Enriching the Assessment of Suicidal Ideation:

Learning From Digital Studies

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There is currently a resurgence of interest in the study of suicidal ideation (SI), a main risk factor for suicidal behavior.[1] This resurgence may be explained by the net increase in the incidence of SI in the population during the COVID-19 pandemic, especially in young people.[2] Also, the research interest in new drugs capable of treating SI effectively and immediately indicates that this is a genuine therapeutic target, with the potential to reduce the incidence of suicidal acts.[3] Finally, with a view to prevention, several theories have focused in recent years on distinguishing between the processes involved in the generation of SI and those involved in the acts themselves, leading to question the "transition from ideas to acts."[4] At the same time, recent US guidelines stated that whereas the screening of depression is recommended in primary care, such is not the case for SI.[5] This lack of recommendation has been justified by the fact that neither the validity nor the usefulness of detecting suicidal ideas were evidence based. This set of concerns raises questions about how to assess SI and its relevance to improving care with a view to preventing suicidal behavior. Indeed, it is unclear whether the clinicians or the patients themselves are the most reliable reporters of suicidal risk. When comparing clinicians' reports to 649 patients' self-reports, a majority of clinicians classified the patients as containing no death-related ideas, although on self-report the patient did state that they had no desire to live.[6] In a study of a large cohort of bipolar patients,[7] SI was reported concordantly in both self- and clinician-rated questionnaires in only 26% of the cases, whereas it was discordant in three-fourths of the cases, mainly in cases in which SI was endorsed by the patient but not the provider. The issue is that patients for whom SI remains undetected by the clinician may remain at risk of suicide when they themselves report SI. In fact, consistent with the *DSM-5*, the main driver for the clinician to detect SI is the severity of the depressive episode, often leading to the health care provider's failing to assess and detect SI in less severely depressed patients.

Recent literature, including studies made possible by the rise of digital health, enables investigators to raise several questions to explore more precisely the clinical assessment of SI. Ecological momentary assessment (EMA) using smartphones allows the capture of everyday experiences of individuals through repeated measurements in naturalistic environments, potentially providing a more reliable evaluation than is usually done in clinical practice.

Using such a technique, studies reported several patterns of SI based on its severity and variability in time,[8] and the variability of suicidal thoughts has now emerged as a promising phenotype to identify a specific subgroup of patients. In a large study,[9] a third of suicidal patients presented with high SI variability, which was related to more frequent suicide attempts. In a series of studies, Drs Oquendo and Stanley and colleagues[10,11] found that the highly variable pattern of SI could be a trait, associated with the propensity to experience SI when exposed to stressful life events and rooted in childhood trauma, impulsive aggression, emotional reactivity, and a preexisting lower serotonin transporter (5-HTT) function. The variability of SIs has been previously reported to be a better predictor of the occurrence of an act than severity alone.[12] Then, EMA studies led to a new hypothesis in which the different manifestations of suicidal thoughts could help characterize subgroup of patients at risk of suicide who could deserve specific and personalized therapeutic approaches such as cognitive-behavioral therapy or safety planning.[13]

The evaluation of SI could be used not only as a warning sign for a subsequent act but also to better understand patients' suffering and their needs. In fact, SI could play a role in emotional regulation. An EMA study of 105 adults showed that the onset of suicidal thoughts was followed by a reduction in negative affect, but when suicidal thoughts were thus used as a form of affect regulation, this predicted later SI, leading to its persistence.[14] As proposed by the authors, the identification of such a process could lead to using the safety plan to suggest alternative emotional regulation strategies to avoid resorting to SI. Strikingly, this conception is supported by a previous study[15] in which we investigated the modulating effect of the executive function of decision making on the association between psychological pain and SI. Decision making is used for making choices under conditions

of uncertainty in daily life, and its impairment (favoring short-term over long-term choices) has been consistently associated with suicidal behavior (and not SI). On the other hand, psychological pain has been associated with both suicidal behavior and SI.[15] An association between psychological pain and SI was reported in patients who had good decision making, while in patients with deleterious decision making the level of SI did not change depending on the pain. One may suggest that, like non-suicidal self-harm that contributes to regulating emotions and alleviating intolerable thoughts, SI may be a mechanism for coping with psychological pain. SI may act as a possible pain-relieving mechanism, and decision-making focused on long-term rewards appears to be more adaptable, increasing the likelihood of suicidal ideas but not actions. This hypothesis is also supported by the description of cases of subjects requiring assisted suicide for their psychic suffering. While the request for assisted suicide has been accepted, several subjects did not resort to it, indicating that they were relieved by this possibility to escape the unbearable suffering.

Let's end with another example of the possibilities offered by the precise evaluation of SI. Many clinicians are very well informed about the qualities of using the Columbia Suicide Severity Rating Scale (C-SSRS) for assessing suicide risk. However, even though several studies have shown that the scores on this scale are associated with the prediction of suicidal behavior, the positive predictive value is so low that we have to rely on current recommendations: "risk assessment tools should not be used to predict future suicide or repetition of self-harm…risk assessment should focus on the person's needs…."[16] A recent study[17] reported that the C-SSRS composite score, summing frequency, duration, controllability, deterrent factors, and reasons, was a predictor of suicidal behavior. Rather than being used for prediction, this information could be used for the acute management of patients, seeking to reinforce the deterrent measures when building the safety plan.

In conclusion, recent literature calls for emphasizing the assessment of SI, but not with the illusory aim of detecting subjects who will carry out the act, as less than one-third of suicidal patients would actually act. These studies provide arguments in favor of the necessary finesse of suicidal assessment to better characterize the suicidal process, to better characterize subgroups of patients and subtypes of suicidal behavior, and ultimately to better manage the suicidal crisis thanks to the richness of the clinical evaluation. As such, it is also possible that the assessment of psychological pain, beyond its predictive capacity for suicidal events, can also enrich the patient's apprehension in a more empathetic approach.[18] Indeed, in a 1-year follow-up study,[19] psychological pain was a significant predictor of suicidal event, after adjusting for baseline depression and past history of suicide attempt. Interestingly, neither physical pain nor SI was a predictor for a suicidal event, but psychological pain was.

Digital health techniques provide very interesting avenues of study, particularly to improve the prediction of short-term suicidal acts. Indeed, Barrigon et al[20] reported a weekly risk model for suicidal behavior with an area under the curve of 77%. But we should not be naive about the usefulness of these techniques. EMA could improve the metacognitive processes of people at risk of suicide, hypothetically improving self-detection of suicidal risk and facilitating patient empowerment with their own resources or with ecological momentary intervention. On the other hand, an inadequate development of this technology may fail to lead to patients' improving their metacognitive abilities and may lead them to delegating these functions to EMA and AI, producing an effect of infantilization and dependence.[21]

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