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Disagreement between self-reported and clinician-ascertained suicidal ideation and its correlation with depression and anxiety severity in patients with major depressive disorder or bipolar disorder

Keming Gao*, Renrong Wu [1], Zuowei Wang [2], Ming Ren [3], David E. Kemp, Philip K. Chan, Carla M. Conroy, Mary Beth Serrano, Stephen J. Ganocy, Joseph R. Calabrese

Mood and Anxiety Clinic in the Mood Disorders Program of the Department of Psychiatry, University Hospitals Case Medical Center, Case Western Reserve University School of Medicine, USA

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ABSTRACT

Objectives: To study the disagreement between self-reported suicidal ideation (SR-SI) and clinician-ascertained suicidal ideation (CA-SI) and its correlation with depression and anxiety severity in patients with major depressive disorder (MDD) or bipolar disorder (BPD).
Methods: Routine clinical outpatients were diagnosed with the MINI-STEP-BD version. SR-SI was extracted from the 16 Item Quick Inventory of Depression Symptomatology Self-Report (QIDS-SR-16) item 12. CA-SI was extracted from a modified Suicide Assessment module of the MINI. Depression and anxiety severity were measured with the QIDS-SR-16 and Zung Self-Rating Anxiety Scale. Chi-square, Fisher exact, and bivariate linear logistic regression were used for analyses.
Results: Of 103 patients with MDD, 5.8% endorsed any CA-SI and 22.4% endorsed any SR-SI. Of the 147 patients with BPD, 18.4% endorsed any CA-SI and 35.9% endorsed any SR-SI. The agreement between any SR-SI and any CA-SI was 83.5% for MDD and 83.1% for BPD, with weighted Kappa of 0.30 and 0.43, respectively. QIDS-SR-16 score, female gender, and ≥4 year college education were associated with increased risk for disagreement, 15.44 ± 4.52 versus 18.39 ± 3.49 points ($p = 0.0026$), 67% versus 46% ($p = 0.0783$), and 61% versus 29% ($p = 0.0096$). The disagreement was positively correlated to depression severity in both MDD and BPD with a correlation coefficient $R^2 = 0.40$ and 0.79, respectively, but was only positively correlated to anxiety severity in BPD with a $R^2 = 0.46$.
Conclusion: Self-reported questionnaire was more likely to reveal higher frequency and severity of SI than clinician-ascertained, suggesting that a combination of self-reported and clinical-ascertained suicidal risk assessment with measuring depression and anxiety severity may be necessary for suicide prevention.

1. Introduction

Suicide is a serious public health problem worldwide. Suicidal ideation is a prerequisite for the majority of people who attempt suicide or complete suicide (Nock et al., 2008; Simon et al., 2013; McAuliffe, 2002; Posner et al., 2011; Kuo et al., 2001) although its association with the suicide attempt/completed suicide in psychiatric in-patients was weak and insignificant (Large et al., 2011). A more recent study found that suicidal ideation on the Patient Health Questionnaire for depression (PHQ-9) at the initial assessment was associated with increased risk for subsequent suicide attempt and suicide death (Simon et al., 2013). More importantly,

* Corresponding author. 10524 Euclid Avenue, 12th floor, Cleveland, OH, 44106, USA. Tel.: +1 216 844 2656; fax: +1 216 844 2877.
E-mail address: keming.gao@uhhospitals.org (K. Gao).
[1] Current address: The Mental Health Institute of Second Xiangya Hospital, Changsha, Hunan, China.
[2] Current address: Mood Disorders Program of Department of Psychiatry, Hongkou District Mental Health Center of Shanghai, Shanghai, China.
[3] Current address: Department of Neurology, Weifang Medical College Affiliated Hospital, Weifang, Shandong, China.

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the suicidal ideation was an enduring vulnerability rather than a short-term crisis.

Face-to-face clinical interview has been regarded as the "standard" clinical practice for assessing suicide risk. However, some studies found that clinicians commonly fail to uncover and/or document suicidality during initial face-to-face assessment (Malone et al., 1995; Bongiovi-Garcia et al., 2009; Healy et al., 2006). In contrast, semi-structured research interviews (Malone et al., 1995; Bongiovi-Garcia et al., 2009) as well as self-report questionnaires were more likely to reveal suicidal ideations than a face-to-face clinical interview (Yigletu et al., 2004; Kaplan et al., 1994; Healy et al., 2006).

Psychiatric disorders play a very important role in the increased risk for suicide (Nock et al., 2008). Among the psychiatric disorders, patients with bipolar disorder (BPD) or major depressive disorder (MDD) have the highest risk for suicide (Nordentoft et al., 2011). However, there has never been a study comparing self-reported suicidal ideation (SR-SI) and semi-structured clinician-ascertained suicidal ideation (CA-SI) in outpatients with a mood disorder. This study was undertaken to explore the agreement/disagreement between SR-SI and CA-SI in patients with MDD or BPD and its association with depression and anxiety symptoms severity in patients with a mood disorder.

2. Methods

2.1. Subjects

All participants were routine clinical outpatients at the Mood & Anxiety Clinic in the Mood Disorders Program of the Department of Psychiatry at the University Hospitals Case Medical Center. After an initial assessment, each patient was approached to determine if he/she was willing to participate in a prospective, longitudinal, observational study. For those who agreed to participate in the study, they signed an informed consent form approved by the Institutional Review Board of the University Hospitals Case Medical Center. Afterward, their data at the initial evaluation and follow-up visit(s) would be used for future research purposes until they withdrew the consent. For those who decided not to participate in the study, their data were only used for clinical purposes.

2.2. Diagnostic interview and severity assessment

The diagnostic interview and illness severity assessment were described previously (Gao et al., 2013). Briefly, before a facet-to-face interview, all patients were asked to fill out self-reported questionnaires/scales including the 16 Item Quick Inventory of Depression Symptomatology Self-Report (QIDS-SR-16) (Rush et al., 2003) and Zung Self-rating anxiety scale (SAS) (Zung, 1971). After a traditional diagnostic interview, the Mini International Neuropsychiatric Interview Systematic Treatment Enhancement Program for Bipolar Disorder version (MINI-STEP-BD version) (Sachs et al., 2003) was administered as well as the Suicide Assessment module of the MINI (Sheehan et al., 1998) by the principal investigator (KG).

2.3. Self-reported suicidal ideation

The self-reported SI was extracted from the QIDS-SR-16 item 12. In this item, there are four question: 1) I don't think of suicide or death (code 0 on severity); 2) I feel that life is empty or wonder if it's worth living (code 1 on severity); 3) I think of suicide or death several times a week for several minutes (code 2 on severity); and 4) I think of suicide or death several times a day in some detail, or I have made specific plans for suicide or have actually tried to take my life (code 3 on severity). As other items of the QIDS-SR-16, it asks patients to check the one response "that best describes you for the past seven days."

2.4. Clinician-ascertained suicide ideation

The clinician-ascertained SI was extracted from a modified suicidality module of the MINI (Sheehan et al., 1998). In the modified module, the duration was in last 2 weeks instead of the past month. There are 8 questions to describe the severity of suicidality. 1) "Think that you would better off death or wish you were dead?" if yes, score 1 point, which is similar to QIDS-SR-16 item 12 severity 1. 2) "Want to hurt yourself or to hurt or to injury yourself?" if yes, score 2 points. 3) "Think about suicide?" if yes, score 6 points, which is similar to QIDS-SR-16 item 12 severity 2. 4) "Have a suicidal plan?" if yes, score 8 points. 5) "Take any active steps to prepare to injure yourself or prepare for a suicide attempt in which you expected to die or intended to die?" if yes, score 9 points. 6) "Deliberately injure yourself without intending to kill yourself?" if yes, score 4 points. 7) "Attempt suicide?" if yes, score 10 points. Answering yes to question 4, 5, and/or 7 are similar to QIDS-16 item 12 severity 3. 8) "Did you ever make a suicide attempt?" if yes, score 4 points. Answering "no" to the first 7 questions was considered as the severity of 0 on suicidal ideation.

2.5. Statistical analysis

Descriptive analysis was used for demographics and the prevalence of self-reported suicidal ideation (SR-SI) and clinician-ascertained suicidal ideation (CA-SI) and the disagreement between SR-SI and CA-SI. Chi-square or Fisher's exact ($n < 5$) was used for categorical data and t-test was used for continuous data. Odd ratio (OR) was used to estimate the risk with 95% confidence interval to reflect the magnitude of variance. Weighted Kappa of agreement between SR-SI and CA-SI in MDD and BPD was estimated.

For the disagreement analysis, patients with the exact same rating on SR-SI and CA-SI were considered as one group and those

Table 1
Demographics and historical correlates of patients with major depressive disorder or bipolar disorder.

	Major depressive disorder ($n = 98$)		Bipolar disorder ($n = 144$)	
	Mean	**SD**	**Mean**	**SD**
Age	37.6	13.5	39.2	12.5¥
	N	**%**	**N**	**%**
Female	64	65.3	79	54.9
White race	73	74.5	117	81.3
College or higher education	51	52.0	63	43.8
Single Status	45	45.9	68	47.2
Having offspring	52	53.1	80	55.6
Employed	53	54.1	84	58.3
Living status				
Living alone	24	24.5	27	18.8
Living with significant other	37	37.8	50	34.7
Living with family	23	23.5	63	43.8*
Self-Pay status	7	7.1	10	6.9
Previous hospitalization	18	18.4	58	40.3**
Previous suicide attempt	17	17.3	38	26.6
Previous any abuse	23	23.4	50	34.7#
Verbal abuse	14	14.3	35	24.3#
Physical abuse	8	8.2	27	18.9
Sexual abuse	13	13.3	20	13.9

¥ $P = 0.07$, * $P = 0.001$, ** $P = 0003$; # $P = 0.06$.