

**ABSTRACT**

**The aim of this article is to provide readers with a guide on how to assess suicide risk in Singapore. Often it is not just one factor, but a combination of factors which triggers a person to suicide. It is through the understanding of these risk factors, that we can better assess the risk of suicide in our patients.**

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**INTRODUCTION**

Suicide is an international public health problem. Over a million people kill themselves a year and more than half of these occur in Asia<sup>1</sup>. Suicide rates are calculated as number of suicides per 100,000 population. In general, suicide rates are very high in Eastern Europe, and East Asia (e.g. rural China, Japan and Korea), and very low in the Middle East. Compared with other Asian countries like Hong Kong, Taiwan, Japan and China, our suicide rate in Singapore is relatively low<sup>2</sup>. Also, whilst suicide rates in other Asian countries continue to rise in recent years; overall rates in Singapore have remained quite stable, fluctuating from 9-12 per 100,000. In a recent study<sup>3</sup>, interestingly it was found that the elderly suicide rates for both sexes in Singapore have dropped significantly during the last 5 decades.

Most of the comprehensive studies of suicide in Singapore are based on data obtained from the Registry of Birth and Death, and from Coroner's Court reports<sup>4,7</sup>. Each potential suicide case in Singapore is thoroughly investigated at the Coroner's inquest, and Coroner's Court case files contain a wealth of information, including demographic data about the suicide victim, a police reports with date, time and eye-witness accounts, affidavits from the suicide victims' family and friends, suicide notes, medical reports, post-mortem forensic findings and toxicology reports.

With more data becoming more available in recent years, we are now able to better understand how demographic, social, psychological, and clinical factors interact to create suicide risk within our community. The aim of this article is to provide readers with a guide on how to assess suicide risk in Singapore. Suicide statistics presented will be mainly from the years 2000-2004, and comparison will be made with other studies where necessary.

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**SINGAPORE SUICIDE STATISTICS: 2000-2004**

There were 1717 Singapore resident (citizen and permanent resident) suicides from 2000-2004. Thus, on an average, there were approximately 350 suicides per year, or one suicide per day. Most were aged between 25 and 59 (63.5%), with the youngest being 10 and the oldest being 102 years. In terms of suicide rates, these were highest in elderly Chinese males (40.3 per 100,000), and lowest in Malay females (1.8 per 100,000). During the same period, there were also 162 non-resident suicides (8.6%) consisting mainly of female Indonesian maids and male construction workers from India and Thailand.

Suicide accounts for 2.2% of all death in Singapore. This percentage is highest for young females aged 20-39 (18.5%) and young males also aged 20-39 (14.2%) where deaths from other causes (e.g. heart attack, strokes and cancers) are uncommon. In young females, this percentages of death is even higher than that caused by motor vehicle accidents (3.8%) or homicide (1.3%); and in males, it is the second most common cause of death in young man after motor vehicles accidents (14.9%).

Suicide only accounts for a small percentage of deaths in the elderly (0.6%) as most die of more natural causes, but because the elderly population is relatively small, the rate was quite high (31.3 per 100,000).

**SUICIDE RISK FACTORS**

Through various studies in suicide, it is now quite clear which groups are at greatest risk. Also, often it is not just one factor, but a combination of factors which triggers a person to suicide. It is through the understanding of these risk factors, that we can better assess the risk of suicide in our patients.

**A. Demographic Risk Factors**

1. Suicide rates are highest in elderly Chinese males.
2. Males are 1.5 times more likely to suicide than females. This ratio is smaller (1:1) in the younger age-group and larger (2:1) in the older age group.
3. Rates in ethnic Chinese (13.3 per 100,000) and Indians (13.0 per 100,000) are much higher than that in ethnic Malays (2.3 per 100,000).
4. Divorced individuals are at greatest risk, and while marriage appears to protect against suicide in young females and older males, it does not in young males and elderly females.

**B. Social Risk Factors**

Social or life stressors are one of the potential stimuli to suicide. From affidavits from family and friends and from reviews of suicide letter from 2000-4, common themes of suicide include

1. Relationship problems (girl-boy and parent-child), and

- school stress (examinations) in the young (aged < 24 years).
2. Marital, financial, unemployment and other job-related problems (e.g. unhappiness at work) in the adult age group (24-59 years).
  3. Physical illness, relationship problems (parent- child), loneliness, bereavement and fear of being a burden in the elderly (>60 years).

Overall, relationship problems were associated with one-third of all suicides, and were seen across the spectrum in all age groups.

Financial (failed business, debt and legal issues) or employment problems were associated with a further one-third. As a group, risk of suicide in the unemployed is particularly high, with unemployment rates in suicide victims (aged 24-59 years) being 20 times higher than the employed.

Gradual physical disability and suffering (due to illness and advance age) are important risk factors in the elderly suicide, particularly if coupled with poor community and family support. The percentage of cancer-related suicides, for example, has increased in recent years as our population ages. Recent initiatives to focus on improving health and community support in palliative and elderly care are therefore welcome, and will hopefully help to lower suicide risk in this very vulnerable age group.

### C. Clinical (Psychological and Psychiatric) Risk Factors

1. Those with certain personality type are at risk (28%). Most typically they tend to be proud, secretive, lonely people with low self esteem, a tendency to worry un-necessary and with poor problem solving skills. These personality types find it difficult to relate to other, share problems and seek solutions.
2. People with addictions are also at risk. These include those with drug addiction (10.5%), alcoholism (5%), gambling problem (5%) and deviant sexuality (0.6%).
3. Mental illness is also a major risk-factor; and is associated with suicide in 58%.

The care of mental patients in Singapore has improved markedly over the last two decades. This has resulted, amongst other things, in the fall of percentage of schizophrenics committing suicide from 21.2% in 1969-74 to 14.5% in 2000-04.

More suicide victims now receive psychiatric and medical treatment prior to the acts. From 2000-2004, for example, there were 448 cases of suicide associated with major mental illness; 98% of which were under psychiatry care, and 83% of whom had been in contact with their health care professionals in the last month. However, toxicology finding showed therapeutic levels of antipsychotic drugs in only 21% and anti-depressive drug in 15%. This suggests that suicide victims may not have

been taking their drugs prior to suicide, and that we need to work harder at ensuring better compliance amongst our patients.

#### Non-resident suicides

Foreign workers and students are another group at high risk. During the last decade, 62 Indonesian maids committed suicide in Singapore; 18 between 1995-9, and 44 from 2000-2004. The most common reason given was with their jobs (49%).

*'I cannot stand anymore to work here because I have to work from 5am till mid-night. Mam is bad, Sir is bad. There is not a day without scolding. I cannot bear it anymore.'* – Indonesia Maid, aged 20 years.

These foreign workers and students are often very young, away from their families for the first time, alone in a strange place with little community support, under pressure to pay off the debt they acquired to get to Singapore, and have very little say in their working or living conditions. Sometimes when the stressors become too much, some may turn to suicide.

### METHODS OF SUICIDE

In Singapore, where 90% of the population live in high-rise flats, jumping from a height is the single most common mode of suicide (73%). 70% will jump from within their own units (most commonly their kitchen) or close by (e.g. from the common corridor and staircase landing). This is easily accessible and a very lethal mean of suicide which is difficult to prevent.

Hanging used to be an important method but its incidence has fallen from 31% in the 1970s but now only accounts for 18%. Older methods such as drowning, burning, and knifing are now also less common. Other new modes of suicide include gassing at home or in a car (3.7%); and overdoses with anti-depressive medications (1.2%). Charcoal burning is an emerging method which started in Hong Kong and has spread to Japan and Taiwan<sup>8</sup>, but is as yet not common in Singapore.

### MYTHS OF SUICIDE

There are several common myths of suicide:

#### 1. People who commit suicide must be insane

People who commit suicide are often in 'anguish'. About 25% of suicide victims leave behind suicide notes which provide some insight into the emotional state of victims just before they commit suicide. In a review of 398 such notes left behind in the years 2000-2004, 45% contained negative emotions such as a sense of despondency/agony (60%), followed by feelings of emptiness, guilt, shame, anger and hopelessness<sup>9</sup>. Anger, when expressed, was often directed inwards; 'I am useless, shameful,

un-filial, a bastard'. In many cases, victims expressed sadness, care and concern about their love ones; 'Please look after mother after I'm gone', 'Study hard. Listen to your mother', 'Don't forget your medicine', 'I'm sorry. Please forgive me'. Most knew that what they did was selfish and wrong, but simply could not find a solution to their problems, or cope with their emotions; 'I am in terrible pain, I can't describe my suffering'. To them, the non-existence or the next life may be better; 'I am going to Heaven. I hope my wife is there', 'I hope we will be together again in the next life', 'That's it. The end'. Only a few notes were markedly incoherent, irrational and delusional.

## **2. People commit suicide on impulse and without giving warning and people who talk about committing suicide don't do so.**

In our survey of suicide cases from 2000-2004, 45% of suicide gave some form of verbal warnings (talked or hinted about committing suicide) prior to doing so. Most suicide victims have thought about committing suicide, sometimes for years before the actual act and 23% would have attempted suicide before. The suicide act often involves some planning (e.g. acquiring the means necessary to suicide, planning the timing of the act, organizing how their possession should be distributed, and even organizing their own burial). One elderly lady elaborately arranged her suicide so that it appeared that she fell whilst cleaning the window, and left a letter instructing her family what to tell police so that no stigma would be attached to the family.

## **3. One should not try to discuss suicide with depressed patients, it might give them ideas or upset them enough to 'push them over the edge'.**

In the contrary, talking about suicide to a depressed patient often bring a relief to him/her. It makes the patient to feel that the doctor really understands him and thus will be more able to help him to relieve his 'anguish'. In assessing suicide, it may be necessary to directly ask a person: 'Have you thought about committing suicide?' 'What plans have you made?' If the answer is affirmative especially with a detailed suicide plan mentioned then the risk of suicide is high.

## **4. Improvement following a suicidal crisis means the suicide risk is over.**

Patients with major mental illness often suffer from relapse/s for various reasons. Each relapse dampens moral and further increases suicide risk. Suicide risk factors may also fluctuate over time. Therefore, even after the crisis has abated, we must remain alert and watch out for new danger.

In some cases, there may be a paradoxical uplift in mood prior to a person committing suicide. This happens when a person has finally decided to end the turmoil he is suffering by killing himself. A solution to his problem found, the patient is at peace and even happy; and surprises everyone by committing suicide several days to weeks later.

## **ASSESSING SUICIDE RISK AND MANAGEMENT**

Suicide, fortunately, is relatively uncommon, and an average psychiatrist may only see a handful of suicides in his entire career. One of the challenges that we face is trying to predict which of our patient will ultimately commit suicide, and not end up with so many false positives so as to overwhelm us.

When we deal with a suicidal patient, however, the consequence of a mistake can be lethal, it is imperative that we be comprehensive in our approach, and use both demographic and clinical factors in our suicide assessment.

Twelve general principles deserve repeating:

1. Do a full assessment and document your findings.
2. Assess demographic, social and clinical risk factors
3. Assess subject's mental state. Understand their emotional turmoil.
4. Talk with relatives and friends to gain further insight, and to assess the degree of family and community support available.
5. Built a rapport with patient and patient's family.
6. Understand that there are push-and-pull factors which influence patients risk to suicide (Figure 1), and try to maximize pull factors while minimizing push factors.
7. Ask the patient if he/she has thought about committing suicide, have made plans or have previously attempted suicide before.
8. Limit assess to suicide means. When dealing with very disturbed patients, this may include putting grills on their window, having a lock installed to prevent exit from flat, limiting supply of antidepressants, placing medication with relatives for safe-keeping, and locking their own doors when asleep at night.
9. Find the right combination of medication and dose for patients. This often involves starting low and increasing or adding medication till right dose is found. Often, there is a combination of depression and agitation, and it is sometimes useful to prescribe a low dose of a major tranquillizer to decrease agitation and help patients sleep. When prescribing medication, also consider factors like cost, dosage and side-effects of medication which may influence compliance.
10. Reassess patient closely to monitor progress. In certain cases where risk is extremely high, the patient may need to be admitted for more intensive care.
11. Utilize and mobilize your team. If you have the benefit of a team, use it. Dealing with suicidal patients can be stressful and emotional draining. Working as a team spreads the emotional burden and provides you with greater support. That said, it is important that there is clear communication on the roles and responsibility of each team member, and that one person would be ultimately responsible for coordinating patient's care.
12. Remember suicide risk is not over once crisis is past. Don't let your guard down. Be vigilant.

**Figure 1. Pull and Push Factors Influencing Suicide Risks**

Push factors	Pull factors
<ul style="list-style-type: none"> <li>◆ Individual vulnerabilities</li> <li>◆ Poor social and family support</li> <li>◆ Social and economic disadvantage</li> </ul>	<ul style="list-style-type: none"> <li>◆ Healthy personality traits</li> <li>◆ Adequate social, coping and problem solving skills</li> <li>◆ Good self esteem</li> </ul>
<ul style="list-style-type: none"> <li>◆ Presence of recent 'insoluble' life event</li> <li>◆ Presence of physical or mental illness</li> <li>◆ History of gambling, drug/alcohol addiction</li> </ul>	<ul style="list-style-type: none"> <li>◆ Adequate social, community and family support</li> <li>◆ Financially secure and employed</li> </ul>
<ul style="list-style-type: none"> <li>◆ Life has become unbearable and meaningless</li> <li>◆ Situation is perceived as being hopeless</li> </ul>	<ul style="list-style-type: none"> <li>◆ Good physical and mental health</li> <li>◆ Committed to living</li> <li>◆ Family members to support</li> <li>◆ Value or belief system (eg. religion) - attitude towards suicide.</li> <li>◆ Fear of going to Hell. Acceptance of misfortune (God's will, fate)</li> </ul>
<ul style="list-style-type: none"> <li>◆ History of family suicide</li> <li>◆ Past history of suicide attempt</li> <li>◆ Availability of method</li> </ul>	

**SUICIDE PREVENTION EDUCATION**

Suicide Education Prevention can be divided into 3 groups:

1. The education of people who may come into contact with a suicidal person (e.g. counselors, social workers, teachers, police officers and healthcare workers) on how to identify people at risk,
2. The education of mental health professionals on how to assess suicide risk, and how to manage patients, and
3. The education of the general public. Here the media may play an important role. The Singapore media is usually very careful in their reporting suicide case and for good reason; they do not want to sensationalize suicide, precipitate copy-cat suicides or 'teach' people how to commit suicide by detailing methods. Under-reporting, however, creates an impression that suicide is uncommon and therefore not a problem in Singapore. Going forward, a more balanced approach is required to alert the public and to educate them about facts of suicide and how/where they can seek help if necessary.

Finally, it may not be possible to prevent all suicide. However, each of us can assist in reducing the risk.

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**LEARNING POINTS**

- **Suicide rates are highest in elderly Chinese males. Males are 1.5 times more likely to suicide than females. Rates in ethnic Chinese (13.3 per 100,000) and Indians (13.0 per 100,000) are much higher than that in ethnic Malays (2.3 per 100,000).**
- **Relationship problems were associated with one-third of all suicides, and were seen across the spectrum in all age groups. Financial (failed business, debt and legal issues) or employment problems were associated with a further one-third.**
- **Gradual physical disability and suffering (due to illness and advance age) are important risk factors in the elderly suicide, particularly if coupled with poor community and family support.**
- **Talking about suicide to a depressed patient often brings a relief to him/her. It makes the patient feel that the doctor really understands him and thus will be more able to help him relieve his 'anguish' and diffuse the suicide risk.**