MRCPsych General Adult Module

Self Harm and Suicide
GA Module: Self Harm and Suicide

Aims and Objectives

• Aims
  – The overall aim is to give an overview of suicide and self harm

• Objectives:
  – By the end of the session, trainees should have
  – Developed an understanding of various facets of self-harm and suicide (aetiology, epidemiology, neurobiology, genetics)
  – Developed an understanding of surveys and develop skills for critically appraising surveys.
GA Module: Self Harm and Suicide

To achieve this

- Case Presentation
- Journal Club
- 555 Presentation
- Expert-Led Session
- MCQs

- Please sign the register and complete the feedback
GA Module: Self Harm and Suicide

Expert Led Session

Self harm and Suicide
Contents

• Definitions; and problems with suicide research
• Epidemiology of suicide and self-harm
• National Confidential Inquiry in to Suicide (and Homicide)
• Psychological theories of suicide
• Neurobiological theories of suicide
• Reference and further reading
• MCQs

NB- assessment and management are covered in Semester 3
Definitions

• **Suicide:**

• **Self-harm:**

*New Oxford of Psychiatry, 2012*
Definitions

No single universally accepted definition of suicide and self-harm

• *Suicide*: A fatal act of self-injury or self-harm undertaken with more or less conscious self-destructive intent, however vague and ambiguous.

• *Self-harm*: It refers to behaviour through which people deliberately inflict acute harm upon themselves, or try to do so, with non-fatal outcome.

*New Oxford of Psychiatry, 2012*
Reliability of suicide statistics

• Deceased cannot testify as to his or her intent
• Inference, based on e.g. mode of death, use of autopsy, age, gender, social & occupational status, social stigma of suicide in their culture.
  – balance of probabilities.

• There are differences in operational definitions of suicidal behaviour → lack of uniformity of case definition and difficulties in comparing suicide statistics.

• Reports on suicide rates among different cultures or people suggest a true variation in suicide mortality.

*New Oxford of Psychiatry, 2012*
Key Facts (WHO)*

1. Over 800 000 people die due to suicide every year.
2. In 2016, Suicide accounted for 1.4% of all deaths worldwide, making it the 18th leading cause of death.
3. 79% of global suicides occur in low- and middle-income countries.
4. Ingestion of pesticide, hanging and firearms are among the most common methods of suicide globally.
5. A prior suicide attempt is the single most important risk factor for suicide in the general population.

* Data from 2016
Leading causes of death, ages 15-29 years

- Road injury
- Interpersonal violence
- Maternal conditions
- Road injury
- Interpersonal violence
- Suicide

Number of deaths in 2016

Source: WHO Global Health Estimates (http://www.who.int/healthinfo/global_burden_disease/estimates)
• NCISH 2018 – Video of Key Findings

• https://www.youtube.com/watch?v=Ea4fDEwLNSU&feature=youtu.be
Figure 28: Patient suicide in England: number under crisis resolution/home treatment services and mental health in-patients.
• Commonest method of suicide - hanging/strangulation (776 deaths UK-wide in 2016, almost half of all patient suicides)

• 2\textsuperscript{nd} commonest suicide method - self-poisoning (365 deaths in 2016, almost a quarter of patient suicides)
  – The main substances taken in fatal overdose were opiates and the main source (where known) was by prescription.
Annual report 2018: Key messages

Renewed emphasis on reducing suicide by in-patients

Fall in in-patient deaths has slowed

31% 11%

2006-2010 2012-2016

Improving physical safety on wards

Care plans in place

Strengthen nursing observation
Vigilance in specific patient groups

- Highest risk on day 3 post-discharge
- Safer prescribing
- Patients with substance misuse (56%)
- Reducing alcohol & drug misuse

Suicide prevention in young people

- Number of suicides rises in late teens
- Promoting mental health in education
- Broad range of stressors
- Shared role for front-line services
- Suicides by students (aged 18-21) in England & Wales, per year (52)
- Availability of support at times of risk, esp. exam months
<table>
<thead>
<tr>
<th>Female patients</th>
<th>Recent self-harm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>434</td>
</tr>
<tr>
<td>74%</td>
<td></td>
</tr>
<tr>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>aged 35-54 years</td>
<td>patients died within 3 months of self-harm, per year</td>
</tr>
<tr>
<td>self-harm especially common</td>
<td>rising in patients who died</td>
</tr>
<tr>
<td>diagnosis of personality disorder</td>
<td>were female patients aged under 25</td>
</tr>
<tr>
<td>distinct risk profile compared to men</td>
<td>should be recognised as suicide warning</td>
</tr>
</tbody>
</table>
NCISH recommendations shown to reduce suicide rates

10 ways to improve safety

- Safer wards
- Early follow-up on discharge
- No out-of-area admissions
- 24-hour crisis teams
- 24/7 guidance on depression
- Family involvement in ‘learning lessons’
- Personalised risk management
- Outreach teams
- Low staff turnover
- Services for dual diagnosis

National Confidential Inquiry into Suicide and Safety in Mental Health
Epidemiology of Deliberate self-harm

- Current estimates of rates of DSH in the UK – about 4 per 1000 per year.
- DSH is more common among younger people, with the rates declining sharply in middle age.
- The peak age for men is older than for women.
- More prevalent in those of lower socioeconomic status and who live in more deprived areas.
- Highest rates among the divorced; high rates among teenage wives, and younger single men and women.

Epidemiology of Deliberate self-harm-2

- Among people who have engaged in DSH:
  - About 1 in 6 repeats the DSH within 1 year
  - About 1 in 4 repeats the DSH within 4 years

- DSH significantly increases the risk of later suicide:
  - Between 1 in 200 and 1 in 40 commit suicide within 1 year
  - About 1 in 15 commits suicide within 9 years or more.

*Systematic Review of 90 studies (Owens et al., 2002)*
## Motivation and risk factors for DSH

<table>
<thead>
<tr>
<th>Reasons given for DSH</th>
<th>Factors associated with risk of repetition of attempted suicide</th>
</tr>
</thead>
<tbody>
<tr>
<td>To die</td>
<td>Previous attempt(s)</td>
</tr>
<tr>
<td>To escape from unbearable anguish</td>
<td>Personality disorder</td>
</tr>
<tr>
<td>To obtain relief</td>
<td>Alcohol and drug abuse</td>
</tr>
<tr>
<td>To change the behaviour of others</td>
<td>Previous psychiatric treatment</td>
</tr>
<tr>
<td>To escape from a situation</td>
<td>Unemployment</td>
</tr>
<tr>
<td>To show desperation to others</td>
<td>Lower social class</td>
</tr>
<tr>
<td>To get back at other people/make them feel guilty</td>
<td>Criminal record</td>
</tr>
<tr>
<td>To get help</td>
<td>History of violence</td>
</tr>
<tr>
<td></td>
<td>Age 25-54 years</td>
</tr>
<tr>
<td></td>
<td>Single, divorced or separated</td>
</tr>
</tbody>
</table>
Rates of mental disorders in 5 psychological autopsy studies on completed suicides*  

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depressive disorders</td>
<td>36-90 %</td>
</tr>
<tr>
<td>Alcohol dependence and abuse</td>
<td>43-54 %</td>
</tr>
<tr>
<td>Drug dependence and abuse</td>
<td>4-45 %</td>
</tr>
<tr>
<td>Schizophrenia and related disorders</td>
<td>3-10%</td>
</tr>
<tr>
<td>Organic mental disorders</td>
<td>2-7%</td>
</tr>
<tr>
<td>Personality disorders</td>
<td>5-44%</td>
</tr>
</tbody>
</table>

* DSM III or DSM III-R criteria
The psychology of suicide

O’Connor & Nock, Lancet Psychiatry (2014)
<table>
<thead>
<tr>
<th>Theory</th>
<th>Premise</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cubic model (Shneidman, 1985)</td>
<td>The combination of press (stress), pain (psychache), and perturbation result in suicide risk</td>
</tr>
<tr>
<td>Diathesis–stress–hopelessness model of suicidal behaviour (Schotte and Clum, 1987)</td>
<td>Cognitive vulnerability (e.g., social problem solving) accounts for the association between stress and suicide risk</td>
</tr>
<tr>
<td>Suicide as escape from self Baumeister (1990)</td>
<td>Main motivation of suicide is to escape from painful self-awareness</td>
</tr>
<tr>
<td>Clinical model (Mann and colleagues, 1999)</td>
<td>Stress–diathesis model, wherein suicide risk is caused not only by psychiatric disorder (stressor) but also by a diathesis (i.e., tendency to experience more suicidal ideation or impulsivity)</td>
</tr>
<tr>
<td>Suicidal mode as cognitive behavioural model of suicidality (Rudd et al 2001)</td>
<td>Based on the ten principles of cognitive theory, the model describes the cognitive, affective, behavioural, and physiological system characteristics associated with the development of suicide risk</td>
</tr>
<tr>
<td>Arrested flight model (Williams 2001)</td>
<td>Suicide risk is increased when feelings of defeat and entrapment are high and the potential for rescue (e.g., social support) is low</td>
</tr>
<tr>
<td>Theory</td>
<td>Premise</td>
</tr>
<tr>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Interpersonal-psychological model (Joiner 2005)</td>
<td>Suicidal desire is caused by high levels of burdensomeness, and thwarted belongingness; desire is probably translated into suicidal behaviour when capability is high</td>
</tr>
<tr>
<td>Schematic appraisal model of suicide (Johnson et al 2008)</td>
<td>An appraisal model which proposes that risk is caused by the interplay between biases in information processing, schema, and appraisal systems</td>
</tr>
<tr>
<td>Cognitive model (Wenzel and Beck 2008)</td>
<td>Diathesis–stress model with three main constructs: dispositional vulnerability factors, cognitive processes associated with psychiatric disturbance, and cognitive processes associated with suicidal acts</td>
</tr>
<tr>
<td>Differential activation theory of Suicidality (Williams et al 2008)</td>
<td>Associative network model, in which the experience of suicidal ideation or behaviour during a depressive episode increases the likelihood that it will re-emerge during subsequent episodes</td>
</tr>
<tr>
<td>Integrated motivational-volitional model of suicidal behaviour O'Connor (2011)</td>
<td>The model is a diathesis–stress model, which specifies the components of the pre-motivational, motivational (ideation and intent formation), and volitional (behavioural enaction) phases of suicidality</td>
</tr>
</tbody>
</table>
Interpersonal Theory of Suicide

Perceived burdensomeness
I am a burden

Thwarted belongingness
I am alone

Capability of suicide

Desire for suicide

Lethal (or non-lethal) suicide attempt

Orden et al, Psychol Rev (2010)
Integrated motivational-volitional model of suicidal behaviour

Pre-motivational phase
Background factors and triggering events

- Diathesis
- Environment
- Life events

Motivational phase
Ideation/intention formation

- Defeat and humiliation
- Entrapment
- Suicidal ideation and intent

Volitional phase
Behavioural enactment

- Suicidal behaviour

Threat-to-self moderators
Examples include social problem solving, coping, memory biases, and ruminative processes

Motivational moderators
Examples include thwarted belongingness, burdensomeness, future thoughts, goals, norms, social support, and attitudes

Volitional moderators
Examples include capability, impulsivity, implementation, intentions (planning), access to means, and imitation

O’Connor et al, International Handbook of Suicide Prevention (2011)
Stress-Diathesis model of suicidal behaviour

DIATHESIS
Sensitivity to social stress, impulsivity, pessimism, hopelessness

STRESS
Financial or marital problems, exacerbation of psychiatric disorder, emotional pain

Genetics, Childhood traumatic events

Psychiatric disorders, psychosocial adverse events

SUICIDAL BEHAVIOUR

Heeringan & Mann, Lancet Psychiatry (2014)
### Key Psychological factors

<table>
<thead>
<tr>
<th>Personality &amp; Individual differences</th>
<th>Cognitive factors</th>
<th>Social factors</th>
<th>Negative Life events</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Hopelessness</td>
<td>- Cognitive rigidity</td>
<td>- Social transmission</td>
<td>- Childhood adversities</td>
</tr>
<tr>
<td>- Impulsivity</td>
<td>- Rumination</td>
<td>- Modelling</td>
<td>- Traumatic life events during adulthood</td>
</tr>
<tr>
<td>- Perfectionism</td>
<td>- Thought suppression</td>
<td>- Contagion</td>
<td>- Physical illness</td>
</tr>
<tr>
<td>- Neuroticism and Extroversion</td>
<td>- Autobiographical memory biases</td>
<td>- Assortative mixing</td>
<td>- Other interpersonal stressors</td>
</tr>
<tr>
<td>- Optimism</td>
<td>- Belongingness and burdensomeness</td>
<td>- Exposure to deaths by suicide of others</td>
<td>- Psychophysiological stress response</td>
</tr>
<tr>
<td>- Resilience</td>
<td>- Fearlessness about injury and death</td>
<td>- Social isolation</td>
<td></td>
</tr>
</tbody>
</table>

- Pain insensitivity
- Problem solving and coping
- Agitation
- Implicit associations
- Attentional biases
- Future thinking
- Goal adjustment
- Reasons for living
- Defeat and entrapment

- Social transmission
- Modelling
- Contagion
- Assortative mixing
- Exposure to deaths by suicide of others
- Social isolation

- Childhood adversities
- Traumatic life events during adulthood
- Physical illness
- Other interpersonal stressors
- Psychophysiological stress response

O’Connor & Nock, Lancet Psychiatry (2014)
Neurobiology of suicide

- About 50% of the risk for suicide or suicide attempts is heritable.
- The specific genes are not confirmed.
- Association between susceptibility to suicidal behaviour and impairments in cognitive control and decision making.
- Early life adversity is one of the strongest risk factors for suicide.

- Adversity in childhood might be linked to suicide risk in adulthood via epigenetic modifications in specific neurotransmitter systems that cause downstream modification of brain circuitry involved in mood regulation and decision making.

- Impairments manifest as impaired cognitive control of mood, pessimism, reactive aggressive traits, impaired problem solving, over-reactivity to negative social signs, excessive emotional pain, and suicidal ideation, leading to suicidal behaviour.
Neuroimaging and neurophysiological studies:

Susceptible individuals overvalue signs of social rejection. Susceptibility resembles sensitivity to signals of defeat. Involved brain circuitry determines the processes that individuals use to control cognitively which emotions they generate and then to decide how to deal with these emotions. Deficiencies in decision-making processes might restrict the extent of choices so that suicide might be considered the only way to stop the intense, unrelenting, emotional pain. Susceptible individuals might experience intense mental pain that they find difficult to control.
References/ Further Reading

• National Confidential Inquiry into Suicide and Homicide by People with Mental Illness
• WHO – Suicide [http://www.who.int/topics/suicide/en/]
• O’Connor & Nook (2014) The psychology of suicidal behaviour. Lancet Psychiatry, 1, p.73–85
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Questions

Discussion
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MCQs

1. What is the single strongest predictor of completed suicide?

A. Mental illness
B. Previous self-harm
C. Recent bereavement
D. Having a neurodegenerative physical illness
E. Family history of suicide
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MCQs

1. What is the single strongest predictor of completed suicide?

A. Mental illness  
B. Previous self-harm  
C. Recent bereavement  
D. Having a neurodegenerative physical illness  
E. Family history of suicide

2. A patient is refusing life-saving treatment for severe blood loss after cutting her wrists. Under the law in England and Wales, whose responsibility is it to assess capacity to make a decision to refuse treatment?

A. A consultant psychiatrist  
B. A clinical psychologist  
C. Any psychiatrist who is approved under Section 12(2) of the Mental Health Act  
D. The clinician proposing the treatment  
E. The duty AMHP (Approved Mental Health Professional)
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MCQs

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MCQs

3. Which of the following are the TWO periods of highest risk of suicide? (please pick two)

A. As an inpatient, during the first week of admission
B. At home, during the first week following discharge
C. During the last week of admission when discharge is imminent
D. At home, after the first week following discharge has passed and there is less support
E. In the emergency department, while waiting for an inpatient bed
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MCQs

3. Which of the following are the TWO periods of highest risk of suicide? (please pick two)

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E. In the emergency department, while waiting for an inpatient bed
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MCQs

4. There is RCT evidence for reduction in suicide risk with which of the following medications? (please pick two)

A. Aripiprazole
B. Sodium valproate
C. Clozapine
D. Topiramate
E. Lithium
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MCQs

4. There is RCT evidence for reduction in suicide risk with which of the following medications? (please pick two)

A. Aripiprazole
B. Sodium valproate
C. Clozapine
D. Topiramate
E. Lithium
5. What is the most current estimate of lifetime risk of suicide for individuals with schizophrenia?

A. 1%
B. 2%
C. 5%
D. 10%
E. 15%
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MCQs

5. What is the most current estimate of lifetime risk of suicide for individuals with schizophrenia?

A. 1%
B. 2%
C. 5%
D. 10%
E. 15%


NB 10% was an older figure based on a 1977 study. The most recent reliable estimate is 4.9%.
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Thank you