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Research report

Family history of suicide and exposure to interpersonal violence in childhood predict suicide in male suicide attempters

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ABSTRACT

Background: Family studies, including twin and adoption designs, have shown familial transmission of suicidal behaviors. Early environmental risk factors have an important role in the etiology of suicidal behavior. The aim of the present study was to assess the impact of family history of suicide and childhood trauma on suicide risk and on severity of suicide attempt in suicide attempters.
Methods: A total of 181 suicide attempters were included. Family history of suicide was assessed with the Karolinska Suicide History Interview or through patient records. Childhood trauma was assessed with the Karolinska Interpersonal Violence Scale (KIVS) measuring exposure to violence and expressed violent behavior in childhood (between 6 and 14 years of age) and during adult life (15 years or older). Suicide intent was measured with the Freeman scale.
Results: Male suicide attempters with a positive family history of suicide made more serious and well planned suicide attempts and had a significantly higher suicide risk. In logistic regression, family history of suicide and exposure to interpersonal violence as a child were independent predictors of suicide in male suicide attempters.
Limitations: The information about family history of suicide and exposure to interpersonal violence as a child derives from the patients only. In the first part of the inclusion period the information was collected from patient records.
Conclusions: The results of this study imply that suicides among those at biological risk might be prevented with the early recognition of environmental risks.

1. Introduction

Despite persistent international research on the etiology of suicidality, suicide and suicide attempts remain as global health problems. Suicide is one of the leading causes of death worldwide. According to the estimates made by World Health Organisation (WHO), (2004), up to a million people commit suicide every year. In their prognosis for 2020, the figure will rise to 1.5 million. Rates of suicide vary between countries, ethnic groups, gender and ages (Hawton and van Heeringen, 2009). There are numerous factors involved in suicidal behavior: familial transmission; genetic predisposition and traumatic childhood experiences are examples of risk factors that influence suicidal behavior (Hawton and van Heeringen, 2009). With few exceptions, completed suicide is more frequent in men and elderly in every part of the world, whereas suicide attempts are more frequent among women and in the younger ages (Voracek and Loibl, 2007).

Consistent findings from more than 20 controlled family studies focusing on family history of suicide and suicide attempt show that the relative risk for suicidal behavior increases 5 times in progeny relatives (Baldessarini and Hennen, 2004). Several family and twin studies support the notion of higher rates of both completed suicide and suicide attempts in relatives of suicide completers (Brent and Mann, 2005). The familial transmission is not solely dependent on the existence of a psychiatric disorder (Brent and Melhem, 2008; Tidemalm et al., 2011). Biological, social and psychological factors are all contributing to suicidality within an individual (Caspi et al., 2003; Fu et al., 2002). Genetic and environmental influences have been shown to increase the risk of suicidal behavior in first degree relatives (Tidemalm et al., 2011).

In a recent epidemiological study, Wilcox et al. (2012) found that childhood environment in the form of psychiatric hospitalization of adoptive mother affects the risk of future suicide attempts in adoptees with genetic predisposition for suicidal behavior. Another environmental influence on suicidal behavior is childhood trauma in the form of exposure to violence on a continuous basis. Individuals exposed to physical abuse or violent sexual abuse during childhood have a significant higher incidence

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of suicide attempts and suicide (Joiner et al., 2007; Jokinen et al., 2010).

In the present study, we assessed the impact of family history of suicide on severity of index suicide attempt. Further, we investigated the impact of family history of suicide and exposure to interpersonal violence as a child on suicide risk in suicide attempters. We hypothesized that suicide attempters with a family history of suicide make more severe suicide attempts and that suicide attempters with a family history of suicide and exposure to interpersonal violence in childhood run an increased risk for completed suicide.

2. Methods

2.1. Study setting

Patients having their clinical follow-up after a suicide attempt at the Suicide Prevention Clinic at Karolinska University Hospital were proposed to participate in two cohort studies observing biological and psychological factors for suicidal behavior. Enrollment took place between 1993 and 2005. The Regional Ethical Review Board in Stockholm approved the study protocols (Dnr 93-211 & Dnr 00-194) and participants gave their written informed consent.

2.2. Participants

The participants in the two cohort studies consisted of 181 suicide attempters, 81 and 100 respectively, receiving follow-up treatment at Karolinska University Hospital after a recent suicide attempt. 113 were women and 68 were men. Inclusion criteria were a recent suicide attempt, the ability of verbal and written communication in Swedish, and an age of 18 years or older. Suicide attempt was defined as any non-fatal, self-injurious behavior with some intent to die within the last four weeks. Exclusion criteria were schizophrenia spectrum psychosis, dementia, mental retardation and intravenous drug abuse. Flowchart shows number of patients in the two cohorts, assessment of family history of suicide and missing data.