



Research report

Can early follow-up after deliberate self-harm reduce repetition? A prospective study of 325 patients



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ABSTRACT

Background: Patients who deliberately harm themselves often repeat their self-destructive acts. The objective of this study was to assess whether a follow-up visit within 10 days to a psychiatric consultant could reduce the frequency of repeated deliberate self-harm (DSH).

Methods: A cohort of 325 consecutive DSH patients attending two large emergency departments in Stockholm, Sweden, were included and followed for 6 months. Any visit to a psychiatric consultant within 10 days was registered as an early follow-up. Repeated DSH episode within 6 months among the 325 patients was detected via nationwide registers.

Main outcome measure: Repeated DSH within 6 months.

Results: At 6 months follow-up 22 (24%) of 92 patients with an early follow-up had repeated their DSH acts compared to 58 (25%) of 233 patients without an early follow-up (OR 1.06 (95% CI: 0.60–1.85) *p*-value 0.85). After adjustment for possible confounders, multivariable analysis showed an OR of 1.22 (95% CI: 0.62–2.38, *p*-value 0.56).

Limitations: Early follow-up was registered as any visit to a psychiatric consultant and no information regarding actions taken at the visit were obtained.

Conclusion: After adjusting for other factors associated with repetition there was an association of patients who were offered and thereafter attended an early follow-up visit and a decreased risk of repeated DSH.

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1. Introduction

There is a well-known association between deliberate self-harm (DSH) and suicide where an attendance to an emergency department (ED) due to DSH increases the risk of subsequent suicide (Bergen et al., 2012; Crandall et al., 2006; Sinclair et al., 2010). Due to EDs being in the frontline of treating a large number of DSH patients they play an important role in suicide prevention and thereby also in preventing repetition of DSH (Bridge et al., 2012; Ting et al., 2012).

Previous studies have shown that repetition rates of DSH are very high within the first year yet still increased for a longer period of

time which results in a high strain on emergency departments (EDs) and could also indicate failure to provide adequate care for DSH patients (Vagnhammar, 2006; Zahl and Hawton, 2004).

Having a previous DSH episode and an on-going psychiatric treatment are strong predictive factors for repeated DSH and can be used to identify patients at higher risk of repetition. These factors together with other predictive factors for repeated DSH have been used to develop clinical tools (clinical decision rules) to facilitate assessment of DSH patients in the ED (Bilen et al., 2013; Steeg et al., 2012).

Guidelines, as well as previous studies, underline the importance of psychiatric and psychosocial assessment at the DSH episode but there is still a lack of conclusive evidence regarding treatment strategies to prevent repetition (Bergen et al., 2010; NICE, 2011). Intervention studies with problem solving therapy (cognitive behavioural therapy, dialectical behavioural therapy) approaches have indicated reduction of repeated DSH but a recent

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Danish randomized controlled trial with assertive intervention after DSH showed no significant effect on subsequent DSH (Brown et al., 2005; McAuliffe et al., 2006; Morthorst et al., 2012; Slee et al., 2008).

Studies with simple contact-type interventions have also shown trends towards reduced repetition rates although more often with non-statistical significance and with an inconsistency of results between different studies (Daigle et al., 2011; Kapur et al., 2010).

The time period immediately after an episode of DSH poses the highest risk of completed suicide and a repeated episode of DSH, which implies the importance of early follow-up of DSH patients (Bilen et al., 2011; Christiansen and Jensen, 2007).

We have in a recent study prospectively validated if a clinical decision rule can be used to predict DSH repetition (Bilén et al., 2013).

1.1. Aims of the study

The main aim of this study, based on the same study population, was to investigate if an early follow-up within 10 days with a psychiatric consultant could reduce the repetition rate among patients attending the ED due to DSH. Secondary aim was to investigate if patients with a higher risk of repeating their DSH actions, according to clinical decision rules, received an early follow-up visit.

2. Materials and methods

2.1. Study population

The study population consisted of the same individuals as in the recently published study on predicting DSH repetition (Bilén et al., 2013). In brief, patients aged 18 years and older attending the emergency department of Södersjukhuset or the emergency department of Karolinska University Hospital Huddinge (both large university hospitals in the capital of Sweden) due to DSH were included and followed over a 6 months period.

In the EDs the physician taking care of the patient filled in a form including factors previously shown to be of predictive value for repeated DSH (previous DSH, current or previous psychiatric contact, admission to psychiatric care at index, antidepressant treatment and if benzodiazepines was used when self-poisoning) (Bilen et al., 2013; Cooper et al., 2006). The inclusion of patients in this study started March 22, 2011 and ended June 30, 2011. Each patient's first attendance due to a DSH during the study period was defined as the index episode.

To ensure inclusion of all DSH patients the emergency records (containing information regarding main reason for attending the ED) at Södersjukhuset were examined. Due to no searchable computerized emergency records being available at Karolinska University Hospital Huddinge, all referrals from somatic care to psychiatric care were examined at this hospital.

Patients using any DSH method were included: self-poisoning, self-injury and other methods (attempting hanging, strangulation or suffocation etc.). Self-poisoning defined as an intentional self-administration of more than a prescribed dose of any drug or substance. Self-injury defined as any injury which has been deliberately self-inflicted. The motives that may be involved in DSH vary and the definition used in this study included all DSH acts regardless of intention (Kapur, 2009).

Residents of Sweden are included in the National Registry under a unique personal identification number allocated at birth or on receiving a residence permit. Each visit to an ED, admission to hospital or open care contact is recorded with the patient's personal identification number, enabling automatic and accurate record linkages. The registers of Statistics Sweden and The National Board

of Health and Welfare are also linked by the personal identification number.

Use of the International Classification of Diseases (ICD-10) by both somatic and psychiatric care units made it possible to identify new DSH nationwide using the ICD-10 codes X60–X84 (WHO, 2007).

All data was anonymous and all analyses were performed in the anonymous dataset which ensured that no patient could be identified at an individual level.

2.2. Baseline characteristics

We collected data from hospital charts (medical and psychiatric history and examination) using a structured protocol. The protocol included method of DSH, severity of DSH act, any psychiatric diagnosis, admission to somatic or psychiatric care after the DSH episode and sociodemographic factors. Severity of the DSH act was classified as low if the patient had taken less than 10 tablets or had a very superficial self-injury, as moderate if more than 10 tablets but less than 100 tablets had been taken or if the self-injury was handled only in the ED and as high if more than 100 tablets or a lethal drug had been taken or if the self-injury required operation in an operating theatre. We defined for example warfarin and insulin as lethal drugs.

We recorded whether or not the patients were offered and attended a follow-up visit with a consultant at any psychiatric care unit within 10 days by searching data hospital charts. In Stockholm, Sweden the majority of the hospitals and open care units use computerized hospital charts that are connected which made it possible to identify follow-up visits not only at the hospital where the patient was treated at index episode but also with-in all units of the Stockholm region.

The manual data collection from hospital charts was performed by one of the authors (KB).

2.3. Prediction of high risk patients

To investigate if patients at higher risk of repeating DSH were seen at an early follow-up or not we used two clinical decision rules, Södersjukhuset Self-harm Rule (SoS-4) and Manchester Self-Harm Rule (MSHR) to classify the patients being at moderate/high risk of repeating their DSH actions (Cooper et al., 2006). The MSHR uses four clinical correlates to predict repetition: history of self-harm, previous psychiatric treatment, benzodiazepine used in the attempt, and current psychiatric treatment. The SoS-4 uses five clinical correlates: gender, antidepressant treatment, any history of self-harm, admission to psychiatric clinic and current psychiatric treatment. The clinical correlates of both rules were obtained from the form filled out by the physician treating the patient in the ED. The clinical decision rules have been developed and validated in our previous studies (Bilén et al., 2013; Bilen et al., 2013).

2.4. Main outcome measure

Our main outcome was repeated DSH within 6 months after the index episode. We identified repetition of DSH from the records of the National Board of Health and Welfare, thus providing for our material a nationwide follow-up.

2.5. Statistical analysis

Sample size was calculated to be a total of 200 patients (100 in each group) to detect a 15 percentage point difference (specifically 25% vs. 10%) in repeated DSH between the two groups (early follow-up and no early follow-up) with 80% power, two sided

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