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Assessing suicidal ideation in individuals at clinical high risk for psychosis

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ABSTRACT

Background: The majority of individuals with schizophrenia and other psychotic illnesses have had suicidal ideation at some point during the illness. However, little is known about the variation in level and intensity of suicidal ideation and symptoms in the attenuated stage of psychotic illness. Our aims were to assess prevalence of suicidal ideation in this at risk group, and to examine the severity and intensity of suicidal ideation, and their relation to symptoms.
Methods: Suicidal ideation was assessed in 42 clinical high-risk participants using the Columbia Suicide Severity Rating Scale (C-SSRS). We hypothesized that prevalence rates would be similar to what was found in previous studies, and individuals with suicidal ideation would have higher positive and negative symptoms, with poorer functioning. We assessed levels of severity and intensity of suicidal ideation related to these symptoms, and examined how depressive symptoms affected these relationships.
Results: Nearly half (42.9%) of participants reported having current suicidal ideation. We found no relationship to positive symptoms. However, severity and intensity of suicidal ideation were found to be related to negative symptoms and level of functioning. When controlling for depressive symptoms during exploratory analysis, this relationship still emerged.
Conclusions: This study adds to the literature demonstrating the complex nature of suicidal ideation in psychotic illness. The C-SSRS has shown to be helpful in determining relationships between severity and intensity in suicidal ideation in relation to specific symptoms in a research setting.

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1. Introduction

The majority of individuals with schizophrenia (40–79%) have had suicidal ideation (SI) at least some time during their course of illness (Fenton et al., 1997; Skodlar et al., 2008), a finding which holds across gender and ethnicity (Harkavy-Friedman et al., 1999). Identified correlates of SI in this population have included mood variability, negative symptoms, and depressive symptoms (Kontaxakis et al., 2004; Fialko et al., 2006; Hocaoglu and Babuc, 2009; Jovanovic et al., 2013; Palmier-Claus et al., 2013), as well as positive symptoms (Taylor et al., 2010). We have previously examined the prevalence of SI in young people at clinical high-risk for psychosis (CHR), finding that 55% reported having suicidal thoughts (DeVylder et al., 2012), a prevalence replicated in other cohorts (Hutton et al., 2011). Given this prevalence in CHR, it is important to examine how symptoms may affect SI in the attenuated stage of psychotic illness.

A retrospective study of SI during the prodromal phase among individuals with schizophrenia by Andriopoulos et al. (2011) found that individuals with SI had greater total negative and positive symptoms than did individuals without SI (Andriopoulos et al., 2011). In addition, they reported that depressive mood and marked impairment in role functioning were independent predictors of SI. Of note, the retrospective design of this study may influence inaccurate reporting or recall bias. A recent meta-analysis by Taylor et al. (2015) described additional associations of SI with symptoms and functioning, such as obsessive–compulsive symptoms, poorer role and social functioning, and health. Additionally, Preti et al. (2009) found that as symptoms severity decreased in CHR groups, suicidality also decreased.

In an effort to better understand SI in CHR subjects, we used the Columbia-Suicide Severity Rating Scale (C-SSRS, Posner et al., 2011), which specifically probes parasuicidal ideation (wish to be dead, without intent or plan), the nature (intent and plan), and intensity (frequency, duration, controllability, potential deterrents, reasons) of suicidal ideation, as well as the nature of any suicide attempts (and if interrupted, aborted, or preparatory). Our aim was to better characterize SI in CHR patients, and evaluate its association with symptoms and functioning. The C-SSRS is ideally suited to this type of investigation given that it assesses SI over a spectrum, rather than as a dichotomous measure.

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We hypothesized that prevalence rates of SI in a CHR adolescent cohort would be similar to those reported in the literatures on schizophrenia (Fenton et al., 1997; Skodlar et al., 2008) and attenuated psychosis CHR cohorts (including a sample from the same cohort as the current study; DeVylder et al., 2012; Hutton et al., 2011). We compared symptoms between groups of individuals who had SI within the past six months and those who did not, predicting that individuals with recent SI would have higher total positive and negative symptoms, as previously reported (Andriopoulos et al., 2011). Also based upon Andriopoulos and colleagues' findings, we further hypothesized that those individuals with recent SI would have poorer functioning, particularly role deficits. We then examined the levels of severity and the intensity of SI as measured by the C-SSRS in relation to the previously mentioned positive symptoms, negative symptoms and functioning in this CHR group.

Given that negative symptoms commonly overlap with depressive symptoms, and that poor functioning can be related to depression, our aim is to distinguish whether or not the relationship found between SI and negative symptoms and functioning is due to depression levels in these CHR participants. We also sought to descriptively present the spectrum of SI in the CHR period using the C-SSRS which, rather than measuring SI as a dichotomous index, provides a more finely grained picture of the spectrum of SI. Finally, exploratory analyses were performed to determine whether SI is present in CHR individuals outside the context of depression.

2. Methods

2.1. Participants

A cohort of 42 help-seeking individuals at CHR for psychosis was ascertained using the Structured Interview for Prodromal Syndromes (SIPS, Miller et al., 2003). Participants were recruited to the Center of Prevention and Evaluation (COPE) from the New York City metropolitan area using the Internet (i.e., Craigslist), fliers, and letters/presentations to academic counseling centers and clinicians. Most CHR individuals were ascertained through referrals from schools and clinicians. Participants in this sample were collected from July 2012 through November 2013, and met with a clinical psychologist (GB) for an evaluation of high risk status. CHR participants were enrolled on the basis of meeting criteria for at least one of the following psychosis risk syndromes, as defined by the SIPS: 1) Attenuated Positive Symptom (APS) Psychosis-Risk Syndrome; 2) Genetic Risk and Deterioration (GRD) Psychosis-Risk Syndrome; and/or 3) Brief Intermittent Psychotic Symptom (BIPS) Psychosis-Risk Syndrome (Miller et al., 2003). Exclusion criteria included attenuated positive symptoms occurring solely in the context of substance use or better accounted for by a non-psychotic condition, a history of threshold psychosis, IQ < 70, medical or neurological disorders, and a serious risk of harm to self or others. Longitudinal assessment of transition to psychosis was reassessed every 3 months using the SIPS/SOPS, with a target length of follow-up of 2.5 years. Of note, healthy controls were excluded from this study if they were to report any instance of SI, so that no control group for the present study was possible.

The sample was assessed at baseline for demographics, symptomology, and social and role functioning, in addition to the suicide assessment. SI was also measured at follow-up appointments. Individuals who endorsed significant risk for suicide during the interview were evaluated and given clinical treatment.

2.2. Symptoms and functioning

The SIPS (Miller et al., 2003) assesses "prodromal" symptoms in four categories: positive, negative, disorganized, and general symptoms. Each item is scored on a range of 0–6, with a score on positive symptoms of 3–5 occurring at an average frequency of at least once per week over one month considered "prodromal". Positive symptoms include: unusual thought content, suspiciousness, grandiosity, perceptual disturbances, and disorganized communication. The negative symptoms include: social anhedonia, avolition, decreased expression of emotion, decreased experience of emotions and self, lack of ideational richness, and occupational decline. We focused on the total positive and total negative symptoms from this assessment. Global Assessment of Functioning (GAF) scores were also assessed using this instrument.

The Global Functioning Scale: Role (GFS: Role; Niendam et al., 2006) assesses age-appropriate performance at school, home or work. A score is given by assessing the demands of the role one is in and the level of support the individual receives. The Global Functioning Scale: Social (GFS: Social; Auther et al., 2006) assesses peer relationships based on age-appropriate social contacts inside and outside the family, romantic relationships, as well as the level of conflict the individual may or may not experience in these relationships. These scores are based on a 1–10 scale, similar to the traditional GAF scale, with 10 being highly functioning in one's role, and 1 being low/no functioning.

For our exploratory analyses, we examined depressive symptoms using the Beck Depression Inventory (BDI; Beck et al., 1961), which was collected at the same time as the C-SSRS. The BDI is a 21-item self-report tool that measures the severity of depression. Each response is assigned a value of 0 to 3, with higher numbers indicating greater severity of the depressive symptom.

2.3. Columbia-Suicide Severity Rating Scale (C-SSRS)

The C-SSRS (Posner et al., 2011) has multiple versions, including a "Screener" version, a "Lifetime/Recent" version (typically measured at baseline assessment), and a "Since Last Visit" version (typically measured at follow-up assessments). The C-SSRS has four constructs relevant to recent SI: 1) severity (1 = wish to be dead, 2 = nonspecific active suicidal thoughts, 3 = suicidal thoughts with methods, 4 = suicidal intent, and 5 = suicidal intent with plan); 2) intensity (sum across six items each rated 0 to 5: most severe ideation, frequency, duration, controllability, deterrents, and reason); 3) behavior; and 4) lethality. The sum score for intensity was used as the six items in this construct, which were independent and not correlated. No CHR participant endorsed current suicidal behavior or lethality, so as a result, analyses focused only on severity and intensity of SI. Both the C-SSRS "Lifetime/Recent" version and the "Since Last Visit" version were used with this sample. The "Lifetime/Recent" version was collected at baseline, and provides information on lifetime history of suicidality, as well as any recent suicidal ideation and/or behavior (e.g. within the past six months). The "Since Last Visit" version provides information on suicidal ideation occurring since the last visit (typically 3 months). Reports of recent SI using the "Lifetime/Recent" version were used for newer participants who had not yet completed a follow-up C-SSRS. Reports of recent SI determined by the "Since Last Visit" version were used for participants who had completed follow-up assessments. The use of both assessments was to ensure that the most recent report of SI for each participant was being examined (within the past 3–6 months). Reports of lifetime SI were examined solely for descriptive analysis.

2.4. Data analysis

Descriptive statistics for participants with SI (CHR + SI) and without SI (CHR − SI) were run. Chi-square analyses were used to evaluate proportions across the participants with SI and those without in terms of gender and ethnicity; and *t*-tests were conducted for comparison of age. Descriptive statistics were also used to determine prevalence of lifetime SI and to describe the degree of current SI (as measured by severity and intensity) in the CHR + SI group. Between the two groups (CHR + SI; CHR − SI), *t*-tests were used to compare the positive symptoms, negative symptoms, and functioning as measured by the GAF and GFS role and social scales. Severity and intensity measures were compared with symptoms and functioning using Spearman correlations