Editorial

Predicting Suicide and its Prevention

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Suicide, "the act of taking one's own life", is a behaviour that has existed over many centuries and across different cultures of human civilisation. This complex issue often reflects the distress, pain and hopelessness of an individual, in a critically negative emotional and social state. Over the course of their practice, health professionals will usually be exposed to suicidal individuals at some point.

A loved one's suicide often deals a great blow to relatives and friends, even more so when it comes as unexpected news. This is especially the case when the victim is young or physically healthy. The pain it brings and the shock it causes often traumatises and leaves their loved ones feeling anguished. Having access to lethal means to kill oneself is indeed a major risk factor.

Prevalence and National Statistics

Understanding suicide as the consequence of a diverse and multifaceted process, and playing a role in preventing it, is a complex but important core competency that health practitioners should possess.

In research on suicide, challenges presented by social stigma, taboo and lack of organised suicide registry data often leads to under-reporting and misclassification of suicide into other causes of death. This renders poor data quality for suicide research. Researchers have turned to studying postmortem records of suicide cases, as well as investigating suicidal thoughts and risk factors in groups of attempted suicide and deliberate self-harm individuals, who survived their episodes of attempt.

Attempted suicide or non-fatal suicidal behaviour, where one acts with the desire to end one's life that does not result in death but self-injury, could yield important insight into the risk factors of suicide and possible preventive measures.[1] Examining cases of non-suicidal deliberate self-harm may also provide insight into the stress diathesis of these troubled individuals.

According to the Suicide Statistic report[2] by the Samaritans of Singapore (SOS), there were 361 reported suicides in Singapore in 2017. This accounts statistically for almost 1 death from suicide a day. The largest group are those aged 10-29, with males accounting for more than two-thirds of all suicides.[3]

From 2012 to 2016, the average suicide rate was 9.14 deaths per 100,000 residents. In 2017, this dropped to an all-time low of 7.74 suicide deaths per 100,000 residents.[2]

According to the SOS, while "the total suicide deaths is at its lowest in recent years, the number of the elderly aged 60 and above who took their own lives in 2017 has risen to 129". While the elderly population has grown in numbers in recent years,[4] it was noted that "the high prevalence of suicide mortality among the elderly is a worrying trend in Singapore, with the number of elderly suicide in 2017 rising to an alarming 123 per cent of that in 2011".[2] Elderly callers to the SOS hotline often share "their struggles with loneliness, social disconnection, fear of being a burden to their families and friends, impairments to daily functioning due to physical challenges and deteriorating mental health".[2] Studies have shown that elderly who are depressed and feeling a sense of hopelessness have a higher risk for suicidal ideas,[5] and could turn to suicide as a means to end their pain and struggles.

In another suicide research study funded by the Ministry of Social and Family Development (MSF),[6] Singaporean adolescents who attempted suicide, with the intent of ending their lives, reported significantly higher stressors in the domains of social, family, academic and financial matters compared to matched-controls. In particular, younger adolescents with a history of suicide attempt have more stressors compared to older adolescents especially in the domains of academic and financial matters.

In the study, adolescents with a history of suicide attempt are found to have tendency to exhibit withdrawn behaviours towards new persons, objects, situations or events. They tend to be less adaptable to changes in routine and the environment, to have a general negative outlook and less jovial behaviour, and to have an irregular daily sleep-wake

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cycle. Male adolescents who have attempted suicide tend to be more restless, fidgety and have a higher motor activity level compared to male adolescents from the control group.

Reflecting on their parent's parenting style, adolescents who have attempted suicide reported lower parental warmth, higher parental hostility, higher maternal neglect and higher maternal rejection compared to matched-controls. Parenting practices among fathers and mothers differed significantly from each other.

Adolescents who have attempted suicide are more at risk of experiencing psychiatric symptoms across domains in mood disorders, anxiety disorders, eating disorders and schizophrenic disorders. The most prevalent personality disorder traits among adolescents who have attempted suicide were borderline personality traits, avoidant personality traits, and paranoid personality traits.

In another Singapore study on deliberate self-harm (DSH) behaviour,[7] the prevalence of DSH in a sample of youth attending the state psychiatric hospital clinic in Singapore was 58.8% in 12 months. Cutting/carving (25.4%) and hitting (20.4%) were the most common forms of DSH. It was found that DSH acts were performed primarily for emotion regulation purposes. And "the risk factors identified for DSH in this study were younger age group, female gender, abuse history and higher depression scores. Gender and age group were the factors that were differentially associated with cutting and hitting oneself".

Neurobiology of Suicide

A review by Heeringen et al[8] on the stress-diathesis model suggests that "suicide is the result of an interaction between state-dependent (environmental) stressors and a trait-like susceptibility to suicidal behaviour, independent of psychiatric disorders". Postmortem studies of the brain and genomic, in vivo neuroimaging studies indicate "a biological basis with early-life adversity and epigenetic mechanisms explain some of the link between suicide risk and brain circuitry with neurochemistry abnormalities".

Recent evidence showed "impairments of the serotonin neurotransmitter system and the hypothalamic-pituitary-adrenal axis stress-response system in the diathesis for suicidal behaviour, manifesting 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".[9]

Serotonergic hypofunction, in turn, could lead to a predisposition to impulsive and aggressive behaviour, probably due to a breakdown in the inhibitory function of the ventral prefrontal cortex as a result of less serotonin input in suicide and serious suicide cases.[10] Medical therapy in depressed and suicidal patients are clearly indicated.

Prevention of Suicide

Assessing and predicting the risk of suicide, identification of treatment and prevention targets beyond major psychiatric illnesses are the main goals of suicide prevention.

National policies and programmes providing a safety net targeting at socioeconomic factors, e.g. unemployment, financial distress, real and perceived social isolation and neglect are important preventive measures against suicide.

Early detection and effective treatment intervention of mental disorders and substance abuse have proven to be keys to mitigate the inherent risk of suicide in this population.

The World Suicide Prevention Day[11] (WSPD) is an awareness day observed annually on 10 September since 2003, organised by the International Association for Suicide Prevention (IASP) and co-sponsored by the World Health Organization (WHO). It aims to showcase a worldwide commitment towards implementing effective intervention to prevent suicides. It raises a collective awareness and mobilises national resources to better understand suicidal behaviours and effectively prevent them collectively from a social-health-political vantage.

In Singapore, there has been a concerted national effort to involve multiple agencies across ministries, educational, social and health entities with a workgroup formed to study adolescent suicide in 2015 when 27 youths committed suicide—a significant increase from 17 the year before. The workgroup reviewed health, social and educational data, studied best practices in suicide prevention programmes and policies overseas, and formulated an action plan in suicide prevention. In 2017, the number of youth who died from suicide was reduced to 12, less than half that in 2015. This was an assuring relief and early affirmation of a national effort in suicide prevention. In recent years, many youth social work agencies, educators, youth peers and parents were acknowledged for their effort in raising awareness of suicide prevention, actively looking out for at-risk youth and providing them timely access to social and medical support systems.

Now, the rising needs of an elderly population and the rising numbers of elderly suicide signal an urgent call for national agencies to better understand and mitigate the adversities our elderly are facing from financial strain, social isolation, loneliness, depression, chronic pain and frailties from chronic medical illnesses.

In the battle against elderly suicide, while social agencies have a challenging task meeting the rising number of elderly, the medical fraternities and medical social work agencies provide important touch points helping to identify at-risk elderly, in order to better prevent and manage chronic pain, disabilities and provide early treatment of depression. This would tie in with a holistic patient-centred care model of

population health, extending across primary care to specialist care services.

Furthermore, with increased level of outreach effort, financial support, political commitment and greater awareness across health services, the at-risk elderly would be helped to overcome moments of distress and receive hope.

Tools for Suicide Risk Assessment

Medical services and facilities are commonplace where individuals with frailties and chronic medical conditions present. Those with comorbid depressed mood and suicidal ideation could be screened and identified for early intervention.

Screening instruments could help health professionals identify any patients at risk of depression and suicide. Besides the depression inventory, a multitier comprehensive suicide risk assessment (Tool for Assessment of Suicide Risk [TASR])[10] could help health professionals administer a structured assessment in clinic. It collates an individual's risks, symptoms, suicide beliefs and plans, and buffer profiles to generate an overall risk of suicide for the patient. Alternatively, the Suicidal Affect-Behaviour-Cognition Scale[12] (SABCS) is a 6-item self-reporting tool together with a risk barometer, providing a quick risk estimate of suicide, making it a useful short instrument for use in a busy clinical facility like the emergency department.

Conclusion

The medical fraternity can play a big part providing support and resources for people at risk of suicide, and contribute towards the larger national effort of building emotional resilience and good physical health in the population. Providing timely and effective pain management, evaluating a patient's hopefulness or evidence of hopelessness, directing them to social support agencies, early mobilisation of psych-social support and providing supportive care to address underlying triggers and existential crisis, can effectively help reduce the risk of suicidal ideation progressing into action. Giving hope to the hopeless and depressed is always a privilege given to the medical profession.

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