behavior in the general adult population. This highlights the importance of efforts to reduce loneliness in order to mitigate its harmful effects on health and well-being.

1. Introduction

Loneliness is a distressing feeling arising from perceived deficiencies in one's social relationships (Hawkley and Cacioppo, 2010; Peplau and Perlman, 1982). Although common in contemporary society (Heinrich and Gullone, 2006), for most people, feeling lonely is a transient phenomenon (Qualter et al., 2015). For others, however, loneliness can be a prolonged condition that is associated with a variety of negative health outcomes (Hawkley and Cacioppo, 2010). In particular, research has linked loneliness to chronic physical conditions such as heart disease and hypertension (Petitte et al., 2015), and to common mental disorders such as anxiety and depression (Cacioppo et al., 2006; Heinrich and Gullone, 2006). The effects of loneliness may also extend beyond morbidity. There is growing evidence that lonely individuals may have an increased mortality risk (Luo et al., 2012) with a recent meta-analysis of prospective research studies revealing that lonely people had a 26% greater likelihood of dying during the studies' follow-up period compared to their non/less-lonely counterparts (Holt-Lunstad et al., 2015).

One mechanism that might link loneliness with an increased mortality risk is suicidal behavior. Studies that have interviewed relatives of individuals who have died as a result of suicide using both case-control and non-case-control designs have highlighted that loneliness is often an important factor preceding death (Heikkinen et al., 1994; Rubenowitz et al., 2001). Loneliness has also been categorized as one element in lower life satisfaction,

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which has itself been linked to an increased risk of suicide mortality across a 20-year period (Koivumaa-Honkanen et al., 2001). Research has also shown that there is a relation between being lonely and engaging in non-fatal suicidal behavior. Higher levels of loneliness have been reported for example, among hospitalized suicide attempters (Wiktorsson et al., 2010). Indeed, some evidence suggests that loneliness may be an important risk factor for suicidal behavior across the life course as studies among adolescents (Garnefski et al., 1992), middle-aged, and elderly adults (Li et al., in press; Miret et al., 2014) have all linked it to an increased risk for suicidal ideation and suicide attempts. The effects of loneliness also seem to impact across time as higher levels of loneliness in middle childhood have recently been associated longitudinally to later suicidal behavior (self harm/suicide attempts) at age 15 (Schinka et al., 2012).

Information on many aspects of the relation between loneliness and suicidal behavior nevertheless remains scarce. In particular, much of the research undertaken to date has been conducted among specific sub-populations such as adolescents, college students and the elderly, while there has been little focus on this specific topic in the general adult population. This is an important research gap as an earlier study undertaken in Quebec, Canada that used data from a Health Survey conducted in 1987 found that loneliness (i.e. feeling alone 'very often') was strongly associated with both suicide ideation and attempts (parasuicide) among the population aged 15 and above (Stravynski and Boyer, 2001). Determining if these associations also exist in a nationally representative population sample with more modern data may be especially important from a public health perspective, as recent cross-country research has revealed that not only are there many adults who report feeling lonely frequently (Stickley et al., 2013; Yang and Victor, 2011), but there is also some evidence that the prevalence of adult loneliness may be increasing in some countries (Cacioppo et al., 2015) possibly as a result of changes in living arrangements resulting from population aging, higher divorce rates, greater geographical mobility and smaller-sized families (Griffin, 2010).

Further, the role of psychiatric disorders in the association between loneliness and suicidal behavior also remains uncertain. Previous studies have produced conflicting findings. Taking depression as an example, although some research has shown that loneliness is important for suicidal behavior (attempts) independent of depression (Wiktorsson et al., 2010), other research has found that the relation is fully mediated by depression (ideation) (Lasgaard et al., 2011). Given the close association between loneliness and depression and other mental disorders (Cacioppo et al., 2006; Meltzer et al., 2013; Stickley et al., 2015) determining the nature of these associations more precisely and elucidating the independent and combined effects of loneliness and common mental disorders on suicidal behavior may have important implications in future attempts to reduce suicidal behavior.

Although a recent study from Spain did examine the association between suicidal behavior and loneliness in a national sample, the focus of that study was not specifically on loneliness, and there was no attempt to examine the specific way in which mental health affected the association between loneliness and suicidal behavior (Miret et al., 2014). Thus, the current study had two main aims: (1) to determine if loneliness is associated with suicidal behavior in the general adult population and whether this relation varies by the level of loneliness; (2) to examine the role of common mental disorders in this association.

2. Method

2.1. Participants

This study used data from the 2007 Adult Psychiatric Morbidity Survey (APMS). Full details of the survey have been provided elsewhere (McManus et al., 2009). In brief, the survey was administered by the National Center for Social Research and Leicester University during October 2006 to December 2007. The aim of the survey was to obtain a nationally representative sample of the English adult population aged 16 and above living in private households. Multistage stratified probability sampling was used with the sampling frame consisting of the small user Postcode Address File (PAF), and postcode sectors serving as the primary sampling units (PSUs). Sectors were stratified by (health authority) region and socio-economic groupings. From within each selected household, one person was randomly chosen to participate in the survey. Information was obtained from the respondents using computer-assisted personal interviews (CAPI) and computer-assisted self-interviews (CASI). The survey response rate was 57% with responses being obtained from 7461 of the 13,171 potentially eligible households. After excluding information provided by proxy respondents, the current study used data from 7403 persons. To ensure that the sample was representative of its intended target population (both in terms of the chance of being selected and non-response) sampling weights were generated. The Royal Free Hospital and Medical School Research Ethics Committee provided ethical approval for the survey with all participants providing informed consent.

2.2. Measures

2.2.1. Dependent variable

Suicidal behavior. In this study, suicidal behavior referred to suicidal ideation and suicide attempts (Nock et al., 2008). Information on suicidal ideation was obtained by asking, "Have you ever thought of taking your life, even if you would not really do it?" Attempted suicide was assessed with the question "Have you ever made an attempt to take your life, by taking an overdose of tablets or in some other way?" Those who answered affirmatively were subsequently asked if this had taken place in the previous 12 months.

2.2.2. Independent variables

Loneliness. This was assessed with an item from the Social Functioning Questionnaire (SFQ) (Tyrer et al., 2005). Respondents were asked to assess to what extent they had felt 'lonely and isolated from other people' in the past two weeks with the response options, very much, sometimes, not often and not at all. In the analyses that follow, these response options were examined as separate categories and also dichotomized with those who responded, sometimes and very much being categorized as lonely.

Common mental disorders. The Clinical Interview Schedule Revised (CIS-R) was used to assess six categories of common mental disorders (CMDs): depressive episode, mixed anxiety and depression, generalized anxiety disorder, panic disorder, phobia, and obsessive compulsive disorder. The CIS-R identifies the occurrence of non-psychotic symptoms in the past week to generate ICD-10 diagnoses. Participants who endorsed any of the six CMDs were categorized as having any CMD in the current study.

2.2.3. Other variables

Alcohol dependence. As previous research has indicated that hazardous alcohol use/abuse may be linked with loneliness (Stickley et al., 2013), common mental disorders (Gilman and Abraham, 2001) and suicidal behavior (Darvishi et al., 2015), in the