Suicide

Theories of suicide

1. **Sociological** hypothesis (Durkheim)
   a) *Altruistic* - for the good of country
   b) *Egoistic* - individual has lost social integration with the group
   c) *Anomic* - society undergoing such change that it lacks ‘collective order’; loosened bonds and norms

2. **Ecological** hypothesis (Sainsbury)
   a) rates increase due to social mobility and isolation

3. **Psychiatric** hypothesis (Esquirol, Lindemann)
   a) mental disorder underlies suicide

4. **Analytic** hypothesis (Freud, Meninger)
   a) attack on internal hated object

- Thomas Browne (17th Century) coined the term suicide, meaning ‘self murder’
- Aaron Beck: “wilful self-inflicted life-threatening act resulting in death”

**The Health of the Nation, UK 1992**

- to reduce overall suicide rate from 11.1 to 9.4 per 100,000 (i.e. by 15 %)
- to reduce rate in severely mentally ill from 15 to 10 per 100,000 (i.e. by 33 %)

**Epidemiology**

- completers are more often:
  - male
  - psychiatric disorder
  - have made a plan
  - used a dangerous method

**Prevalence**

- *lifetime prevalence* (USA):
  - 21 % morbid thoughts
  - 10.2 % suicidal thoughts
  - 2.9 % attempted suicide

- *annual prevalence*:
  - 1 % of all deaths
  - suicide rates for UK are 16 per 100,000 males, 5 per 100,000 females during 1986-88 (Charlton et al. 1993)

- GP: (2,500 patients)
  - 1 suicide every 4 years

- Psychiatrist (catchment area 50,000)
  - 1 suicide every 3 months
Sociodemographic correlates of suicide

1. **Age, Sex :**
   a) incidence increases with age – 47% of male suicides occur after age 50
   b) recent rise in rates among adolescents and elderly (Meehan et al. 1991)
      - 1980-1986:
        i) 21% increase in suicide in over-65-year-olds
        ii) 20% increase in suicide in 15-19-year-olds
        iii) young males (aged 15-24) - 75% increase since 1982; 2nd commonest cause of death
   c) M:F = 3:1; males > females for all groups
   d) suicide pacts more common in the elderly

2. **Marital status :**
   a) divorced > widowed > single

3. **Employment :**
   a) unemployed / retired / living alone (social isolation)

4. **Urban/Rural :**
   a) urban > rural

5. **Seasonal :**
   a) highest rates in spring (April, May, June)
   b) lowest rate in December

6. **Social Class :**
   a) highest in lowest social groups
   b) lowest in middle groups
   c) rates are higher in social class V (unskilled workers) and social class I (professional) (Charlton et al. 1993)

7. **Religion :**
   a) strong religious affiliation is a protective factor

8. **Occupation :**
   a) higher risk groups are doctors, lawyers, hotel and bar trade owners
   b) also higher rates in policemen, musicians, and insurance agents
   c) vets have 3x the expected rate, and pharmacists, farmers, and doctors have 2x the expected rate (Charlton et al. 1993)

9. **Physical illness :**
   a) terminal illness / malignancies
   b) debilitating illness and disability
   c) disfigurement
   d) chronic pain
   e) renal dialysis / failed transplant
   f) Peptic ulcer (x 2) – likely to be due to overlap with alcoholism
   g) CNS disorders :
      i) Huntington’s disease
      ii) HIV / AIDS, especially in the first 6 months after diagnosis
      iii) spinal cord injuries (x 4)
      iv) risk in epilepsy patients is 4 times general population (Sainsbury 1986)
   h) CVD
   i) SLE
j) risk of suicide reported to be higher in people with low cholesterol, particularly for males – relationship poorly understood (Hawton et al. 1993)

10. Prison population:
   a) increased in recent years
   b) age > 30
   c) on remand
   d) prisoners convicted of murder/violent/sexual crimes
   e) long sentence for serious offence
   f) 1/3 have previous psychiatric history, ½ have history of previous DSH
   g) 90% occur by hanging
   h) ½ occur in first 3 months of imprisonment

11. Other associations:
   a) history of DSH (1/3–1/2 of completers)
   b) family history of affective disorder/alcoholism/suicide
   c) birth trauma
   d) death of a parent in childhood
   e) suicide by a friend or colleague
   f) recent bereavement

12. Homicide:
   a) in the USA 5% of homicides end in suicide
   b) 2% of all suicides also involve homicide

Suicide and mental illness
- all psychiatric illness (apart from OCD) increase risk by 90-95%
- 9/10 people who die from suicide have some form of mental disorder (Robins et al. 1959)

Depression (risk 3.6 - 8.5% = 30 x general population risk)
- 11 - 17% of people who have suffered a severe depressive disorder at any time will eventually commit suicide (Fremming 1951; Black et al. 1987)
- risk is lower in manic subtype than bipolar or unipolar depressed (Newman and Bland, 1991)
- more common at the onset or during the recovery phase: it is rare in remission
- Risk factors:
  - persistent insomnia
  - self-neglect
  - impaired memory
  - agitation
  - panic attacks
  - delusions
  - desperation (predicts short term risk)
  - hopelessness (predicts long term risk)

Schizophrenia (risk 5 - 10%) (Roy, 1982)
- schizophrenia accounts for 3% of suicides (Drake and Cotton 1986)
• 10 % of schizophrenics kill themselves
• 60 % within 6 months of discharge from hospital
• Risk factors (Modestin et al. 1992) :
  • younger 
  • unemployed 
  • chronic relapsing illness 
  • previous DSH 
  • depressive episodes with anorexia and weight loss 
  • high premorbid function and educational attainment with fear of deterioration 
  • non-psychotic 
  • akathisia 
  • abrupt cessation of drugs 

Alcohol dependence (risk 3.4 - 6.7 %)
• alcohol abuse is present in 25 % of suicides (Robins et al. 1959)
• 15 % of alcoholics kill themselves, late in illness, majority are depressed
• lifetime risk is 2 % in untreated alcoholics, 2.2 % among out-patients, and 3.4 % among inpatients (Murphy and Wetzel 1990)
• among alcoholics admitted for inpatient psychiatric care, over a five year period the risk is 80 times that of the general population (Kessel and Grossman 1965)
• Risk factors (Murphy et al. 1992) :
  • male 
  • poor physical health 
  • 40-60 years 
  • high dependency 
  • chronic 
  • depressed mood – psychiatric co-morbidity with major depressive illness 
  • unemployed; poor work record in last 4 years 
  • disrupted relationship 
  • loss in previous 8 years 
  • drinking heavily in days prior to death 

Organic disorder
• epilepsy (especially TLE) 
• brain injury 
• mild dementia 

Personality disorder
• personality disorder is detected in 33 % of suicides (Seager and Flood 1965)
• High risk :
  • antisocial 
  • lability of mood 
  • aggressiveness 
  • impulsivity 
  • peer alienation 
  • younger, broken home
• violent and substance abusing sub-culture

Neurosis
• mostly depression
• panic disorder – at 7 year follow up, 3 of 74 panic disorder patients had died by suicide, 5 had made serious suicide attempts (Noyes et al. 1991)
• PTSD – combat-related guilt is predictor of suicide (Hendin and Haas, 1991)
• anorexia, bulimia
• not OCD – rate of suicide in depressed OCD patients is 6 times less than in depressed patients without OCD

Special populations

Adolescents
• rate increasing
• rare before age of 14
• possibly related to substance misuse, availability of firearms, divorce, lack of religious involvement

Elderly
• rate increasing
• 80-90 % of elderly suicides have depressive illness
• often first episode of depression
• DSH is more closely associated with completed suicide
• denial of suicide more common

Inpatients
• Highest risk :
  • first week of admission
  • early stages of recovery
  • between shifts of staff
  • on leave (patients and staff)
  • bank holidays
  • discharge (premature)
  • risk is increased 30 x in the month after discharge
• two-thirds of people had consulted their GP in the previous month and 40 % had done so in the previous week (Barraclough et al. 1974)

Methods (related to availability)

<table>
<thead>
<tr>
<th>Method</th>
<th>Males %</th>
<th>Females %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car exhaust *</td>
<td>30</td>
<td>11</td>
</tr>
<tr>
<td>Self-poisoning</td>
<td>15</td>
<td>42</td>
</tr>
<tr>
<td>Hanging</td>
<td>28</td>
<td>17</td>
</tr>
<tr>
<td>Firearms</td>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>
Drowning

2.5

6

* this has decreased because of the use of catalytic converters
• incidence of poisoning and hanging increase with age

Aetiology

Genetics
• suicidal behaviour clusters in family
• MZ : DZ = 11.3 % : 1.8 % (Roy et al. 1991)

Neurochemical
1. Serotonin :
   a) serotonin deficiency – suicide completers had lower CSF 5-HIAA than attempters (Asberg et al. 1986)
   b) decreased CSF 5-HIAA is the most consistent finding in patients with DSH (Mann et al. 1992)
   c) post-mortem autoradiography shows decreased 5-HT receptors in the frontal cortex and hippocampus
2. Opiate :
   a) increased receptor density
3. Noradrenaline :
   a) decreased cortical alpha-1-noradrenergic receptor density

Assessment of suicidal risk

The Beck Suicidal Intent scale (>5 is significant)
1. Preparation
   a) planning in advance
   b) suicide note
   c) final acts
2. Circumstances
   a) alone
   b) intervention unlikely
   c) precautions against delivery
3. After the act
   a) didn’t seek help
   b) stated wish to die
   c) believed the act would result in death
   d) regrets its failure

• 1 in 100 people who express suicidal intent will kill themselves
Deliberate Self Harm

- **Non-fatal Deliberate Self Harm (DSH)** (Morgan 1979): “Deliberate non-fatal act known to be potentially harmful, or if an overdose, that the amount taken is excessive”
- **Parasuicide** (Kreitman 1977): “Behavioural analogue of suicide without considering psychological orientation towards death”
- **Attempted Suicide** (Stengel & Cook): “Every act of self injury consciously aimed at attempts to kill themselves. But it acknowledges the gravity of the situation”
- **Deliberate self-poisoning** (Kessel and Grossman 1965): ‘deliberate self injury’ substituted for ‘attempted suicide’ because many patients ‘performed their acts in the belief that they were comparatively safe’

Epidemiology

Sociodemographic factors with DSH

1. **Age, Sex**:
   a) 2/3 of DSH under 35 years
   b) F:M = 1.5-2.5:1
      i) commonest in 15-24 year old females
      ii) peak incidence later (mid 20s) for males

2. **Marital status**:
   a) divorced > single > widowed
   b) marital problems is a risk factor

3. **Urban/ Rural**:
   a) urban > rural
   b) high rates in ‘inner city’ areas associated with overcrowding, lack of facilities, less social cohesion

4. **Social class**:
   a) inverse relationship – higher rates in lower social classes

5. **Unemployment**:
   a) relative risk for males = 12.1
   b) relative risk for females = 13.6

6. **Other associations**:
   a) poor health
   b) long term problems
   c) life event in last 6 months (risk x 6)
      i) 65 % are preceded by major life event
      ii) 50 % preceded by serious arguments with partner/ friend
d) more common in Asian females than Caucasian females

e) superficial self-cutting (8-15 %) is more common in caring professions

**DSH and mental illness**

- definite psychiatric illness is found in less than 1/3 of patients
- most common diagnoses are:
  - reactive depression
  - alcoholism
  - panic disorder
  - personality disorder has been reported in a third to half of self-harm patients (Kreitman 1977) – borderline, sociopathic

- repetition rates are around 15-25 % in the year after the act (Kreitman 1977)
- suicide rate after DSH is 1-2 % (100 times the general population risk) (Kreitman 1977)
- 50 % of suicides had history of DSH (Kreitman 1977)
- greatest risk in first 6 months, risk remains high for 5 years then decreases if no DSH during this period
- 40 % have taken alcohol in the six hours before the act (Hawton et al. 1989)
- rare conditions e.g. Lesch-Nyhan syndrome (disorder of purine synthesis)

**Predictors of repetition**

- number of previous episodes of DSH
- features of personality disorder
- history of violence
- criminal record
- unemployment
- alcoholism
- unmarried, lowest social class
- females = males

**Factors of DSH indicating suicidal intent**

- isolation
- timing
- precautions to avoid intervention
- suicide note (association may be disputed – O’Donnell et al. 1993)
- anticipatory acts
- ‘subjective’ appraisal of state of mind
- ‘dangerousness’ of state of mind
Repeated self mutilation

Epidemiology
- 3-4 % of general psychiatric population within 1 month
- 15 % of subnormal population within 1 month
- younger
- women > men in hospital populations

Type of DSH
1. Deep self-cutters / suicidal :
   a) serious attempt
2. Self-mutilators / psychotic :
   a) schizophrenics acting on hallucinations
   b) transsexuals
3. Superficial self-cutters :
   a) younger (16-24)
   b) injure to relieve tension, sense of emptiness/ loss
   c) associations :
      i) eating disorders
      ii) menstrual and sexual disturbance
      iii) broken homes before 5 years old
      iv) lack of early parental warmth and physical contact
      v) hospitalization and surgery before 5 years
      vi) low self esteem – dislike of body
      vii) poor verbalization (i.e. act out)
      viii) obsessional and borderline personality traits
      ix) alcohol or drug misuse in 50 %
   d) precipitants :
      i) recent loss
      ii) rejection or impasse in relationships

Special groups
- children and adolescents - more often boys and associated violence
- university students - especially males, lonely, and under pressure
- certain professions - doctors, anaesthetists, psychiatrists, vets
- masked intent - a lifting of mood may occur when the decision is made to commit suicide thus removing the uncertainties
- rational suicide
Psychodynamic and cognitive behavioural aspects

- **Freud**: suicide results from displaced murderous impulses directed toward self rather than internalized object
- **Fenichel**: fulfillment of reunion wish (as part of pathological grief, especially at anniversary)
- **Jung**: reunion / rebirth

- **rescue fantasies**
  - on behalf of the doctor ultimately increase the risk to the patient as they cannot be maintained, leading to disappointment, sense of rejection, and possible suicide
  - encourage the patient’s fantasy that the doctor is the ever sought after ideal mother

- **patient’s hidden agenda**
  - may prove that no-one is good enough, and colluding with the patient by rescuing them allows them eventually to prove you wrong

- **countertransference** feelings
  - the therapist may harbour unconscious wishes that the patient will die

- **reaction formation**
  - may be a defence used by the doctor to deal with negative feelings by converting them into aggressively heroic attempts to save them
  - this makes the patient feel even more empty, leaving them with very few really autonomous acts (of which suicide is one)

Factors in doctor-patient interaction that increase risk

1. doctor perceived as unhelpful and unsympathetic*
2. doctor feels hostility towards patient*
3. doctor feels hopeless towards patient
4. communication difficulties (e.g. language)
5. patient seen as a special case

* = *malignant alienation*, Morgan