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Research report

Prevalence and risk factors for first onset of suicidal behaviors in the Netherlands Mental Health Survey and Incidence Study-2

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ABSTRACT

Background: To report lifetime prevalences of suicidal ideation, plans and attempts, as well as risk factors for first onset suicidal behaviours and for the transition from ideation to first onset plan or attempt.

Methods: Data were used from the Netherlands Mental Health Survey and Incidence Study-2 (NEMESIS-2), a nationally representative survey among the general population aged 18–64 years ($N=6646$; response rate=65.1%). Face-to-face interviews were administered between November 2007 and July 2009. Suicidal behaviours and DSM-IV mental disorders were assessed using the Composite International Diagnostic Interview 3.0.

Results: The lifetime prevalence of suicidal ideation, plan and attempt was 8.3%, 3.0% and 2.2%, respectively. Among ideators, the probability of ever making an attempt was 26.8%. 76.5% of transitions from ideation to attempt occurred within the first year after ideation onset. Risk factors for suicidal behaviours included being female, younger, less educated, having had childhood trauma and a prior mental disorder. The strongest risk factors for the transition from ideation to first onset attempt were characteristics of prior suicidal behaviours, such as an early age of ideation onset and prior plans.

Limitations: Data were based on retrospective self-reports of mental disorders and suicidal behaviours.

Conclusions: It is important that health professionals verify suicide plans of their patients with suicidal ideas. They should also discuss the way their patients deal with problems and the kind of help they need, because a substantial proportion of (first) attempts was not intended to kill oneself. Preventive measures are best offered within the first year after ideation onset.

1. Introduction

In 2009 we reported on incidence and course of suicidal ideation and suicide attempts in the general population, based on the first Netherlands Mental Health Survey and Incidence Study (NEMESIS-1) for which data were collected in 1996–1999 (ten Have et al., 2009). Incidence and course were assessed from the second wave onward over a 3-year period.

The merit of our first report on this subject (ten Have et al., 2009) was that it was one of the few studies worldwide which assessed incidence (Bronisch et al., 2005; Gunnell et al., 2004; Kuo et al., 2001, 2004) and course (Borges et al., 2008; De Leo et al., 2005; Gunnell et al., 2004) of suicidal behaviours in the general population as well as associated risk factors. However, a lot of questions remained, such as the age of onset of suicidal ideation, the speed of transition from first onset ideation to first onset attempt, and the extent to which suicide attempts are a cry for help without intention to kill oneself. NEMESIS-1 as well as other general population surveys performed in the nineties of the previous century were designed to study mental disorders rather than suicidal behaviours. With the rise of a new generation of psychiatric surveys from the present century onward using the Composite International Diagnostic Interview (CIDI) version 3.0, which included more questions on suicidal behaviours and considered these as a separate problem area and not just a symptom of major depression which was the case in earlier CIDI versions, it became possible to study characteristics and risk factors for first onset suicidal behaviours in more depth.

Two important papers based on these new generation surveys carried out in 17 (Nock et al., 2008a) and 21 (Nock et al., 2009) countries around the world participating in the World Mental Health (WMH) Survey Initiative, showed that the estimated life-time prevalence of suicidal ideation, plan and attempt in the overall cross-national sample was 9.2% (from 3.1% in China to 15.9% in New Zealand), 3.1% (from 0.7% in Italy to 5.6% in New Zealand) and 2.7% (from 0.5% in Italy to 5.0% in the US), respectively (Nock et al., 2008a). Among suicide ideators, the conditional probability of ever making a suicide attempt was

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29.0% (from 17.0% in Japan to 46.4% in Lebanon) (Nock et al., 2008a). Across all countries, about 60% (from 60.5% in Israel to 94.0% in Italy) of transitions from ideation to plan and attempt occurred within the first year after ideation onset. Risk factors for suicidal behaviours included being female, younger, less educated, unmarried, having had childhood adversities (Bruffaerts et al., 2010) and a mental disorder. The strongest diagnostic risk factors were mood disorders in high-income countries and impulse control disorders in low- and middle-income countries (Nock et al., 2008a). Mental disorders were more powerful in predicting the onset of suicidal ideation rather than the transition from ideation to attempt. Disorders characterized by anxiety and poor impulse control (especially bipolar, conduct and substance use disorders) emerged as the strongest predictors of which suicide ideators go on to make a suicide plan or attempt (Nock et al., 2009, 2010). Female gender and being unemployed were also associated with a higher risk of acting on suicidal ideas (Bernal et al., 2007).

In six out of the ten WMH surveys performed in high-income countries some important disorders were not adequately assessed owing to skip logic errors, such as bipolar disorder and substance use disorders (Demyttenaere et al., 2004). These exclusions are unfortunate because research clearly indicates that these disorders are strongly associated with suicidal behaviours. Another limitation is that half of these surveys performed in high-income countries had a response rate below 60% (Nock et al., 2008a) and had rather small samples (less than 3600) which makes it difficult to study low incidence behaviours such as suicidal behaviours using country-specific data.

An issue which has not been studied extensively before is the extent to which mental disorders are still associated with first onset suicidal behaviours after the influence of childhood trauma is taken into account. More insight into this issue could give us some insight into possible mechanisms through which people come to think about suicide.

In this paper data from the Netherlands Mental Health Survey and Incidence Study-2 (NEMESIS-2), a nationally representative survey among the general population aged 18–64 years were used to replicate and expand existing knowledge by studying characteristics and risk factors for suicidal behaviours. Specifically, we report (a) lifetime prevalence rates and mean ages of onset of suicidal ideation, plan and attempt as well as the conditional probabilities and mean ages of onset of ever making a suicide plan or attempt among ideators (b) the contributions of sociodemographic factors, childhood trauma, mental disorders and characteristics of prior suicidal behaviours for the first onset of suicidal behaviours and for the transition from ideation to plan or attempt.

2. Methods

NEMESIS-2 is a psychiatric epidemiologic survey in the Dutch general population aged 18 to 64 years. It is based on a multistage, stratified random sampling procedure of households, with one respondent randomly selected in each household. This resulted in a total sample of 6646 respondents (response rate 65.1%). This sample was nationally representative, although younger subjects were somewhat underrepresented (De Graaf et al., 2010). In the sample 7.3% was 18–24 years of age. In the population 13.1% was 18–24 years of age.

The interviews (average duration of 95 min) were laptop computer-assisted and almost all were held at the respondent's home. The fieldwork was performed from November 2007 to July 2009.

The study was approved by a medical ethics committee. After having been informed about the study aims, respondents provided written informed consent. For a more detailed description of the design and fieldwork, see De Graaf et al., 2010.

2.1. Diagnostic instrument

DSM-IV diagnoses were made using the CIDI 3.0, a fully structured lay-administered diagnostic interview. This instrument was developed and adapted for use in the WMH Survey Initiative (Kessler and Üstun, 2004).

In the Netherlands, the CIDI 3.0 was first used in the European Study on the Epidemiology of Mental Disorders (ESEMeD), which is part of this initiative. The CIDI 3.0 version used in NEMESIS-2 was an improvement of the one used in the Dutch ESEMeD study.

The disorders considered in this study include: mood disorders (major depression, dysthymia, bipolar disorder), anxiety disorders (panic disorder, agoraphobia without panic disorder, social phobia, specific phobia, generalized anxiety disorder (GAD)), substance use disorders (alcohol/drug abuse and dependence) and impulse control disorders (attention-deficit/hyperactivity disorder (ADHD), conduct disorder, oppositional defiant disorder (ODD)). All disorders were assessed among all respondents, except impulse control disorders which were limited to respondents aged 18–44 because of concerns about recall bias in older respondents (Kessler et al., 2007).

Clinical calibration studies in various countries (Haro et al., 2006) found that the CIDI 3.0 assesses mood, anxiety and substance use disorders with generally good validity in comparison to blinded clinical reappraisal interviews. The retrospective assessment of childhood ADHD was based on the Diagnostic Interview Schedule (DIS) for DSM-IV (Robins et al., 1995). A clinical reappraisal interview carried out in a subsample of the National Comorbidity Survey Replication (NCS-R) using the ADHD Rating Scale (DuPaul et al., 1998) found a strong association between DIS questions and clinical diagnoses of ADHD (in childhood with or without adult persistence) (Fayyad et al., 2007), indicating a valid assessment of ADHD with the CIDI 3.0.

Lifetime prevalence and age of onset were assessed for each disorder.

2.2. Suicidal behaviours

Suicidal behaviours were assessed with the Suicidality Module of the CIDI 3.0. Respondents were asked about lifetime experiences of suicidal ideation (''Have you ever seriously thought about committing suicide?''), suicide plans (''Have you ever made a plan for committing suicide?'') and suicide attempts (''Have you ever attempted suicide?''). To increase reporting the experiences were not mentioned but listed in a booklet and referred to by number (Events A, B, and C). Respondents were asked whether each experience ever happened to them and, if so, how old they were the first time (onset) and the last time (recency) they experienced this. Those who reported Event C (a suicide attempt) were presented with three statements and asked to identify the one that best described their experience: (1) I made a serious attempt to kill myself and it was only luck that I did not succeed; (2) I tried to kill myself but I knew the method was not fool-proof; (3) My attempt was a cry for help, I did not want to die.

2.3. Risk factors of suicidal behaviours

The correlates included in this study are: sociodemographic variables (sex, age, education), childhood trauma (whether before age 16 years one had experienced emotional neglect, psychological abuse, or physical abuse on two or more occasions, sexual