Suicide risk assessment: myth and reality

Most clinicians appear to regard the presence or absence of suicidal ideation as a crucial sign in making some estimate of a patient’s likelihood of future suicide. In this editorial, we challenge this notion and two related myths of suicide risk assessment: that gathering more information can meaningfully improve a suicide risk assessment; and that classifying patients into groups at higher or lower risk of suicide can provide a useful guide to the use of interventions that are aimed at preventing suicide.

Is the presence of suicidal ideation among patients a useful indicator of the likelihood of future suicide?

Suicidal ideation is extremely common among patients presenting with other psychiatric symptoms. Suicidal ideation occurs in as many as 90% of patients presenting to Psychiatric Emergency Departments (1) and is reported by approximately a third of psychiatric inpatients (2,3). In contrast, completed suicide among such patients is thankfully rare. Fewer than 0.5% of patients who present to emergency departments with self harm will take their own life in the following 6 months (4), while around 1.4% of mentally ill people who have contact with hospital based psychiatric services eventually die by suicide (5). A simple review of these figures immediately suggests that suicidal ideation is unlikely to provide a useful indicator of later suicide. How could something so common be a useful predictor of something so rare?

This initial impression is confirmed by the literature. Recent meta-analyses of risk factors for suicide among psychiatric inpatients (6) and recently discharged patients (7) have shown that suicidal ideation is only weakly associated with future suicide with respective odds of 2.6 and 2.5 (8). Among general medical outpatients, the lack of predictive power associated with suicidal ideation is just as apparent. Britton and associates recently reported on suicide ideas and suicide shortly after contact with generalist healthcare providers (9). In this study, only 7 of 67 people who suicided within a week of a medical appointment had disclosed thoughts of committing suicide. Their data allow a conservative estimate of the positive predictive value of suicidal ideation for completed suicide in the following week (10). The value arrived at is 0.04%, meaning that of all patients who disclose suicide to their general medical health providers only 1 in 2500 will take their own lives in following week.

In fact, expressed suicidal ideation is a very poor predictor of future suicide. Suicide ideas are common and suicide is rare. The overwhelming majority of people who have suicide ideas do not suicide and some people, possibly even the majority of people, who do suicide do not disclose thoughts of self-destruction.

Can gathering more information meaningfully improve the prediction of suicide?

Since suicide ideas are unhelpful in a suicide risk assessment can other factors, like a history of suicide attempts, depressed mood, a family history of suicide or the presence of severe mental illness help? This question has been considered by a small number of prospective studies and numerous retrospective studies.

In 1983, Pokorny reported the results of a prospective study of 4800 people who were admitted to inpatient psychiatric facilities (11). The subjects were classified into higher and lower risk groups after being assessed with a range of questionnaires. During the five-year follow-up, 67 patients suicided, including 30 of 803 patients who were classified as high-risk according factors such as their past history of suicide attempts, the presence of depression or being widowed or divorced. However, when step-wise discriminant function analysis was used to try and improve prediction by using more suicide risk
Can classifying patients into groups at higher and lower risk of suicide provide a useful guide to treatment with the aim of preventing suicide?

What suicide risk assessment can do is define a group of patients who are statistically somewhat more likely to suicide other patients. This does not mean that suicide is a likely fate for high-risk patients. We know that very few high-risk patients suicide. Nor does it mean that suicide does not occur in low-risk groups. We know that as many as half of all suicides occur in low-risk patients (6,7). Given these limitations, let us consider what the practical use of categorising patients into low or high suicide risk groups might be?

Assume there exists a therapeutic intervention that has been proven to decrease the likelihood of suicide. It might be that categorising patients by their likelihood of suicide would be reasonable and appropriate if the proportion of true positives (suicide victims) among the whole high-risk group were large enough to justify the therapeutic intervention. This intervention would have to be sufficiently effective and sufficiently benign (in terms of side effect burden) as to mean that any down side to the health or welfare of patients who were high-risk false positives was clearly outweighed by the benefits accrued to the proportion of high-risk patients who were high-risk true positives. Most high-risk patients will not go onto suicide. In a recent study by Steeg and associates, 0.5% of those classified as at high-risk died by suicide in the next 6 months (4). Similarly, in a national study of inpatient suicide in Denmark, Madsen found that 0.23% of inpatients classified as high-risk suicided during their stay in hospital (14).

Given that the therapeutic intervention delivered to the high-risk group can only decrease the likelihood of suicide and cannot eliminate the suicide risk, and given that the vast majority of high-risk patients will not go onto suicide anyway, the number of high-risk people needed to be treated in order to prevent a single suicide is likely to be very high. As a result, the proposed therapeutic intervention would need to be benign and easy to administer. However, if there was such an intervention, effective and benign enough to give to the high-risk group, surely it should be applied to low-risk patients as well. After all, these low-risk patients are still at a greatly increased risk of suicide when compared with the general population.

In the Steeg study, the annual rate of suicide in the low-risk group was 14 times that of the general population (15). In the Madsen study, 88% of the suicides occurred in the low-risk group (16). Similarly, in the two recent meta-analysis, 40% of inpatient suicides (6) and 60% of suicides after discharge (7) occurred among low-risk patients.

Suicide risk categorisation does not have the necessary discriminating power to distinguish groups of patients at higher and lower risk of suicide in a way that provides a useful guide to treatment.

Conclusion

Suicide ideas are not a useful clinical indicator of the likelihood of suicide. Gathering more data cannot help in predicting suicide. There is no intervention powerful yet benign enough to justify its use in high-risk patients that should not also be used in low-risk patients. Perhaps, this is why there is no actual evidence demonstrating that suicide risk
assessment can contribute to suicide prevention (17).

Clinicians can, and should, conduct comprehensive assessments of their patients’ current illnesses, situations and needs. These assessments do not represent guesses as to the future conduct of the patient; they are simply among the traditional duties of doctors going about their work. We should not ignore suicide ideas. These are important communications, often aiding in a diagnostic formulation and always acting as an invaluable sign of a person’s inner despair. However, suicide ideas are not useful as an indicator of likelihood of future suicide. Other frequently cited ‘risk factors’ for suicide – depression, hopeless and substance abuse – are similar. They are not useful risk factors, but are important historical elements. They are matters that need to be discussed and attended too, symptoms of mental illness, important pieces of revealed inner life that, taken together, give us a better understanding of the person in front of us, and their needs.

When we start to think about addressing so called “risk factors” as here and now problems and not as indicators of future conduct we are returned to our age-old medical duties to treat illness and assist the person in front of us. For example, although an older man with suicide ideas is at a statistically higher risk of suicide than a less vocal younger woman, both might require treatment for their depression, both might need help with their substance use, and both might benefit from the development of a crisis plan. By offering treatment when clinically indicated to all patients, not just those who we imagine might be more likely to suicide, we are reducing the suicide potential of all mentally ill patients.

Treatment decisions made on the basis of notions of risk of future suicide are ill-founded. Suicide risk assessment lacks sensitivity and will inevitably miss cases. Moreover, it has insufficient specificity to guide therapeutic intervention. Instead of treating people according to statistical notions of risk, we should comprehensively and compassionately assess all of our patients and tailor our management according to their needs and wishes.

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Disclosures

Dr Large and Dr Ryan have provided evidence in colonial matters.

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