

# **SUICIDE AND OTHER PSYCHIATRIC EMERGENCIES**

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# Suicide

## INTRODUCTION

- Suicide is derived from the Latin word for "self-murder." It is a fatal act that represents the person's wish to die.
- In psychiatry, suicide is the primary emergency.
- Suicide is impossible to predict, but numerous clues can be seen.
- It is almost always the result of mental illness, usually depression, and is amenable to psychological and pharmacological treatment.

# EPIDEMIOLOGY

- There are over 35,000 deaths per year (approximately 100 per day) in the United States attributed to suicide.
- It was responsible for more than 48,000 deaths in 2018, resulting in about one death every 11 minutes.
- Worldwide, close to 800 000 people die due to suicide every year, which is one person every 40 seconds.
- There is a 25 to 1 ratio between suicide attempts and completed suicides.
- Suicide is the 10th leading cause of death in the United States.

- It is the second leading cause of death for people 10 to 34 years of age.
- The prime suicide site in the world is the Golden Gate Bridge in San Francisco, with 1,600 suicides committed there since the bridge opened in 1937.

# Risk Factors

**Gender Differences**: Men commit suicide more than 4 times as often as women - despite the fact that women attempt suicide or have suicidal thoughts 3 times as often as men.

This disparity may be related to the methods used. Men are more likely than women to commit suicide using firearms, hanging, or jumping from high places. Women more commonly take an overdose of psychoactive substances or poison.

Globally, the most common method of suicide is hanging.

**Age:** For all groups, suicide is rare before puberty. Suicide rates increase with age and underscore the significance of the midlife crisis.

Among men, suicides peak after age 45; among women, the greatest number of completed suicides occurs after age 55.

Older persons attempt suicide less often than younger persons, but are more often successful. Although they represent only 13 % of the total population, older persons account for 16 % of suicides.

The suicide rate, however, is rising among young persons. Suicide is the third leading cause of death in those aged 15 to 24 years, after accidents and homicides.

**Religion:** Historically, Protestants and Jews in the US have had higher suicide rates than Catholics. Muslims have much lower rates than Hindus.

**Marital Status:** Marriage lessens the risk of suicide significantly, especially if there are children in the home. Single, never-married persons register an overall rate nearly double that of married ones. Divorce increases suicide risk, with divorced men 3 times more likely to kill themselves as divorced women.

Suicide occurs more frequently in persons who are socially isolated and have a family history of suicide.

**Occupation:** The higher the person's social status, the greater the risk of suicide, but a drop in social status also increases the risk. Work, in general, protects against suicide.

Among occupational rankings, professionals, are considered to be at greatest risk. Other high-risk occupations include law enforcement, dentists, artists, mechanics, lawyers, & insurance agents.

Suicide is higher among unemployed persons.

**Physical Health:** About 1/3<sup>rd</sup> of all persons who commit suicide have had medical attention within 6 months of death, and a physical illness is an important contributing factor in about half of all suicides.

Factors that contribute to both suicides and suicide attempts are loss of mobility, especially when physical activity is important to occupation/recreation; disfigurement among women; and chronic, intractable pain. Patients on hemodialysis are at high risk.

The secondary effects of illness – such as disruption of relationships and loss of occupational status - are prognostic factors. Certain drugs can produce depression, which may lead to suicide.

These include reserpine, corticosteroids, antihypertensives, & some anticancer agents. Alcohol-related illnesses, such as cirrhosis, are associated with higher suicide rates.

**Mental Illness:** Almost 95 % of all persons who commit or attempt suicide have a diagnosed mental disorder. Depressive disorders account for 80 % of this figure, schizophrenia for 10 %, and dementia or delirium for 5 %. Among all persons with mental disorders, 25 % are also alcohol dependent & have dual diagnoses.

**Psychiatric Patients:** Their risk for suicide is 3 to 12 times that of nonpatients. Male & female psychiatric patients who have at been inpatients have 5 & 10 times higher suicide risks, respectively.

The psychiatric diagnosis with greatest risk of suicide in both sexes is a mood disorder. The period after discharge from the hospital is also a time of increased suicide risk.

**Previous Suicidal Behavior:** A past suicide attempt is perhaps the best indicator that a patient is at increased risk of suicide. Studies show that about 40 percent of depressed patients who commit suicide have made a previous attempt. The risk of a second suicide attempt is highest within 3 months of the first attempt.

# ETIOLOGY

## Psychological Factors

**Freud's Theory:** Freud stated his belief that suicide represents aggression turned inward. Freud doubted that there would be a suicide without an earlier repressed desire to kill someone else.

**Recent Theories:** A study by Aaron Beck showed that hopelessness was one of the most accurate indicators of long-term suicidal risk.

**Biological Factors:** Diminished central serotonin plays a role in suicidal behavior.

Low concentrations of the serotonin metabolite 5-hydroxyindoleacetic acid (5-HIAA) in the lumbar CSF were associated with suicidal behavior.

**Genetic Factors:** Suicidal behavior, as with other psychiatric disorders, tends to run in families. In psychiatric patients, a family history of suicide increases the risk of attempted suicide and that of completed suicide in most diagnostic groups.

**Twin Studies:** Although monozygotic and dizygotic twins may have some differing developmental experiences, monozygotic twin pairs have significantly higher concordance for both suicide and attempted suicide, suggesting that genetic factors may play a role in suicidal behavior.

**Parasuicidal Behavior:** Parasuicide is a term used to describe patients who injure themselves by self-mutilation, but who usually do not wish to die.

About 4 percent of all patients in psychiatric hospitals have cut themselves; the female-to-male ratio is almost 3 to 1 . The incidence of self-injury in psychiatric patients is estimated to be more than 50 times that in the general population.

Most cut delicately, not coarsely, usually in private with a razor blade, knife, broken glass, or mirror. The wrists, arms, thighs, and legs are most commonly cut; the face, breasts, and abdomen are cut infrequently.

Most persons who cut themselves claim to experience no pain and give reasons such as anger at themselves or others, relief of tension, and the wish to die.

Most are classified as having personality disorders and are significantly more introverted, neurotic, and hostile.

Alcohol abuse and other substance abuse are common.

Self-mutilation has been viewed as localized self-destruction, with mishandling of aggressive impulses caused by a person's unconscious wish to punish himself or herself or an introjected object.

# PREDICTION

High-risk characteristics include more than 45 years of age, male gender, alcohol dependence, violent behavior, previous suicidal behavior, and previous psychiatric hospitalization.

It is important to ask questions about suicidal feelings and behaviors, often directly.

Asking depressed patients whether they have had thoughts of wanting to kill themselves does not plant the seed of suicide. To the contrary, it may be the 1<sup>st</sup> opportunity a patient has had to talk about suicidal ideation that may have been present for some time.

# Variables Enhancing Risk of Suicide among Vulnerable Groups

Adolescence and late life

Bisexual or homosexual gender identity

Delusions

Divorced, separated, or single marital status

Family history of suicide

Hallucinations

Hopelessness

Lethality of previous attempt

Living alone

Male sex

Previous attempts that could have resulted in death

Sexual abuse

Signals of intent to die

Suicide epidemics

Unemployment

# Treatment

Most suicides among psychiatric patients are preventable, because evidence indicates that inadequate assessment or treatment is often associated with suicide.

The evaluation for suicide potential involves a complete psychiatric history; a thorough examination of the patient's mental state; and an inquiry about depressive symptoms, suicidal thoughts, intents, plans, and attempts.

A lack of future plans, giving away personal property, making a will, and having recently experienced a loss all imply increased risk of suicide.

The decision to hospitalize a patient depends on diagnosis, the patient's/family's coping abilities, the patient's living situation, availability of social support, & the absence or presence of risk factors for suicide.

# Inpatient versus Outpatient Treatment

Admission must be offered.

Ask patients who are considered suicidal to agree to call when they become uncertain about their ability to control their suicidal impulses. Patients who can make such an agreement with a doctor, in return for a patient's commitment, clinicians should be available to the patient 24 hours a day.

If a patient who is considered seriously suicidal cannot make the commitment, immediate emergency hospitalization is indicated; both the patient and the patient's family should be so advised.

If the patient refuses hospitalization, the family must take the responsibility to be with the patient 24 hours a day.

A clinician has several practical preventive measures for dealing with a suicidal person: reducing the psychological pain by modifying the patient's stressful environment; building realistic support; and offering alternatives to suicide.

Many psychiatrists believe that any patient who has attempted suicide, despite its lethality, should be hospitalized.

Chronically suicidal patients are difficult to treat, and they exhaust the caretakers. Constant observation by special nurses, seclusion, and restraints. Even then they cannot prevent suicide when a patient is resolute.

ECT may be necessary for some severely depressed patients, who may require several treatment courses.

Vigorous treatment with antidepressant or antipsychotic medication should be initiated, depending on the underlying disorder.

Supportive psychotherapy by a psychiatrist shows concern and may alleviate some of a patient's intense suffering.

Patients recovering from a suicidal depression are at particular risk. As the depression lifts, patients become energized and, thus, are able to put their suicidal plans into action (paradoxical suicide).

Sometimes, depressed patients, with or without treatment, suddenly appear to be at peace with themselves because they have reached a secret decision to commit suicide. Clinicians should be especially suspicious of such a dramatic clinical change, which may portend a suicide attempt.

# NEUROLEPTIC MALIGNANT SYNDROME

## Epidemiology and Risk Factors

- Estimates of the risk for NMS have varied widely (from 0.02% to more than 3%).
- NMS may be caused by typical or atypical antipsychotic agents, with high-potency neuroleptics producing an elevated risk and more intense cases of NMS.
- A history of catatonia is a major risk factor, as is a history of NMS, with up to 1/3<sup>rd</sup> of patients with NMS having a subsequent episode when re-challenged.
- Agitation, dehydration, and exhaustion may also increase the risk for NMS.

- Low serum iron levels is a state-specific finding in NMS, and patients with low serum iron in the context of catatonia may be at greater risk for NMS if placed on neuroleptic medications.
- Basal ganglia disorders (e.g., Parkinson's disease, Wilson's disease, Huntington's disease, tardive dystonia) place patients at increased risk.
- Withdrawal from antiparkinsonian agents or benzodiazepines has been reported to cause NMS-like states.

## Clinical Features and Diagnosis

- NMS is characterized by autonomic dysfunction (with tachycardia and elevated blood pressure), rigidity, mutism, stupor, and hyperthermia (associated with diaphoresis), sometimes in excess of 42°C.
- The rigidity can become “lead-pipe” in nature. Parkinsonian features, including cogwheel rigidity, may be present. Mental status changes occur in 97% of cases.

# Diagnostic Criteria for Neuroleptic Malignant Syndrome

Treatment with neuroleptics within 7 days of onset (2–4 weeks for depot neuroleptics)

Hyperthermia ( $\geq 38^{\circ}\text{C}$ ), muscle rigidity

5 of the following:

1. Change in mental status
2. Tachycardia
3. Hypertension or hypotension
4. Tachypnea or hypoxia
5. Diaphoresis or sialorrhea
6. Tremor
7. Incontinence
8. Creatine phosphokinase elevation or myoglobinuria
9. Leukocytosis
10. Metabolic acidosis

Exclusion of other drug-induced, systemic, or neuropsychiatric illness

- Most commonly, NMS develops over a few days. The course is usually self-limited, lasting from 2 days to 1 month (once neuroleptics are stopped and supportive measures are begun).
- Although the mortality rate has been reduced through better recognition and management, there is still an approximately 10% risk of death.
- Myoglobinuric renal failure may have long-term consequences.

# Management and Treatment

- Approaches to treating malignant catatonia and NMS are similar to those used to treat catatonia. Lorazepam treatment for NMS, rigidity and fever abated in 24 to 48 hours, whereas secondary features of NMS dissipated later.
- When a patient has malignant catatonia of any type, ECT should be used expeditiously.
- Dopaminergic agents, such as bromocriptine and amantadine, have been used successfully in NMS.

# SEROTONIN SYNDROME

Recent addition of SSRI or drugs which increase availability of serotonin like MAO inhibitors, L-tryptophan, are implicated when given in combination of SSRI

## CLINICAL FEATURES

- Diarrhea
- Restlessness
- Extreme agitation
- Hyperreflexia
- Autonomic instability
- Myoclonus, seizure, hyperthermia, rigidity
- Delirium, coma, status epilepticus, cardiovascular collapse and death

TREATMENT- Stop offending agent

- Supportive care

# LITHIUM TOXICITY

Mild to moderate (1.5-2.0 mEq/l)	GI	Vomiting, abdominal pain, dryness of mouth
	Neurologic	Ataxia, dizziness, slurred speech, nystagmus, lethargy
Moderate to severe (2.0-2.5 mEq/l)	GI	Anorexia, persistent nausea and vomiting
	Neurologic	Blurred vision, fasciculations, clonic limb movements, hyperactive DTR, choreoathetoid movements, convulsion, delirium, syncope, stupor, coma, circulatory failure
Severe (> 2.5 mEq/l)		Generalized convulsions, oliguria & renal failure, death

# LITHIUM TOXICITY

## MANAGEMENT

- Discontinue lithium
- If possible instruct to ingest plenty of fluids or give IV fluids
- Order lithium level, serum electrolytes, RFT and ECG as soon as possible
- Induction of emesis, gastric lavage
- Vigorous hydration and electrolyte balance
- If  $\text{Li}^+ > 4.0 \text{ mEq/L}$ , hemodialysis should be started
- Repeat dialysis may be needed

# ACUTE INTOXICATION

- Substances commonly found in our settings include alcohol, cannabis and opioids.
- Mostly they are brought by their family members, as they are likely to cause harm to themselves as well as family members.
- Priority should be to ensure that they do not cause harm to themselves or family members.
- Conservative management, monitor vitals and conduct a general physical examination.
- Oral/injectible benzodiazepines to manage symptoms.

# ALCOHOL WITHDRAWAL

## CLINICAL FEATURES:

- Agitation
- Anxiety
- Tremors (6-8 hours)
- Psychotic symptoms (8-12 hours)
- Seizures (12-24 hours)
- Delirium (after 72 hours)

# ALCOHOL WITHDRAWAL

## ALCOHOL HALLUCINOSIS

- Characterized by – vivid, persistent illusions and hallucination with clear sensorium (maybe auditory or tactile)
- May last several weeks
- Antipsychotic should be used as symptomatic treatment (to reduce agitation)

# ALCOHOL WITHDRAWAL

## SEIZURES(IN ALCOHOL WITHDRAWAL)

- Typically tonic-clonic type
- Usually occurs 6-48 hours of cessation
- Diazepam 5-10 mg slow i.v. (5mg / min.)
  - ↓
- Repeat if needed after 10-15 min.
  - ↓
- Max. upto 30 mg / day
- Call a neurology consultation
- NOTE:- non-BZD anticonvulsants should not be given.
- For prophylaxis chlordiazepoxide (upto 100mg) can be used.
- Recently carbamazapine 800mg/day is also proved to be effective to control seizure

# ALCOHOL WITHDRAWAL

## DELIRIUM TREMENS

- Usually occurs after 48-96 hours of cessation of alcohol
- Lasts 1-5 days
- If untreated mortality is as high as 20%

### CLINICAL FEATURES:

- Disturbance of consciousness
- Agitation, hallucination
- Autonomic hyperactivity
- Circulatory collapse, coma

# ALCOHOL WITHDRAWAL

## GUIDELINES FOR THE MANAGEMENT OF DELIRIUM TREMENS

- Secure an i.v. access
- Lorazepam 2 mg or Diazepam 10 mg i.m./i.v. if oral route is not an option
- Repeat until symptoms clear
- 1st day- repeat the same dose as given on first day
- By 3<sup>rd</sup> day taper gradually over the course of 3-4 days
- Avoid physical restraints (patient may get exhausted)
- High calorie and high carbohydrate (with vitamin supplement) should be given.
- Reorientation
- Haloperidol 2-5 mg i.m. or i.v. 2-4 hrs. to control severe agitation or psychotic symptoms (caution: reduce seizure threshold)

# ALCOHOL WITHDRAWAL

## IMMEDIATE STEPS OF MANAGEMENT

- General physical examination
- Vital monitoring
- Hydration (oral or IV)
- Pharmacological
  - Chlordiazepoxide 25-100 mg every 4 to 6 hours
  - Increased dose may required on first day acc. to withdrawal symptoms
  - Lengthier treatment is required if there is h/o DTs, head injury, or cognitive impairment (7-10 days)
- Correct deficiencies including vitamins
- NUTRITIONAL SUPPLEMENT
  - Thiamine 100mg i.m. BD/TDS for first 3-5 days then oral to complete 7 days (first dose should be given i.m.)

# CATATONIA

Catatonia is a clinical syndrome characterised by striking behavioural abnormalities that may include motoric immobility or excitement, profound negativism or echolalia.

## CLINICAL FEATURES:

- Mutism
- Stupor
- Holding of food/saliva in mouth
- Posturing
- Rigidity
- Negativism
- Staring
- Might present with autonomic and vital instabilities

# CATATONIA

## CAUSES:

1. Psychiatric illness presenting with catatonia.
2. Medical illness presenting with catatonia

## DIFFERENTIAL DIAGNOSIS:

Neuroleptic malignant syndrome

Stupor

Toxic serotonin syndrome

Akinetic mutism

Locked In Syndrome

Non convulsive status epilepticus

# CATATONIA

## MANAGEMENT:

- Rule out medical causes if any.
- General physical examination and vitals monitoring
- A trial of Intravenous Lorazepam injection and seeing the response. 2 mg diluted with distilled water can be given.
- On the basis of severity of symptoms, patient can be admitted.
- Routine blood investigations especially serum electrolytes.

# DELIRIUM

Delirium defined by DSM-5 is characterised by an acute decline in both the level of awareness and cognition with particular impairment in attention.

## CLINICAL FEATURES:

- Fluctuating levels of consciousness
- Agitation
- Irrelevant talks
- Disturbed sleep
- Flocillatory movements
- Sundowning of symptoms
- Alteration in sleep wake cycle
- Transient visual hallucinations

# DELIRIUM

## CAUSES:

- Can be various ranging from electrolyte imbalances to post-ictal, high grade fever, post head injury or due to an underlying pathology in the body.
- Along with the clinical features, disturbances in blood pressure, pulse and temperature are seen.

## MANAGEMENT

- Prompt physical examination and vital monitoring.
- Treat the cause, fluid replacement in patients with deranged vitals.
- Symptomatic management if patient is agitated with benzodiazepines/low dose antipsychotics.

# EXTRAPYRAMIDAL EMERGENCIES

These are observed after intake of antipsychotic medication

Types:

1. ACUTE DYSTONIA
2. AKATHISIA

# ACUTE DYSTONIA

It can develop within minutes of use of antipsychotics.

CLINICAL FEATURES: (even presence of 1 of these can diagnose acute dystonia after intake of antipsychotics)

- Abnormal posturing of the head and neck
- Spasms of jaw muscles
- Impaired swallowing, speaking, breathing
- Slurred speech
- Tongue protrusion/dysfunction
- Deviated eyes (oculogyric crisis)
- Abnormal posture of limbs (opisthotonos)

# ACUTE DYSTONIA

## MANAGEMENT

- In cases with laryngeal involvement it can lead to compromised breathing, thus immediate identification and treatment is essential.
- Prompt vital monitoring should be done.
- Immediate injection of anticholinergics - injection Promethazine 50 mg IV.
- Other drugs which can be given: IM/IV Benzotropine 1-2 mg and Diphenhydramine 50 mg.

# AKATHISIA

- Occurring in almost 20-45% of patients treated with antipsychotics. Can be reported after use of various other drugs eg: SSRIs.

## CLINICAL FEATURES:

- Occurs within weeks of starting medication, lasts less than 6 months and is characterised by intense dysphoria and inner sense of restlessness.
- Along with this one of these observable movements should be present:
  - Fidgeting or swinging of legs
  - Pacing
  - Rocking from foot to foot while standing
  - Lifting the feet as if marching
  - Crossing and uncrossing of legs while sitting
  - Inability to sit or stand in one place for several minutes

# AKATHISIA

## MANAGEMENT

1. Dose reduction or stop & switching to another antipsychotic.
2. Betablockers eg, Propranolol are the drug of choice.
3. Other options include:
  - Benzotropine 1-8 mg/day
  - Benzodiazepines- Lorazepam 1-2 mg/day
  - Cyproheptadine

**THANK YOU**