Multidisciplinary perspective on the risk and protective factors associated with self-harm and suicide

Prof Ella Arensman,
School of Public Health & National Suicide Research Foundation,
University College Cork
Australian Institute for Suicide Research and Prevention
International Association for Suicide Prevention

EU Safety Conference, 3-4 October 2019, Luxembourg
Rate of suicide among 15-19 year olds in Europe per 100,000 of population

*Data unavailable for the following countries: Montenegro, Former Yugoslav Republic of Macedonia and Albania

Source – Eurostat, 2018

Eve Griffin1, Elaine McMahon1, Fiona McNicholas2,3,4, Paul Corcoran1,3,5, Ivan J. Perry3, Ella Arensman1,5

Received: 30 November 2017 / Accepted: 25 April 2018 / Published online: 2 May 2018
© Springer-Verlag GmbH Germany, part of Springer Nature 2018

Abstract
Purpose Rates of hospital-treated self-harm are highest among young people. The current study examined trends in rates of self-harm among young people in Ireland over a 10-year period, as well as trends in self-harm methods.
Methods Data from the National Self-Harm Registry Ireland on presentations to hospital emergency departments (EDs) following self-harm by those aged 10–24 years during the period 2007–2016 were included. We calculated annual self-harm rates per 100,000 by age, gender and method of self-harm. Poisson regression models were used to examine trends in rates of self-harm.
Results The average person-based rate of self-harm among 10–24-year-olds was 318 per 100,000. Peak rates were observed among 15–19-year-old females (564 per 100,000) and 20–24-year-old males (444 per 100,000). Between 2007 and 2016, rates of self-harm increased by 22%, with increases most pronounced for females and those aged 10–14 years. There were marked increases in specific methods of self-harm, including those associated with high lethality.
Conclusions The findings indicate that the age of onset of self-harm is decreasing. Increasing rates of self-harm, along with increases in highly lethal methods, indicate that targeted interventions in key transition stages for young people are warranted.

Keywords Self-harm · Young people · Epidemiology
Risk factors associated with self-harm in adolescents

**Girls**
- Substance abuse, including alcohol and drug abuse
- Self-harm by friends and family members
- Sexual abuse and physical maltreatment
- Problems related to sexuality
- Problems with parents
- Bullying and Cyberbullying
- Difficulties in making – keeping friends
- High levels of depressive symptoms
- Sleep problems

**Boys**
- Substance abuse, including alcohol and drug abuse
- Self-harm by friends and family members
- High levels of anxiety
- High levels of impulsivity
- Problems related to sexuality
- Bullying and Cyberbullying
- Problems with school work
- Sleep problems

*McMahon et al, 2013; Hysing et al, 2015*
Factors associated with increased risk of suicide (n=307)

- Overrepresentation of men (80.1%); Men significantly younger than women
- Relatively high proportion were unemployed at time of death (33.1%)
- Among men, 48.6% had worked in the construction/production sector; among women, 26.5% had worked in a healthcare setting
- Nearly two thirds had a history of self-harm (65.2%); 69.1% were diagnosed with depression, and alcohol/and or drug abuse was present among 60.7%
- In the year prior to death, 81% had been in contact with their GP or a mental health service. Most people who contacted GP did so more than 4 times
The primary aim of MINDUP is to improve mental health in the workplace by developing, implementing and evaluating a multilevel intervention targeting mental health difficulties (non-clinical and clinical) in Small and Medium Enterprises (SMEs) across construction, health and ICT sectors.

A secondary aim is to reduce depression and suicidal behaviour.
Increasing trend of self-harm acts involving highly lethal methods among males and females (rates/100,000)
Repetition by number of previous self-harm presentations

Kaplan-Meier failure estimates

Probability of a repeat SH

Months since last self-harm presentation

None (index)
**High-Risk Self-Harm**

- History of sexual, physical or emotional abuse
- Drug and alcohol abuse
- On prescribed medication physical condition
- Comorbid physical condition
- In physical pain
- Depression diagnose
- On prescribed psychotropic drug
- Overdose
- 1 or more previous SH episodes
- Unemployed
- Single
- Male
Major Self-Harm Repeaters

- History of sexual, physical or emotional abuse
- On prescribed medication physical condition
- Comorbid physical condition
- In physical pain
- Borderline Personality Disorder
- PTSD
- On prescribed psychotropic drug
- Overdose
- 10 or more previous SH episodes
- Unemployed
- Single
- Female
Comparing major repeaters versus those with high risk self-harm on physical comorbidities and pharmacological treatment

<table>
<thead>
<tr>
<th>Common physical comorbidities:</th>
<th>MR</th>
<th>HRSH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>20%</td>
<td>8%</td>
</tr>
<tr>
<td>Metabolic diseases</td>
<td>20%</td>
<td>19%</td>
</tr>
<tr>
<td>Orthopaedic problems</td>
<td>16.6%</td>
<td>19%</td>
</tr>
<tr>
<td>Chronic pain</td>
<td>46.6%</td>
<td>51%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pharmacological treatment:</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Antipsychotics</td>
<td>50%</td>
<td>20%</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>50%</td>
<td>61%</td>
</tr>
<tr>
<td>Anxiolytics</td>
<td>26.6%</td>
<td>35%</td>
</tr>
<tr>
<td>More than one psychotropic drug</td>
<td>73.3%</td>
<td>48%</td>
</tr>
</tbody>
</table>
Evidence based interventions

Internationally consistent evidence:

- Dialectical Behaviour Therapy, in particular among women
- Cognitive Behaviour Therapy

Growing evidence:

- Problem-Solving Therapy
- Internet-based psychotherapeutic interventions for mild to moderate mental health problems

- DBT among men who engaged in high-risk self-harm has not yet shown consistently positive effects in reducing repeated self-harm and suicide

*(Goodman et al, 2016)*
But...... not everybody is able to benefit from the evidence based interventions:

**Reduced impact of DBT when:**

- People suffer from severe PTSD. Increased repetition of self-harm during treatment.
- Higher levels of dissociation throughout DBT treatment.
- Greater severity of PTSD is associated with lower likelihood of self-harm cessation during DBT (*Harned al, 2010; Barnicot and Priebe, 2013*)
Representative case

Anne, aged 35 years, diagnosed with Borderline Personality Disorder, Depression and PTSD symptoms. Long history of repeated self-harm that had started in early adolescence. She had engaged in many different pharmacological and psychological treatments, without significant improvements. In recent years, she had completed a 12 month DBT treatment, however with minimal improvements.

In recent months, she had revealed some details about longstanding experience of sexual abuse, starting in early childhood until early adolescence. However, she was still afraid of the perpetrator and she was anxious that nobody would believe her.

The pattern of relatively low lethal self-harm acts changed to increasingly highly lethal self-harm acts and she died by suicide in 2016.
Representative case

Kate, aged 42 years, diagnosed with Borderline Personality Disorder, Depression, PTSD and Dissociative Identity Disorder. She has a long history of self-harm that had started in early adolescence. She has engaged in many different pharmacological and psychological treatments, without significant improvements. During the last 2 years, she has opened up about her longstanding experience of sexual abuse, starting in childhood and followed by 3 other perpetrators, including the time while she was in a Children’s Home.

Supported by her GP and 2 mental health professionals, she is currently exploring the most appropriate treatment approach for her.
Advanced training: Self-Harm Assessment and Management for Self-Harm in General Hospitals (SAMAGH)

Core Components
Knowledge based training via E-learning
(to be completed in the week prior to skills training)

E-learning modules
Module 1- Extent of self-harm and suicide, risk and protective factors
Module 2- Evidence informed assessment and management procedures
Module 3- Working with self-harm patients
Module 4- Subgroups of people who self-harm & evidence based treatments
Module 5- Self-care

Biopsychosocial assessments, referral pathways, safety planning (1/2 day)

Module (1/2 day)
Simulation training
Skills training module
Self-harm repeaters

Module (1/2 day)
Simulation training
High risk self-harm behaviour

Module (1/2 day)
Simulation training
Challenging presentations and behaviour
Acknowledgements:
Eileen Williamson, Paul Corcoran, Eve Griffin, Caroline Daly, Dorothy Leahy, Grace Cully, Elaine McMahon, Ivan Perry, Carmel McAuliffe, Eugene Cassidy, James Kinahan, Niall McTernan, Karen Mulcahy, Ruth Benson, Ana Paula Ramos Costa, Sarah Nicholson, Isabela Troya