



# Severity of suicidal intent, method and behaviour antecedent to an act of self-harm: A cross sectional study of survivors of self-harm referred to a tertiary hospital in Mysore, south India



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## ABSTRACT

**Background:** Rates of self harm are high in south India, but little is known about the relationship between antecedent behaviour, suicidal intent and method.

**Aims:** To identify clinical, social and behavioural antecedents preceding an act of self-harm.

**Methods:** 200 participants, consecutively presenting with deliberate self harm to a hospital in south India, were interviewed. Socio-demographic and clinical characteristics were recorded, together with behaviours preceding self-harm. The Pierce Suicidal Intent Scale and Mini International Neuropsychiatric Inventory were administered.

**Results:** Pesticide poisoning was the most common method, especially amongst men, in rural areas, and amongst professionals. No particular antecedent behaviour or activity appears to be associated with higher levels of suicidal intent. Absenteeism from work was the most commonly reported change of behaviour in the month preceding an act of self-harm. Unskilled labourers and professionals had significantly greater suicidal intent (adjusted for age, gender and method) than skilled labourers and the unemployed. There were no differences in suicidal intent between different methods. Rural dwellers had significantly greater suicidal intent compared to urban dwellers, irrespective of the method. Major Depressive Disorder was associated with significantly greater suicidal intent compared with other diagnoses and no diagnosis.

**Conclusions:** Amongst people who harm themselves in south India, professionals and unskilled labourers, rural residents, and people with current major depressive disorder have higher levels of suicidal intent. Severity of suicidal intent does not appear to influence choice of method of self-harm. Behaviours predictive of self-harm in the west may not be relevant in south India.

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**Abbreviations:** DSH, deliberate self harm; OP Poisoning, organo phosphate poisoning; PSIS, pearce suicide intent scale; WHO, World Health Organisation; MINI, Mini-International Neuropsychiatric Interview; MMCR, Mysore Medical College and Research Institute.

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## 1. Introduction

WHO estimates that about 170,000 deaths by suicide occur in India every year with especially high risks in the young and in south India, where about half of suicide deaths are due to poisoning (principally ingestion of pesticides) ([www.who.int/mental\\_health/prevention/suicide/suicideprevent/en/](http://www.who.int/mental_health/prevention/suicide/suicideprevent/en/); Aaron et al., 2004). Suicide rates recorded in the south India region are much higher than the national estimate and this is a major public health concern (Aaron et al., 2004; Prasad et al., 2006)

A wide range of clinical, social and behavioural factors are known to influence the risk of deliberate self-harm (DSH). In India, younger age, rural residence, use of alcohol, previous self-harm, presence of psychological distress, socio-economic adversity and access to poisons are known risk factors (Aaron et al., 2004; Prasad et al., 2006; Radhakrishnan and Andrade, 2012). There are known to be differences in suicide and DSH behaviour in India compared to western countries. These include a high incidence of organophosphate insecticide (OP) poisoning, a larger proportion of married women and a low incidence amongst elderly people. Interpersonal relationship problems, life events and psychological distress (as opposed to psychiatric disorders) are common antecedents (Prasad et al., 2006; Radhakrishnan and Andrade, 2012; Khan, 2002).

Studies in western populations show a robust association between suicidal intent at the time of DSH and eventual suicide (Harriss and Hawton, 2005; Skegg, 2005). In contrast, little is known about the role of suicidal intent and its interaction with other risk factors in India. Factors that are believed to be protective (e.g. religion and faith) or predictive of higher risk (e.g. use of alcohol, expression of intent and writing a suicide note) in the west have not been systematically studied in India. Examining cultural and region specific antecedent behaviours and their relationship with suicidal intent and method of self-harm is a step towards more accurate identification of individuals at high risk of suicide. It is also important in understanding the specifically Indian phenomenon of DSH and suicide by OP poisoning.

## 2. Aims and objectives

The primary aim of this study was to identify clinical, social and behavioural predictors of self-harm in the month and in the week preceding the act. In addition, we examined the relationship between (a) severity of suicidal intent and antecedent behaviours (b) severity of suicidal intent and method of self-harm and (c) antecedent behaviours and method of self-harm, particularly in the case of OP poisoning.

## 3. Methods

### 3.1. Design and setting

This cross sectional study was carried out in the Department of Psychiatry, Mysore Medical College and Research Institute (MMCRI), a tertiary referral state hospital, in south India. This study was approved by the MMCRI ethics and research committee.

The MMCRI hospital offers free treatment and services utilised by a large proportion of the population in the city of Mysore and the surrounding rural areas. Other patients present at mission hospitals and private hospitals, at a higher cost. Patients who are assessed following deliberate self harm are 'medico-legal' cases, as attempted suicide is a crime in India. Patients assessed at MMCRI are admitted to general medical wards for treatment, providing they consent to this. Particular wards admit on specific days, and some wards refer every case for psychiatric assessment, irrespective of individual clinical factors.

Between July and Sept. 2013, 205 consecutive patients referred to the department of psychiatry, MMCRI for psychosocial assessment following an act of self-harm were approached to participate in this study. Five declined to be interviewed. Two hundred consenting adults aged between 18 and 70 years of age agreed to participate.

### 3.2. Interview and assessment

All participants were interviewed by one of the two consultant psychiatrists (RR and NH) within one week of admission following an act of self-harm. Assessment included:

- a. A specifically designed semi structured interview to capture, details of the self-harm, history of previous self-harm, substance use and a range of behaviours (i) in the week and (ii) in the month preceding the act of self-harm. The items in the semi-structured interview were derived on the basis of expert advice. They included: making a will, expression of intent to self harm (to the family, friend and or any health professional), writing a suicide note, visit to the family shrine, religious pilgrimage, partition of assets, making funeral arrangements, absenteeism from work, visiting a doctor, visiting a psychiatrist, increase in the use of alcohol, smoking and illicit drugs. When any of these behaviours was reported it was followed up with a question to ascertain if it was in the week or between 1 and 4 weeks preceding the act of self harm. Each participant was specifically asked if there was concurrent use of alcohol with DSH.
- b. Pierce Suicide Intent Scale: This is a widely used, validated instrument that measures the severity of suicidal intent preceding an act of self-harm. It is based upon reported behaviours at the time of the incident, which means that it is relatively robust to cultural differences. The scale has been translated and validated for use in several Indian languages. The Kannada version was used in this study (Radhakrishnan and Andrade, 2012; Pierce, 1981).
- c. The Mini-International Neuropsychiatric Interview (MINI) is a short structured diagnostic interview, developed jointly by psychiatrists and clinicians in the United States and Europe. It generates DSM-IV and ICD-10 psychiatric diagnoses. It is designed to be a short but accurate structured psychiatric interview for use in multicentre clinical trials and epidemiology studies. The Kannada version of MINI was administered (Sheehan et al., 1998).
- d. The adapted 10/66 Socio Demographic Risk questionnaire was administered to ascertain the socio demographic variables, occupational and educational categories (Prince et al., 2007).

### 3.3. Statistical analyses

Descriptive statistics was done by measuring mean, standard deviation and proportions. Inferential statistics was done by using chi-square test, independent *t*-test, ANOVA and ANCOVA. All the measurements were done using SPSS version 19.0 (IBM Corp, 2010).

## 4. Results

### 4.1. Demographic characteristics

Of the 200 participants, 115 were interviewed within 24 h, 162 within 3 days and the remainder within a week of carrying out the act of DSH. The socio demographic, educational and occupational characteristics of the sample are set out in Table 1. The participants were aged between 18 and 70 yrs with a mean age of 29.1 yrs (SD 10.5). 101 (50.5%) were male and 99 (49.5%) were women. The sample broadly matched the characteristics of the local population according to the Karnataka 2011 census (2011 census: Karnataka population, 34% urban, 76% rural). There were slightly fewer Muslims and Christians in the sample than in the local population (2011 census: Karnataka population 12.2% Muslim, 3.1% Christian) (Director of Census Karnataka 2011).

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