Child and youth suicides: Research and Potentials for Prevention

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Suicide

✓ “deliberately initiated [act] and performed by the person concerned in the full knowledge, or expectation, of its fatal outcome” (WHO, 1998).

✓ Historically, it has been argued that children are precluded from contemplating and engaging in suicidal behaviour due to their inability to cognitively understand death or “estimate degrees of lethality or outcomes of their self-destructive acts” (Pfeffer, 1997, p. 553).
Do children have a concept of death?

✓ Research has indicated that, from the age of eight, children understand the concept of suicide (Mishara 1998).

✓ In their sample in Canada
  – None of six year olds
  – 1/3 of seven year olds knew
  – 87% of eight year olds
  – 81% of nine year olds
  – 100% of children aged ten or older knew about suicide or killing oneself
Suicide rates in around the world

- Overall slight decrease in suicide rates for males aged 10-14 and 15-19 years
- Only minor changes for females within last two decades
- Former Soviet Block countries have still the highest rates for child and youth suicides. With some countries like Russia and Kazakhstan showing the biggest increase for age group 10-14 years in last two decades.
- Ireland showed the strongest increase for both genders in age group 15-19 years.
- Australian rates were below average and showed a decrease, except for females aged 15-19 years.
Suicide rates in age group 5-14 years in Australia

Data source WHO Mortality Database
Suicide rates in age group 15-24 years in Australia

Data source ABS
Rate of child deaths (0-17 y) from external causes in 2010

* Rates have not been calculated for numbers less than 4 or less than 10 for Victoria data
Underestimation

The prevalence of suicide in children is likely to be under-estimated due to under-reporting and/or misclassification of suicide deaths as accidental or undetermined. Literature is indicating that suicide might be more under-reported among children compared to adolescents and adults (Hawton 1986; Pritchard, Hansen 2005).

Research indicates that this might be due to
✓ social stigma and shame around suicide,
✓ coronial reluctance to determine a verdict of suicide in a child,
✓ disparities in death classification systems between states and countries, and/or
✓ the misconception that children are precluded from engaging in suicidal acts due to their cognitive immaturity.
The Queensland Suicide Register

- a comprehensive suicide database maintained by AISRAP.
- holds records of all suicides in Queensland since 1990 and is currently the only database of suicides in Australia
- information comes from a variety of sources including the Queensland Office of State Coroners, the Queensland Health
- provides information on a wide range of demographic, psychosocial, psychiatric, medical, contextual and behavioural aspects of suicide death cases

- Causes of death are scrutinised in the QSR following the Suicide Classification Flow Chart, developed by AISRAP
  All suicide cases in the QSR are classified into one of the following categories:
  - Beyond reasonable doubt, or
  - Probable, or
  - Possible.
- This method of assessment might lead to a lower threshold for classifying a death as a suicide, since it is based on health research criteria rather than on an assessment from Coroner’s findings as applied by the ABS (De Leo et al., 2006).
No of child and adolescent suicides in QLD in 1990-2007

Data source Queensland Suicide Register
## Suicide rates in children and adolescents in QLD

<table>
<thead>
<tr>
<th></th>
<th>Child (10-14)</th>
<th>Adolescent (15-19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male SR</td>
<td>1.23</td>
<td>15.62</td>
</tr>
<tr>
<td>Female SR</td>
<td>0.88</td>
<td>5.50</td>
</tr>
<tr>
<td>M/F RR</td>
<td>1.39</td>
<td>2.84</td>
</tr>
</tbody>
</table>

Data source Queensland Suicide Register
<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>10-14</th>
<th></th>
<th>15-19</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Indigenous</td>
<td>22</td>
<td>34.4%</td>
<td>102</td>
<td>17.3%</td>
</tr>
<tr>
<td>Non-Indigenous</td>
<td>36</td>
<td>56.3%</td>
<td>416</td>
<td>70.6%</td>
</tr>
<tr>
<td>Unknown</td>
<td>6</td>
<td>9.4%</td>
<td>71</td>
<td>12.1%</td>
</tr>
<tr>
<td>Total</td>
<td>63</td>
<td>100.0%</td>
<td>589</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Chi-square = 10.92   df = 2   p = 0.004

Data source Queensland Suicide Register
Suicide methods

Children 10-14
- Hanging: 88%
- Firearms: 5%
- Poisoning: 6%
- Other: 1%

Chi-square = 25.63  df = 4   p < 0.001

Adolescents 15-19
- Hanging: 56%
- Firearms: 17%
- Poisoning: 5%
- MVCO: 8%
- Other: 13%

Data source: Queensland Suicide Register
## Life-time psychiatric diagnosis

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Child suicides</th>
<th>Adolescent suicides</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
</tr>
<tr>
<td>Any diagnosis</td>
<td>12</td>
<td>18.8</td>
</tr>
<tr>
<td>Unipolar depression</td>
<td>5</td>
<td>7.8</td>
</tr>
<tr>
<td>Bipolar disorder</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Anxiety</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td>Developmental disorder* <em>(p=0.033)</em></td>
<td>3</td>
<td>4.7</td>
</tr>
<tr>
<td>Eating disorder</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Psychotic disorder* <em>(p=0.039)</em></td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Substance use disorder</td>
<td>1</td>
<td>1.6</td>
</tr>
<tr>
<td>Conduct disorder</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Personality disorder</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Adjustment disorder</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Other or vague disorder</td>
<td>2</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Data source Queensland Suicide Register
Recent stressful life events

Any life event - 45.6% in age group 10-14 and 53.9% in age group 15-19

Data source Queensland Suicide Register
Conclusions: Differences between child and adolescent suicides

- Male to female ratio is lower in children
- Children used hanging more frequently
- Prevalence of psychiatric disorders was similar in both age groups
- Adolescents consumed more frequently alcohol prior suicide,
- Children had more family conflicts prior suicide
Definitions and definitional issues

**Non-fatal suicidal behaviour**, with or without injuries, is a **non-habitual act** with a non-fatal outcome that the individual, expecting to, or taking the risk, to die or to inflict bodily harm, initiated and carried out with the purpose of bringing about wanted changes. (WHO/EURO Working Group, 2004; De Leo et al, 2004)

**Self-harm** refers to intentional self-poisoning or self-injury, irrespective of type of motive or the extent of suicidal intent. It is used in preference to the **dichotomous separation** of such acts into **non-suicidal self-injury** (was proposed as a new diagnosis for the Diagnostic and Statistical Manual of Mental Disorders, fifth edition) and **attempted suicide** - popular in the USA - because suicidal intent is a dimensional phenomenon, the patient's and clinician's view of suicidal intent might differ, and national clinical guidelines focus on self-harm. Researchers use different terminology! (Hawton, Saunders, O’Connor (2012) Self-harm and suicide in adolescents. The Lancet 379, 9834: 2373-82.)
Rates of NFSB in European countries in 1990s - males

Data source: WHO/Euro Multicentre Study
Rates of NFSB in European countries in 1990s - females

Data source WHO/Euro Multicentre Study
Rates of NFSB in European countries in 1990s – 15-24 yrs

Data source WHO/Euro Multicentre Study
Intentional self-harm injury hospital admissions in youth aged 15–18 y in Victoria

Selection criteria: (1) An ICD9 injury or poisoning diagnosis code in the range 800–904, 910–999 or an ICD10 diagnosis code in the range S00–T89 if the cause of injury was intentional self-harm. (2) Deaths and transfers within and between hospitals were excluded. (3) Same day records were excluded from the final analysis, but are shown on figures.

Distribution of NFSB by age groups at the Gold Coast Hospital

Events

Persons

[Bar charts showing distribution of NFSB by age groups for both events and persons with separate bars for female and male]
Methods of NFSB by age-group at GCH 2005-2010

- Drugs, medicaments, and biological substances
- Solvents, gases, vapours, chemicals
- Cutting and piercing
- Other means

%
Representation of the relative prevalence self-harm and suicide in young people

- Only a small proportion of people who self-harm present to hospital
- Self-harming behaviour is largely hidden at least from clinical services
- Presentation to hospital occurs in only about one in eight adolescents who self-harm in the community, being more common in those who take overdoses


Prevalence estimates for self-harm and depressive symptoms 12- to 15-year-old secondary school students in Victoria and Washington

<table>
<thead>
<tr>
<th></th>
<th>Male (n = 1,630)</th>
<th>Female (n = 1,702)</th>
<th>Total (N = 3,332)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definite self-harm (n = 122)</td>
<td>2.2 (1.5%–3.0%)</td>
<td>5.0 (3.9%–6.1%)</td>
<td>3.7 (2.9%–4.4%)</td>
</tr>
<tr>
<td>Probable self-harm (n = 166)</td>
<td>3.6 (2.6%–4.5%)</td>
<td>6.3 (5.1%–7.6%)</td>
<td>5.0 (4.1%–5.8%)</td>
</tr>
<tr>
<td>High depressive symptoms(^a) (n = 796)</td>
<td>17 (15%–19%)</td>
<td>30 (28%–33%)</td>
<td>24 (22%–26%)</td>
</tr>
</tbody>
</table>

\(^a\) - Scoring above a cutoff point of 10/11 on the Short Mood and Feelings Questionnaire.

**Deliberate Self-Harm**

Students were asked ‘In the past year, have you ever deliberately hurt yourself or done anything that you knew might have harmed you or even killed you?’ Those who marked ‘yes’ were then asked the open-ended question, ‘What was it that you did?’ (Patton et al., 1997). Two trained research assistants coded the reported self-harm behaviors as definite, probable, or absent. **Probable self-harm** was defined where there was insufficient clarity about intent to inflict injury.


- Females showed greater continuity in self-harm between adolescence and young adulthood than males.
- Most adolescent self-harming resolved spontaneously.
- Incident young adult self-harm was predicted by adolescent symptoms of anxiety and depression present during adolescence, which might not resolve without treatment.
The criteria for **self-harm** in the CASE study

An act with a non-fatal outcome in which an individual deliberately did one or more of the following:

- Initiated behaviour (for example, self-cutting, jumping from a height), which they intended to cause self-harm.
- Ingested a substance in excess of the prescribed or generally recognised therapeutic dose.
- Ingested a recreational or illicit drug that was an act that the person regarded as self-harm.
- Ingested a non-ingestible substance or object.

**School survey** – cross sectional study

Students aged 14-17
7 countries – 30,476
Australia - 3,725 students from Gold Coast

The prevalence of deliberate self-harm meeting the study criteria

Methods of self-harm (based on self-harm in past year)

Reasons for self-harm

- I wanted to get relief from a terrible state of mind
- I wanted to die
- I wanted to punish myself
- I wanted to show how desperate I was feeling
- I wanted to find out whether someone really loved me
- I wanted to get my own back on someone
- I wanted to get some attention
- I wanted to frighten someone

Factors related to child and youth suicidal behaviours

- Individual
- Family
- School and peers
- Community & society
Risk factors of child and adolescent suicidal behaviours

**Individual factors**
- Interpersonal loss
- Adverse events e.g. witnessing or experiencing violence, physical or sexual abuse
- Disciplinary crisis
- Mental health disorders
  - Depression
  - Anxiety
  - Eating disorders and poor body image (especially for girls)
  - Conduct disorder
  - Substance abuse
- Personality factors such as irritability, impulsivity and neuroticism
- Poor problem solving skills
- Risk taking behaviours
- Preoccupation with death
- Suicide attempts and self-harm
Risk factors of child and adolescent suicidal behaviours

**School and peer related factors**

- Conflicts with peers
- Bullying
- Failed a grade
- Suspended from school
- Dropped out from school
- Suicidal behaviours among peers

- Problems in romantic relationships
Risk factors of child and adolescent suicidal behaviours

Family related factors

✓ Parental divorce (approximately in half of suicide cases)
✓ Poor communication with parents
✓ Parent-child conflicts
✓ Family history of mental health problems and suicidal behaviours
✓ Parental substance abuse
✓ Presence of a step-parent
✓ Frequent changes in living and educational arrangements
Factors related to child and adolescent suicidal behaviours

Other factors

✓ Media
✓ Internet and social media
✓ Available health care
✓ Rules, values, religion
Main differences between child and adolescent suicides

Despite growing research interest in suicide, few studies have focused specifically on suicide in children. The low suicide incidence in children may be related to the fewer risk factors rather than to resilience to risk factors (Grøholt et al, 1998).

Children compared to adolescents who committed suicides
✓ suffered less often from psychiatric disorders (especially substance and conduct disorders),
✓ expressed less suicidal intent,
✓ displayed predictive factors such as prior suicidal behaviour,
✓ were less exposed to some types of stressors (conflicts with peers, romantic failure),
✓ had more conflicts with parents
Suicidal crisis – contributing parts

- **Predisposition** e.g. mental health problems, family history of psychopathology
- **Trigger** - something happened that made child or adolescents feel unhappy, afraid or angry – often life events, especially conflicts. But also disciplinary crises, a public humiliation, the threat of separation from a girlfriend or boyfriend, and disclosure of sexual abuse. Children and adolescents perceive them as more catastrophic than adults.
- **Facilitator** - The strong emotions produced by crises are more likely to lead to suicide if the young person’s judgment is impaired by alcohol or drugs. Other facilitators include identification with someone well known or admired who committed suicide, suicides among family members or friends, or if the teenager lacks firm religious beliefs that forbid suicide.
- **Opportunity** - access to the means of committing suicide in an acceptable way for them. People often have an idea about the way they would like to kill themselves.
Different life trajectories

- **Group I — Longstanding behavioural problems**: characterised by longstanding life and behavioural problems, school failure, family relationship problems, childhood sexual abuse, family violence, personality problems, low self-esteem and poor peer relationships.

- **Group II — Psychiatric disorder**: characterised by evidence of an established psychiatric disorder. If one or more psychiatric disorders were evident against a background of longstanding problems such as those defined in Group I, a trumping system was used where Group II was coded in preference to Group I. Two subgroups were identified, namely those individuals with a protracted suicidal process and those with a brief suicidal process.

- **Group III — Acute stress**: characterised by the emergence of the suicidal process as an acute response to life events in the absence of criteria for Group I or Group II.

Suicide prevention activities in children and youth

✓ Universal intervention
  – Media education (suicide contagion especially among youth)
  – Restriction of access to the means of suicidal behaviours
  – School-based programs

Skills training
• emphasising the development of problem-solving, coping, and cognitive skills, because youths suffering mental health problems and suicidality have deficits in these areas

Awareness curriculum
• educational programmes for students, teaching about mental illness and suicide prevention

School policy - promotion of mental health through the school climate
• school climate refers to both the physical and aesthetic qualities of the school, as well as the emotional and psychological qualities. Reduction of bullying and stigma related to mental health problems and sexual orientation
Suicide prevention activities in children and youth

✓ Selective and indicated intervention
  – Educating teachers and parents – how to recognise suicidality
    • training school staff on how to recognise and refer a student at-risk of suicide to help resources, how to help students with depression, problem behaviour and social adjustment problems
  – Peer education (e.g. involving Foodie clubs - Alive and Kicking Goals)
  – Kids helplines
  – Internet sources of help
  – Postvention activities e.g. in schools
    • many schools have developed their postvention programs after a suicide or death in school
      In Australia *headspace* Outreach Teams to Schools
Suicide prevention activities in children and youth

- **Symptom identification and early treatment**
  - Screening in schools
    - referral and treatment by mental health professionals
  - Screening of specific at risk groups (e.g. Young offencers)
  - Identification of high risk children/adolescents (e.g. by GPs)

- **Standard treatment**
  - Recognition and effective treatment of psychiatric disorders
    - Psychotherapies (cognitive-behavioural, interpersonal, psychodynamic)
    - Psychosocial treatments (e.g. problem-solving therapy, home-based family intervention etc)
    - Pharmacotherapies
Suicide prevention activities in children and youth

✓ Ongoing care and support
  – Using different source and channels in order to follow-up suicidal children and youth (e.g. Using mobile phone texting, internet messages)
Thank you!