Suicidal behavior on Axis VI: Clinical data supporting a sixth axis for DSM-V

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Abstract

Background—Oquendo and colleagues (2008; 2009) recommend that DSM-V emphasize suicide risk assessment on a sixth axis, thereby increasing regularity of suicide risk assessments.

Aims—We propose that evidence of non-redundancy with GAF is one piece of data that can serve as a starting point for a line of research establishing incremental predictive utility for a separate suicide risk assessment in the DSM framework.

Methods—A standardized suicide risk assessment protocol, as well as measures of depressive, anxious, and eating disordered symptomatology, as well as an index of comorbidity, were administered to a sample of 412 adult outpatients.

Results—Our data indicate that data from standardized suicide risk assessments is associated with indices of symptomatology severity as well as comorbidity, controlling for GAF.

Conclusions—These results support the non-redundancy of the assessments and suggest the utility of longitudinal investigations of the predictive utility of a sixth DSM axis in the assessment of suicide risk.

Keywords

Suicide; DSM-V; Risk Assessment

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Background

Oquendo and colleagues (2008; 2009) recommend that DSM-V emphasize suicide risk assessment on a sixth axis, thereby increasing regularity of suicide risk assessments. In addition, Kennedy and colleagues also recommend separating assessment of risk for suicide and violence into a separate axis (Higgins & Purvis, 2000). Currently, Axis V—Global Assessment of Functioning (GAF)—advises clinicians to incorporate suicidality into overall ratings of functioning. Thus it is possible that the current five axial system –specifically GAF—adequately measures and documents suicide risk.

Aims

We examined whether information gathered from systematic suicide risk assessment provides incremental information about treatment-relevant variables above and beyond information from GAF scores. We predicted that greater suicide risk would be associated with greater symptom severity as well as greater comorbidity. Further—and central to our study aims—we predicted that these associations would persist while controlling for GAF scores. Support for the latter result would support our claim that information about patient functioning gathered through suicide risk assessments is not reducible to information gathered through GAF assessments. We propose that evidence of non-redundancy with GAF can serve as a starting point for establishing the incremental predictive utility of a separate suicide risk assessment in the DSM framework. Multiaxial assessment procedures that include ratings of disability and functioning have been proposed for other classification systems outside of the U.S., including for the ICD-10 (Dittmann & Dilling, 1990; Michels, Siebel, Freyberger, Stieglitz, Schaub, & Dilling, 1996), indicating a potentially broader range of applicability for this investigation.

Methods

Participants

The sample included 412 adult outpatients (41% male) from the Florida State University Psychology Clinic admitted from 2004 to 2008. The clinic is an outpatient community mental health center that does *not* serve as the University's student counseling center and employs minimal exclusionary criteria, excluding from treatment only people with psychotic or bipolar-spectrum disorders who do not take actions to become stabilized on medications and individuals in need of a higher level of care than can be provided on an outpatient basis. Ages ranged from 18 to 65 years old ($M = 26$, $SD = 9.20$). The racial/ethnic composition was 76% White, 9% Hispanic, 10% Black/African-American, 3% Asian/Pacific Islander and 2% Other (e.g., Native American). Primary DSM-IV Axis I diagnoses were major depressive disorder (79; 26.16%), anxiety disorders (52, 17.22%), substance use disorders (46, 15.23%), none (31, 10.26%), dysthymia (21, 6.95%), ADHD (23, 7.62%), learning disorder (16, 5.3%), bipolar I (11, 3.64%), eating disorder (8, 2.65%), adjustment disorder (4, 1.32%), other (3, 0.99%). Diagnostic data was missing for 110 patients who completed the initial screening interview, but did not return for a complete diagnostic evaluation. Most participants presented with more than one Axis I disorder (69.80%). Axis II diagnoses were present in 11.51% of the sample. The majority of participants (81.3%) never attempted suicide (189 females, 144 males), 9.2% attempted once (24 females, 14 males), 7.3% attempted two or more times (23 females, 7 males), and data were unavailable for 2.7% of patients. Comorbidity data was available for 210 of the 412 patients because use of the SCID screener began after data collection began for the other measures.

Procedures

All patients signed a form consenting to inclusion in research and to limits of confidentiality (including imminent suicide risk). All measures, including a standardized suicide risk assessment protocol with documented inter-rater reliability (see below), were administered by masters-level clinicians prior to beginning treatment. All clinicians were extensively trained in the suicide risk protocol and supervised by Dr. Joiner.

Measures

Global Assessment of Functioning—GAF is the clinician-rated measure of patients' overall functioning included in the DSM-IV. It spans 10 ranges of functioning (scores range from 0–100), with higher scores indicating better functioning.

Suicide Risk Level—The clinic utilizes a standardized assessment protocol for rating suicide risk (Joiner, Walker, Rudd, & Jobes, 1999) in which past suicidal behavior is used to "weight" information about current suicidal symptoms (individuals with multiple attempts are designated at higher risk). Clinicians record the presence (or absence) and details of past suicidal behaviors. Next, current suicidal symptoms are evaluated by recording the presence or absence of the following: current suicidal ideation, resolved plans and preparation (a set of suicidal ideations and actions demonstrated to be empirically distinct from passive ideations and especially pernicious regarding risk); (Joiner, Rudd, & Rajab, 1997), confidence to make an attempt, isolation, hopelessness, significant stressors, family history of suicide, impulsivity and Axis I and II symptomatology. The nature of past and current suicidal symptoms is then used to designate a patient at low, moderate, or high risk for suicide. Elsewhere we have reported details regarding the clinical presentation of patients in each risk category, as well as inter-rater reliability on these ratings (i.e., Kappa coefficient = .71, p = .000) and data supporting their construct validity (Van Orden, Witte, Gordon, Bender, & Joiner, 2008).

Symptom Severity Indices—The Beck Depression Inventory (BDI) (Beck, Rush, Shaw, & Emery, 1979) is a 21-item self-report inventory of depressive symptomatology; higher scores (range 0–63) represent more severe depression. The Beck Anxiety Inventory (BAI) (Beck & Steer, 1993) is a 21-item self-report inventory of anxiety symptomatology; higher scores represent more severe anxiety. The Eating Disorders Inventory (EDI) (Garner, Olmstead, & Polivy, 1983) is a 64-item self-report measure of eating-related attitudes and traits. EDI total scores range from 64 to 144, with higher scores indicating more pathology.

Structured Clinical Interview for DSM-IV Screening Module—(First, Spitzer, Miriam, & Williams, 2002) The SCID-I is a semi-structured interview for DSM-IV Axis I diagnoses. The Screening Module includes 15 questions about the presence or absence of required criteria for the most common DSM-IV diagnoses, excluding psychotic disorders.

Data Analytic Strategy—A series of regression equations were constructed to examine the relationship between suicide risk level (predictor variable) and several dependent variables – depressive symptoms (i.e., BDI), anxious symptoms (i.e., BAI), eating disordered symptoms (i.e., EDI), and number of endorsements on the SCID screen (i.e., an indicator of comorbidity), above and beyond the contribution of GAF (covariate). The BDI, BAI, EDI, SCID Screen, and GAF were treated as continuous variables as they demonstrated roughly normal distributions in this sample (see Table 1). Suicide risk level was treated as an ordinal (categorical) variable. The General Linear Model (GLM) module of SPSS version 16 was used for all analyses.

Results

Mean values for the continuous variables grouped by suicide risk level are presented in Table 1, as well as the number of patients at each risk level by gender and number of suicide attempts.

Suicide risk level was a significant predictor of all three indices of symptom severity when controlling for GAF, such that higher suicide risk was associated with higher levels of symptomatology (see Table 1). GAF was also a significant predictor in all models, such that higher suicide risk was associated with lower GAF scores (see Table 1). Patients at low risk, on average, scored 7 points lower on the BDI, 5.92 points lower on the BAI, and 16.99 points lower on the EDI, after adjusting for GAF, compared to patients at moderate risk (all $p < .05$). Suicide risk level was also a significant predictor of the number of endorsements on the SCID screener when controlling for GAF (also a significant predictor $p < .001$). On average, patients designated at low risk for suicide endorsed 2.22 fewer items on the SCID screener compared to patients designated at moderate risk ($p < .001$) and 2.58 fewer items than patients designated at high risk ($p < .05$). For all three indices and SCID-I endorsements, differences between those at moderate and high risk were non-significant.

Conclusions

Elevations in suicide risk level, as designated by a standardized protocol, predicted greater symptom severity across three domains (i.e., depressive, anxious, and eating disordered symptoms) and greater symptom-level comorbidity, above and beyond patients' GAF scores. These data support our hypothesis that suicide risk level and GAF are non-redundant indicators of patients' functioning and level of distress and thus represent unique assessments. Demonstrating that information gathered from systematic suicide risk assessments is non-redundant with GAF ratings is a needed before studies are conducted to demonstrate the utility of separately documenting suicide risk on a 6th axis: before conducting longitudinal studies to investigate the predictive utility of suicide risk assessment vs. GAF in the detection future suicidal behavior, it must be shown that identical information is not gathered from these two constructs. Our study has provided empirical evidence suggesting that systematic suicide risk assessment and assessments of global functioning are indeed separable constructs.

Limitations of the study include a relatively small number of people in the high risk category, reducing statistical power. Future studies could employ inpatient samples to increase the number of individuals at high risk and broaden the generalizability of these findings to that population. Another potential criticism is that assessments were done by trainees who, some might argue, are less capable of accurately assessing GAF; however, therapists received intensive supervision. Moreover, numerous outpatient settings employ masters-level clinicians, lending our study high generalizability. Finally, we used a cross-sectional design; although a longitudinal study would likely be informative, our goal was to demonstrate that current suicide risk is non-redundant with current GAF in the prediction of current psychological distress.

Results support the utility of conducting longitudinal studies that will examine the predictive utility of documenting suicide risk on a sixth axis, separate from GAF. Adding this sixth axis would address a problem that currently plagues our field: lack of routine suicide risk assessment (Jobes, 2006; Simon, 2006). Similar rationale has been cited when discussing the inclusion of personality disorders on Axis II (DSM-IV, p. 26). The potential clinical utility of a sixth axis includes more optimal decision-making (e.g., regarding hospitalizations), and lower rates of suicidal behaviors.

Acknowledgments

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Table 1

Descriptive & Inferential Results for Suicide Risk and GAF Predicting Symptomatology & Comorbidity

		Low	Moderate	High		
Suicide-related variables		338	60	14		
Gender[a]	Female	198	36	8		
	Male	140	24	6		
Past attempts[a]	Zero	306	27	2		
	One	20	15	3		
	Multiple	5	16	9		
GAF[b]		65.87	53.55	48.36		
Dependent variables						Model results
	BDI[b]	13.53	26.70	31.07		$F(2, 408)=14.82, p < .05$
	BAI[b]	12.86	24.10	22.92		$F(2, 408) = 7.29, p < .05$
	EDI[b]	178.60	217.75	233.29		$F(2, 408) = 3.73, p < .05$
	SCID[b]	4.60	7.76	8.80		$F(2, 206) = 9.21, p < .05$

Note. Past attempts = Number of past suicide attempts. BDI = Beck Depression Inventory. BAI = Beck Anxiety Inventory. EDI= Eating Disorders Inventory. GAF = Global Assessment of Functioning. SCID Screen = Number of endorsements on the Structured Clinical Interview for DSM-IV screener.

[a] cell values reflect the number of participants in each suicide risk level.

[b] cell values reflect means.