

Advancing Our Understanding of the Who, When, and Why of Suicide Risk

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Suicide is one of the most devastating and perplexing of all human behaviors. Whereas the mortality rate for many leading causes of death (eg, tuberculosis, pneumonia, and influenza) has declined over the past century, the suicide rate is virtually identical to what it was 100 years ago.¹ Our lack of progress in suicide prevention is in large part owing to our limited understanding of this problem. Suicidal thoughts and behaviors (STBs) rarely occur in a research laboratory where they can be carefully probed, and we have not had the technology to study them in situ. As a result, we lack a firm understanding of the fundamental properties of STBs, and when, why, and among whom they unfold.

The study by Henson et al² in this issue of *JAMA Psychiatry* helps to advance the understanding of suicide in several important ways. The authors examined the population of more than 4 million people in England who received a diagnosis of cancer between 1995 and 2015 and found that 2491 of the 3 078 843 individuals (0.08%) who died during the study period died by suicide. They observed a 20% increase in the risk of suicide in those with a cancer diagnosis compared with those in the general population. Suicide risk was especially high in the first 6 months after cancer diagnosis, as well as among those with one of several specific forms of cancer (including mesothelioma, pancreatic, esophageal, and lung cancer). The population-based nature of this study, the documentation of patient characteristics associated with increased risk, and the long study period all strengthen the inferences that can be drawn from this excellent study.

This study² adds to a growing body of research that has identified segments of the population at elevated risk for STBs, and in doing so, it also highlights important lacunae in our understanding. Some of the most consistent findings in studies of STBs are that 90% to 95% of those who die by suicide have a diagnosable mental disorder before their death³ and that the presence of certain types of physical conditions, such as multiple sclerosis and cancer (as in the study by Henson et al²), also are associated with increased risk.⁴ The fact that most people who die by suicide have one of these conditions has led some to suggest that the conditions offer an explanation of the suicide.⁵ However, the explanatory power of such an association is limited, given that most patients with mental and physical conditions never even consider suicide. We will achieve much greater progress toward understanding and preventing suicide when we answer several additional questions about people with such conditions.

Who Among Those With Mental and Physical Disorders Are at Greatest Risk of Suicide?

A recent meta-analysis examining all studies designed to test the prediction of STBs over the past 50 years revealed that (1) no one category of risk factors (eg, mental illness, physical illness) is substantially stronger than the others, (2) most studies have examined 1 risk factor at a time, and (3) the magnitude of effects for known risk factors has not grown over time.⁶ Taken together, these findings suggest that researchers will not make significant progress in this area if we continue to examine 1 broad risk factor at a time. Henson et al² did not stop at 1 risk factor but rather tested whether the associations were stronger when considering additional patient characteristics (eg, sex, age at death, and type of cancer diagnosed). Several recent studies have shown that simultaneously examining dozens (or more) of putative risk factors using machine learning methods can significantly enhance the assessment of which patients with mental or physical illness are at greatest risk for suicide.⁷ The accuracy of such an approach is still far from perfect, and the rate of false positives is unacceptably high. This represents an important point of departure for future research.

When Are People at Greatest Risk of Suicide?

Clinicians are tasked not just with identifying who is at risk for suicide, but when. Unfortunately, research has been relatively silent on this issue. The mean time between the assessment of a putative risk factor and the measurement of subsequent STB in published studies is approximately 9 years,⁶ precluding the ability to examine temporal markers of increased risk. However, there are several notable exceptions in the literature. Risk of suicidal behavior has been shown to increase dramatically in the first year after initial onset of suicidal thinking⁸ and in the week immediately after discharge from a psychiatric hospitalization.⁹ Henson et al² found that people receiving a cancer diagnosis are at highest risk for suicide in the first 6 months after receiving their diagnosis. Taken together with the findings from earlier studies, this suggests that those at high risk for STBs experience temporal transitions (eg, at onset of disease or release from hospitalization) during which they are at especially high risk. Future studies must zoom in on these periods to obtain an even better understanding of when and in which patients STBs emerge during these transitions. The development of new technologies such as smartphones, wearable biosensors, and social media platforms provide novel opportunities for continuous monitoring in situ that can be used to answer such questions,¹⁰ as well as 1 other important but so far elusive question.

How and Why Do Known Risk Factors Lead to Suicide?

Underlying all of this is the basic yet stubbornly challenging question of how and why known risk factors lead to STBs. In the study by Henson et al,² how and why do specific forms of cancer increase the risk of suicide? Answering this question could dramatically advance prevention efforts. There are myriad obvious possibilities, some of which were reviewed by the authors, and many of which are consistent with longstanding theories of suicide. Despite the poor performance of individual or small sets of risk factors for STBs, proposed theoretical models continue to be overly simple and largely overlapping, each containing some admixture of factors initially proposed many decades ago: social isolation or disconnection (per Durkheim), psychological pain (per Shneidman), and hopelessness (per Beck), which together lead to a desire to escape via suicide (per Baumeister).¹¹ Each of these factors could plausibly explain how and why a person recently diagnosed with cancer could come to die by suicide—just as they could

among those with a mental disorder. However, in both cases, whereas they are sensitive, they lack specificity, because most people with these psychological experiences do not die by suicide. Our current theoretical models are woefully incomplete and inadequate.

Conclusions

So where do we go from here? We advocate for researchers studying suicide to move beyond simple studies that test the role of mental disorders or small sets of sensitive but nonspecific sets of known risk factors. What is needed now are studies that provide data on novel constructs (ie, beyond the set of usual suspects described in the prior paragraph), as they unfold in real-time, during periods of known heightened risk, that can be used to test the complex and dynamic interactions that likely lead to STBs. Given that theory-driven general models have not gotten us very far, now is the time for us to also be more inductive and idiographic in our research.¹²

ARTICLE INFORMATION

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