



## Research paper

# Combination of self-harm methods and fatal and non-fatal repetition: A cohort study



Jacqueline Birtwistle, Rachael Kelley, Allan House, David Owens\*

Institute of Health Sciences, School of Medicine, University of Leeds, United Kingdom

## ARTICLE INFO

**Keywords:**  
Self-harm  
Suicide  
Cohort study [or longitudinal study]

## ABSTRACT

**Background:** Assessment and aftercare for people who self-harm needs to be related to an understanding of risks of adverse outcomes. We aimed to determine whether self-harm by a combination of methods and its early repetition are associated with adverse outcomes – especially non-fatal repetition and suicide.

**Method:** 10,829 consecutive general hospital attendances due to self-harm in one large English city were monitored, through scrutiny of Emergency Department attendances, over three years and followed up to determine the incidence of non-fatal repetition. Subsequent deaths, by any cause and by suicide, were determined from national statistical records.

**Results:** 6155 patients accounted for the 10,829 episodes: 72% by self-poisoning, 21% self-injury, and 746 episodes (7%) due to a combination of methods. After a combined-methods index episode, non-fatal repetition ( $P=0.001$ ) and suicide ( $P=0.002$ ) occurred sooner and more frequently than it did among those who had self-poisoned. Further hospital attendance due to self-harm within a month was associated with a 3.7-fold (95% CI 2.1–6.4) risk of subsequent suicide.

**Limitations:** The data exclude self-harm episodes that do not result in a hospital attendance. Index episodes in the study are not generally life-time first episodes so follow-up data are based on an arbitrary start-point. Both of these limitations are common to all studies of this kind.

**Conclusions:** At psychosocial assessment and the making of aftercare arrangements, combined methods of self-harm or another recent episode should be considered ‘red-flag’ indicators for attention to care.

## 1. Introduction

NICE guidance (Nice, 2004) and much empirical evidence (Hawton, 2000; Gunnell et al., 2005; Bergen 2012a, 2012b) indicate that clinical staff should undertake psychosocial assessment, and set up aftercare when appropriate, for all patients who come to hospital because of self-harm – regardless of the method of self-harm at that episode. It is, however, a consistent observation that, compared with those who have attended hospital because of self-poisoning, people who attend due to self-injury are much less likely to receive adequate psychosocial assessment and ensuing aftercare. One reason for this state of affairs is almost certainly the widespread but erroneous belief that self-injury is not a suicide risk (Grandclerc et al., 2016) – self-injury is, in fact, associated with higher rates of subsequent non-fatal and fatal repetition of self-harm (Bennewith et al., 2005; Cooper et al., 2005; Lilley et al., 2008; Bergen et al., 2012a; Hawton et al., 2012; Carroll et al., 2014).

Here we have investigated two fairly common categories of self-harm method that go beyond the simple self-poisoning/self-injury

dichotomy: combined self-poisoning and self-injury (usually self-cutting) on the same occasion, and acts that represent rapid repetition of non-fatal self-harm following a recent episode. Our aim is to explore the relation between self-harm method and risk, with the expectation that a better understanding of any associations will help those most in need to receive robust assessment and aftercare.

Monitoring studies in the UK and in Ireland (Lilley et al., 2008; Perry et al., 2012) have found high non-fatal repetition rates among those attending because of combined poisoning and injury, and two studies have pointed to a high long-term risk of suicide (Owens et al., 2005; Bergen et al., 2012b). Non-fatal repetition has been observed too to have an association with suicide (Zahl and Hawton, 2004; Haw et al., 2007; Bergen et al., 2012a). We have used a large consecutive series of episodes at the two general hospitals in one large UK city to determine whether we can confirm, first, that there is a significant excess of non-fatal and fatal repetition of self-harm after an index episode in which self-poisoning and self-injury were undertaken in combination with one another and, second, whether early non-fatal repetition is associated with subsequent suicide.

\* Corresponding author.

E-mail address: [d.w.owens@leeds.ac.uk](mailto:d.w.owens@leeds.ac.uk) (D. Owens).

<http://dx.doi.org/10.1016/j.jad.2017.04.027>

Received 24 October 2016; Received in revised form 16 February 2017; Accepted 19 April 2017

Available online 27 April 2017

0165-0327/ © 2017 Published by Elsevier B.V.

## 2. Method

### 2.1. Setting and sample

The study was undertaken in the two general hospitals in Leeds, one of the UK's largest cities. At the time of the initial sample the two emergency departments, the only ones in the city or surrounding metropolitan area, each functioned as a general emergency department (ED) – one in the city's East and one in the city centre, both subject to high throughput of patients who had self-harmed, and dealing respectively with 55% and 45% of the study sample. Data were collected on all patients aged 12 years or above who presented with self-harm to a Leeds ED for the 3-year period 1st October 2004 to 30th September 2007. The data were collected at a time when Leeds was part of the Multicentre Monitoring project for self-harm in England (Hawton et al., 2007) and procedure was as described in publications about that project (Bergen et al., 2010). Self-harm was defined as intentional self-poisoning or self-injury, irrespective of motivation (Hawton et al., 2003; National Collaborating Centre for Mental Health, 2012). Also included were acts of poisoning with non-ingestible substances, and intentional overdoses of 'recreational' drugs; severe alcohol intoxication was designated self-poisoning on a few occasions when case notes clearly recorded that self-harm was the intention. Self-injury was defined as any injury that was intentionally self-inflicted; it included self-cutting, attempted hanging, jumping from a height, burning, swallowing foreign bodies, gas inhalation, and a few traffic related injuries. Once booked in at the ED reception desk, all patients identified as attending due to self-harm were included, whether or not they stayed to complete their treatment in the ED. The study population and sample therefore included patients who were admitted from the ED to a general or psychiatric hospital, and those discharged directly from the ED. For any index hospital episode in which the person arrived alive but died within the next seven days, we examined the records to check that death was not a direct consequence of the self-harm episode that led to the index admission; one person (who died on the day of admission) was excluded in this way.

### 2.2. Data collection and analysis

To identify all episodes of self-harm and ensure comprehensive data collection, research staff scrutinised ED records, psychiatric referrals, medical records, and other sources soon after each patient had attended the hospital. The ED computer systems were searched using over-inclusive terms, such as "psychiatric", "behaving strangely", "lacerations", or "appears drunk", as well as more specific coding terms related to self-poisoning and self-injury, and the corresponding paper records were then examined. This search resulted in scrutiny of many cases where the presenting problem did not indicate self-harm but, by this method, led to inclusion of cases of self-harm in which there was no referral for a psychosocial assessment – cases often missed in published self-harm research. Identifying self-harm episodes using this system is of proven reliability (Sellar et al., 1990) and its use in our study is described in more detail elsewhere (Horrocks et al., 2004; Hawton et al., 2007). The monitoring of self-harm episodes and later collection of mortality data (see below) was approved by the Local Research Ethical Committee. The monitoring process was fully compliant with the Data Protection Act of 1998 and had approval under Section 251 of the NHS Act 2006 (formerly Section 60, Health and Social Care Act 2001) to collect patient-identifiable information.

Data collected for this study included gender, age, date and time of self-harm, method of self-harm (including drugs used in self-poisoning and type of self-injury), alcohol involvement, previous mental health care and self-harm, admission to the general hospital, and psychosocial assessment. We have made clear in the analysis (below) when data were unavailable from clinical records, unless the numbers missing were too few to be important: unfortunately, ED records often fail to record

information such as the patient's current and past contact with mental health services. Data on various demographic and clinical variables were compared according to which of four broad categories of self-harm method was used: self-poisoning, self-cutting, self-injury other than by cutting, and methods involving combinations of self-poisoning and self-injury.

We defined *combined* self-poisoning and self-injury when the patient reported having done both as part of a single act that led to the index presentation, even when that act might have taken place over several hours or even over two consecutive days. We defined *rapid non-fatal repetition* in two ways, as re-presentation to hospital within one week or four weeks of an index episode.

#### 2.2.1. Mortality data

In a data linkage process the UK's National Health Service (NHS) Information Centre, now NHS Digital, matched the people from the self-harm monitoring study with any registrations of death held by the Office for National Statistics (ONS) in England and Wales, and with an equivalent system in Scotland. Individuals were matched on first name, surname, date of birth, gender, NHS number where available (in around 40% of our sample), and last known postcode where available. Mortality was determined for the sample until the census date of 31 August 2011. Death, from any cause and specifically for probable suicide, was used as a further outcome variable in our analyses. Many deaths of undetermined intent are probably suicides and, as a consequence, in suicide research and suicide prevention policy in the UK it has become conventional to combine suicides with deaths that were of undetermined intent and where an "open" verdict has been assigned by the Coroner; as with usual practice, this category is hereafter called 'suicide' (Linsley et al., 2001; Department of Health, 2002). A few deaths were the subject of coroners' "narrative verdicts", where the coroner sets out the circumstances of the death in a detailed way but does not otherwise categorise the verdict. In our study there were eight such verdicts, each accompanied by a cause-of-death code that was applied by the ONS from the narrative account. Only one of these narrative verdicts was assigned a suicide code; it is included with the suicides in the analysis below. The other seven narrative-verdict deaths are included and analysed in our category of "death other than by suicide".

#### 2.2.2. Analysis

Differences between groups were explored using chi squared tests (when there were more than two groups). The patients were subject to variable length of follow-up: from 1 day to 36 months for non-fatal repetition; and from 1 day to 71 months for fatal repetition. Taking account of the variable time at risk of repeating, we plotted Kaplan-Meier survival curves with hazard ratios (and 95% confidence intervals) and log rank tests, as appropriate, to identify differences in repetition related to methods of self-harm; Cox regression was used to adjust some variables for gender and for age (included in the model as a metric variable, in years) at the index episode. For the analysis we used SPSS version 21.

## 3. Results

The 6155 people, 58% female and 42% male, undertook 10,829 episodes of self-harm leading to hospital attendance. The present investigation focusses on method of harm, particularly combined methods on the same occasion. During the three years of hospital monitoring, self-poisoning was the commonest form of harm but many episodes (2998/10,829, 28%) involved self-injury, 746 of them (7% of all episodes) using combined methods; Table 1 sets out characteristics of the study episodes according to four categories of self-harm – poisoning, cutting, injury other than by cutting, and combined methods (using more than one method on the same occasion). Two-thirds of the combined methods (492/746, 66%) involved poisoning combined with

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات