

It is illegal to post this copyrighted PDF on any website.

Laying the Groundwork for Standardized Assessment of Suicidal Behavior

Cheryl McCullumsmith, MD, PhD

In this issue, Brown et al¹ have examined the degree of agreement between a clinical assessment and a standardized assessment of suicidal behavior in the psychiatric emergency department setting. This important contribution to the literature on assessment of suicidal risk brings to light many differences between assessments done in current clinical practices and those done in research studies. Consistent and accurate assessments of both suicidal ideation and behaviors and nonsuicidal behaviors are critical to the evaluation of at-risk patients in both the research and the clinical setting. The findings of this article also lead us to consider the minimal requirements for standardized clinical assessments of suicidal risk in different settings and in different patient populations.

Overall, the agreement between clinical and standardized assessment of self-harm behavior in this paper is much higher than that shown in previous studies.^{2,3} This agreement is even more impressive when one considers that some of the differentiations and terms used in research standardized assessments are not commonly used clinically, such as the distinctions among a suicide attempt, a suicide attempt interrupted by self, and a suicide attempt interrupted by others. Strikingly, much of the lack of agreement in this study comes in the categorization among the self-harm behaviors and in defining the presence of nonsuicidal self-injury behaviors. In particular, less than 10% of patients categorized with a suicide attempt by the standard assessment were not given any self-harm diagnosis in the clinical assessment. Detection of nonsuicidal self-injury was different between the standard and clinical assessments, with about 10% of the patients diagnosed with nonsuicidal self-injury (with standard assessment diagnosing 3 and clinical assessment diagnosing 4 patients with nonsuicidal self-injury) for whom the converse assessment did not diagnose any self-harm behavior.¹ Some of this high level of agreement quite likely comes from the setting of the study. The main role of clinicians in a psychiatric emergency department setting is to determine risk and appropriate disposition, both of which often hinge on a detailed assessment of risk for self-harm. Further, this study was conducted in academic medical centers, and evaluations were done by psychiatrists, as

opposed to emergency medicine or other physicians. Overall, the study¹ demonstrates relatively high agreement between academic psychiatric emergency department clinical evaluations by psychiatrists and a standardized assessment tool developed in research settings for assessment of suicidal behavior.

Brown and colleagues' work¹ points out several important issues in suicide risk assessment and the difficulties of reconciling clinical work to research paradigms. First, the need for a standard nomenclature both in suicide research and in routine clinical evaluations has been noted for some time.⁴⁻⁷ Inherent in the nomenclature should be reproducibility and significance of the classifications. Second, this work highlights the critical importance of identification of both suicide attempts and nonsuicidal self-injury behaviors, but raises further questions about delineation between them. Third, this work strongly supports the importance of the detection of suicidal and nonsuicidal self-injury behaviors in diverse patient populations. Last, this article raises the question of appropriate tools for screening versus more complete assessments of suicidal behavior in different clinical and research settings.

This study¹ highlights the need for standard suicidal behavior nomenclature for clinicians and researchers as previously underscored by Meyer et al.⁸ Even the published guidance from the American Psychiatric Association (APA)^{9,12} differs subtly in important ways from the US Centers for Disease Control and Prevention (CDC) recommendations¹⁰ used to develop standard research assessment tools. Differentiation between a nonsuicidal self-injury behavior and a suicide attempt has critically depended on the co-occurrence of the intent to die with the act of self-harm. The APA guidelines define *suicide attempt* as self-injurious behavior with a nonfatal outcome accompanied by evidence (either explicit or implicit) that the person intended to die.^{11,12} This definition is subtly different from the CDC recommendation that defines a *suicide attempt* as a nonfatal, self-directed potentially injurious behavior with *any* intent to die as a result of the behavior.^{7,13} The standardized assessment used in this study,¹ the Columbia-Suicide Severity Rating Scale (C-SSRS), is based on CDC criteria and defines a *suicide attempt* as a potentially self-injurious act committed with at least some wish to die as a result of the act.¹³ Behavior was in part thought of as method to kill oneself. Intent does not have to be 100%. If there is any intent/desire to die associated with the act, then it can be considered an actual suicide attempt. The C-SSRS gives this sample question to explore intent: "Did you want to die (even a little) when you _____?" The C-SSRS further suggests this

Submitted: October 20, 2014; accepted October 21, 2014.

Corresponding author: Cheryl McCullumsmith, MD, PhD, Department of Psychiatry and Behavioral Neuroscience, University of Cincinnati, Stetson Building, 260 Stetson Street, Suite 3200, Cincinnati, OH 45219 (cheryl.mccullumsmith@uc.edu).

J Clin Psychiatry 2015;76(10):e1333–e1335

dx.doi.org/10.4088/JCP.14com09603

© Copyright 2015 Physicians Postgraduate Press, Inc.

question to characterize an event as nonsuicidal self-injury behavior: "Or did you do it purely for other reasons/without ANY intention of killing yourself (like to relieve stress, feel better, get sympathy, or get something else to happen)?" The C-SSRS and CDC definitions are clearly much broader in scope than the judgement of intent to die in the clinical standard of the APA guidelines. The clinician's assessment of the importance of the role of suicidal intent may well play a critical difference between clinician and standardized assessments of suicidal behavior by the C-SSRS reported in this study.

The importance of intent to die with self-harm behavior is a critical question for the field. The importance of *any* intent to die versus *strong* intent to die has not been well established. While greater intent to die with self-injury is strongly associated with future death by suicide, it also has a low positive predictive value overall.¹⁴⁻¹⁶ Paradoxically, the association between suicidal intent alone and subsequent suicide attempts has been absent or negative in several studies and may vary between men and women,¹⁷⁻¹⁹ but suicidal intent coupled with accurate expectations about the likelihood of dying does correlate with the medical lethality of a suicide attempt.²⁰ Part of the difference may lie in subjective versus objective measures of suicidal intent. In a large prospective study, neither "wanting to die" nor suicidal ideation with an initial self-harm event predicted future death by suicide, but avoiding discovery at the time of the self-harm event was strongly predictive.²¹ The categorization of self-harm behavior into nonsuicidal self-injury behavior versus suicide attempt based on the patient's retrospective determination of any intent to die may well be more nuanced and subjective and less predictive than had previously been thought.²²

Brown and colleagues¹ highlight the critical importance of the identification of both suicide attempts and nonsuicidal self-injury behavior in high-risk patients. While history of suicide attempts is one of the strongest predictors of future suicidal behavior, nonsuicidal self-injury behavior also strongly predicts future suicidal behavior and requires specific treatment and diagnostic considerations.^{21,23-26} Several large cohort studies have demonstrated increased mortality from both suicide and nonsuicidal events after self-harm behaviors, whether these be nonsuicidal self-injury behaviors or suicide attempts.^{21,27,28} In psychiatric inpatients, nonsuicidal self-injury behavior has shown stronger association with historical suicide attempts than current suicidal ideation, depressive symptoms, or hopelessness.²⁹ Among depressed adolescents, previous nonsuicidal self-injury behavior has been repeatedly shown to strongly predict future suicide attempts.^{30,31} One concern

is that clinicians underplay the importance of nonsuicidal self-injury behavior compared to suicide attempts and give less intensive psychiatric follow-up to these patients.^{30,32} Additionally, factors associated with future suicidal behavior after nonsuicidal self-injury behavior may differ from traditional risk factors and require differential treatment considerations.³³ Further, all nonsuicidal self-injury behaviors may not be detected, even with the C-SSRS. Several studies have demonstrated much higher rates of nonsuicidal self-injury behavior detection when more detailed assessment tools are utilized,^{24,34} but the usefulness and cost/benefit ratio of these detailed assessments routinely have not been established.

While this study¹ does not delineate differences in the detection of self-harm behavior among diagnoses, it suggests the importance of identification of self-harm behaviors in diverse patient populations. While the high risk of suicide attempts and death by suicide in patients with personality disorders, substance use disorders, and psychotic disorders is well established, these patients may have their suicidal behavior go unrecognized and untreated.³⁵ Standardization of identification of self-harm in individuals without mood disorders will improve treatment and follow-up care. Establishment of routine standardized assessments of self-harm behaviors should significantly aid in the detection and treatment of high-risk behaviors in non-mood-disordered patients.

The utility of standardized assessments of suicidal behavior in research protocols is well established, but their utility and predictive value in the clinical setting have not been studied comprehensively.^{13,36,37} In summary, Brown and coauthors¹ highlight a perennial question of the appropriate level of screening for suicidal risk in different clinical settings. Just as clinicians do not perform electrocardiograms on every emergency department patient to eliminate any concern for heart attack, the utility of full, standardized suicide risk assessments for every patient has not been determined. Studies of screening tools such as the ED-SAFE (Emergency Department Safety Assessment and Follow-up Evaluation), P4 screener, C-SSRS Screener, and others have suggested that a simple 3- or 4-question screen for suicide risk can be done to direct the patients at risk to a more detailed suicide risk assessment tool.³⁸⁻⁴⁰ Given the low prevalence of suicidal behavior, studies comparing the predictive value of different suicide screening tools have proven difficult to conduct yet are critical to establish the evidence base for these assessments.^{41,42} Future work to establish evidence-based and standardized clinical screening and assessment tools is warranted. Brown and colleagues begin that groundwork.

Author affiliation: Department of Psychiatry, University of Cincinnati, Cincinnati, Ohio.

Potential conflicts of interest: Dr McCullumsmith has served as a consultant for and on the advisory board for Janssen Pharmaceuticals.

Funding/support: None reported.

REFERENCES

1. Brown GK, Currier GW, Jager-Hyman S, et al. Detection and classification of suicidal behavior and nonsuicidal self-injury behavior in emergency departments. *J Clin Psychiatry*. 2015;76(10):1397-1403
2. Malone KM, Szanto K, Corbitt EM, et al.

Clinical assessment versus research methods in the assessment of suicidal behavior. *Am J Psychiatry*. 1995;152(11):1601-1607.

3. Bongiovi-Garcia ME, Merville J, Almeida MG, et al. Comparison of clinical and research assessments of diagnosis, suicide attempt history and suicidal ideation in major depression. *J Affect Disord*.

It is illegal to post this copyrighted PDF on any website.

- 2009;115(1–2):183–188.
4. Meyer RE, Salzman C, Youngstrom EA, et al. Suicidality and risk of suicide—definition, drug safety concerns, and a necessary target for drug development: a brief report. *J Clin Psychiatry*. 2010;71(8):1040–1046.
 5. O'Carroll PW, Berman AL, Maris RW, et al. Beyond the Tower of Babel: a nomenclature for suicidology. *Suicide Life Threat Behav*. 1996;26(3):237–252.
 6. Silverman MM. The language of suicidology. *Suicide Life Threat Behav*. 2006;36(5):519–532.
 7. Crosby A, Ortega L, Melanson C. Self-directed violence surveillance: uniform definitions and recommended data elements. Atlanta, GA: Center for Disease Control and Prevention, National Center for Injury Prevention and Control, 2011. <http://stacks.cdc.gov/view/cdc/11997/Print>. Accessed May 19, 2015.
 8. Meyer RE, Salzman C, Youngstrom EA, et al. Suicidality and risk of suicide—definition, drug safety concerns, and a necessary target for drug development: a consensus statement. *J Clin Psychiatry*. 2010;71(8):e1–e21.
 9. Jacobs DG, Baldessarini RJ, Conwell Y, et al. *Practice Guidelines for the Assessment and Treatment of Patients With Suicidal Behaviors*. Washington, DC: American Psychiatric Press; 2010.
 10. Crosby AE, Ortega L, Melanson, C. Self-Directed Violence Surveillance: Uniform Definitions and Recommended Data Elements Version 1.0. <http://www.cdc.gov/violenceprevention/pdf/Self-Directed-Violence-a.pdf>. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control Division of Violence Prevention; February 2011.
 11. Jacobs DG, Brewer ML. Application of The APA Practice Guidelines on Suicide to Clinical Practice. *CNS Spectr*. 2006;11(6):447–454.
 12. American Psychiatric Association. *American Psychiatric Association Practice Guidelines for the Treatment Of Psychiatric Disorders Compendium 2006*. Washington, DC: American Psychiatric Publishing, Inc; 2006.
 13. Posner K, Brown GK, Stanley B, et al. The Columbia-Suicide Severity Rating Scale: initial validity and internal consistency findings from three multisite studies with adolescents and adults. *Am J Psychiatry*. 2011;168(12):1266–1277.
 14. Pierce DW. The predictive validation of a suicide intent scale: a five year follow-up. *Br J Psychiatry*. 1981;139(5):391–396.
 15. Harriss L, Hawton K. Suicidal intent in deliberate self-harm and the risk of suicide: the predictive power of the Suicide Intent Scale. *J Affect Disord*. 2005;86(2–3):225–233.
 16. Stefansson J, Nordström P, Jokinen J. Suicide Intent Scale in the prediction of suicide. *J Affect Disord*. 2012;136(1–2):167–171.
 17. Harriss L, Hawton K, Zahl D. Value of measuring suicidal intent in the assessment of people attending hospital following self-poisoning or self-injury. *Br J Psychiatry*. 2005;186(1):60–66.
 18. Haw C, Hawton K, Houston K, et al. Correlates of relative lethality and suicidal intent among deliberate self-harm patients. *Suicide Life Threat Behav*. 2003;33(4):353–364.
 19. Nordentoft M, Branner J. Gender differences in suicidal intent and choice of method among suicide attempters. *Crisis*. 2008;29(4):209–212.
 20. Brown GK, Henriques GR, Sosdjan D, et al. Suicide intent and accurate expectations of lethality: predictors of medical lethality of suicide attempts. *J Consult Clin Psychol*. 2004;72(6):1170–1174.
 21. Cooper J, Kapur N, Webb R, et al. Suicide after deliberate self-harm: a 4-year cohort study. *Am J Psychiatry*. 2005;162(2):297–303.
 22. Kapur N, Cooper J, O'Connor RC, et al. Non-suicidal self-injury v. attempted suicide: new diagnosis or false dichotomy? *Br J Psychiatry*. 2013;202(5):326–328.
 23. Hamza CA, Stewart SL, Willoughby T. Examining the link between nonsuicidal self-injury and suicidal behavior: a review of the literature and an integrated model. *Clin Psychol Rev*. 2012;32(6):482–495.
 24. Hamza CA, Willoughby T. Nonsuicidal self-injury and suicidal behavior: a latent class analysis among young adults. *PLoS ONE*. 2013;8(3):e59955.
 25. Guerdjikova AI, Gwizdowski IS, McElroy SL, et al. Treating nonsuicidal self-injury. *Curr Treatment Options Psychiatry*. 2014;1(4):325–334.
 26. Suominen K, Isometsä E, Suokas J, et al. Completed suicide after a suicide attempt: a 37-year follow-up study. *Am J Psychiatry*. 2004;161(3):562–563.
 27. Chen VC, Tan HK, Chen CY, et al. Mortality and suicide after self-harm: community cohort study in Taiwan. *Br J Psychiatry*. 2011;198(1):31–36.
 28. Suominen K, Isometsä E, Haukka J, et al. Substance use and male gender as risk factors for deaths and suicide—a 5-year follow-up study after deliberate self-harm. *Soc Psychiatry Psychiatr Epidemiol*. 2004;39(9):720–724.
 29. Andover MS, Gibb BE. Non-suicidal self-injury, attempted suicide, and suicidal intent among psychiatric inpatients. *Psychiatry Res*. 2010;178(1):101–105.
 30. Asarnow JR, Porta G, Spirito A, et al. Suicide attempts and nonsuicidal self-injury in the treatment of resistant depression in adolescents: findings from the TORDIA study. *J Am Acad Child Adolesc Psychiatry*. 2011;50(8):772–781.
 31. Wilkinson P, Kelvin R, Roberts C, et al. Clinical and psychosocial predictors of suicide attempts and nonsuicidal self-injury in the Adolescent Depression Antidepressants and Psychotherapy Trial (ADAPT). *Am J Psychiatry*. 2011;168(5):495–501.
 32. Wilkinson PO. Nonsuicidal self-injury: a clear marker for suicide risk. *J Am Acad Child Adolesc Psychiatry*. 2011;50(8):741–743.
 33. Victor SE, Klonsky ED. Correlates of suicide attempts among self-injurers: a meta-analysis. *Clin Psychol Rev*. 2014;34(4):282–297.
 34. Klonsky ED. Non-suicidal self-injury in United States adults: prevalence, sociodemographics, topography and functions. *Psychol Med*. 2011;41(9):1981–1986.
 35. Bertolote JM, Fleischmann A, De Leo D, et al. Psychiatric diagnoses and suicide: revisiting the evidence. *Crisis*. 2004;25(4):147–155.
 36. Lindenmayer JP, Czobor P, Alphas L, et al; InterSePT Study Group. The InterSePT scale for suicidal thinking reliability and validity. *Schizophr Res*. 2003;63(1–2):161–170.
 37. Gassmann-Mayer C, Jiang K, McSorley P, et al. Clinical and statistical assessment of suicidal ideation and behavior in pharmaceutical trials. *Clin Pharmacol Ther*. 2011;90(4):554–560.
 38. Allen MH, Abar BW, McCormick M, et al. Screening for suicidal ideation and attempts among emergency department medical patients: instrument and results from the Psychiatric Emergency Research Collaboration. *Suicide Life Threat Behav*. 2013;43(3):313–323.
 39. Dube P, Kurt K, Bair MJ, et al. The p4 screener: evaluation of a brief measure for assessing potential suicide risk in 2 randomized effectiveness trials of primary care and oncology patients. *Prim Care Companion J Clin Psychiatry*. 2010;12(6):12.
 40. Posner K, Subramany R, Amira L, et al. From uniform definitions to prediction of risk: The Columbia Suicide Severity Rating Scale Approach to Suicide Risk Assessment. In: Cannon KE, Hudzik TJ, eds. *Suicide: Phenomenology and Neurobiology*. New York, NY: Springer; 2014.
 41. Hoyer D. Addressing suicide risk in emergency department patients. *JAMA*. 2014;312(3):297–298.
 42. Gaynes BN, West SL, Ford CA, et al; US Preventive Services Task Force. Screening for suicide risk in adults: a summary of the evidence for the US Preventive Services Task Force. *Ann Intern Med*. 2004;140(10):822–835.

It is illegal to post this copyrighted PDF on any website.