



Emotional distress and dysregulation as treatment targets to reduce suicide in psychosis: a scoping review

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Abstract

There is a pressing need for effective treatments that address the high rate of suicide observed among people with psychosis. In this scoping review we highlight two suicidogenic treatment targets that have been relatively neglected in people with psychotic disorders: emotional distress and emotion dysregulation. We review the research on these constructs in psychosis and their relationship to suicide in this population, and then make clinical recommendations based on research findings. Emotional distress and emotional dysregulation may be promising treatment targets for suicide among people with psychosis.

Keywords Suicide · Psychosis · Schizophrenia · Emotion regulation

Introduction

Reports indicate that more than 5% of people with psychotic disorders complete suicide [1], accounting for approximately 11% of suicides worldwide and nearly 100,000 suicides each year [2]. Among people with schizophrenia, suicide accounts for the most years of potential life lost [3] and a higher mortality ratio than any other cause of death [4]. Suicide prevention is especially challenging in the context of psychotic disorder as attempts are more often lethal [5, 6], impulsive [7], and occur at lower levels of perceived hopelessness than in non-psychotic clinical populations [8].

Relative to the severity of the problem, there is a dearth of interventions for suicide among people with psychosis, in part because people with psychotic disorders have been systematically excluded from most clinical trials that focus on reducing suicide [9]. Although some non-suicide-focused psychosocial

treatments for people with psychosis have documented concomitant improvements in suicidality [10], it is challenging to make attributions for such studies when suicide is not a pre-specified outcome or target [11], and in a large number of these trials the observed reduction remained at unacceptably high levels (e.g., for people in the active treatment group, 3% rates of completed suicide within 5 years [12] or 4.4% within 12 years [13]). The few suicide-focused clinical trials that have included individuals with psychotic disorders have mostly focused on cognitive targets and have shown little impact on suicide-related outcomes compared to treatment as usual [14–16]. For example, Power et al. [14] conducted a pilot trial of a suicide-focused intervention in first episode psychosis that drew on manuals of cognitive therapy for suicide [17, 18], with results showing no significant impact on suicidal behavior or ideation and greater relative improvements in the control group. Another suicide-focused intervention called Cognitive Behavioral Prevention of Suicide in Psychosis [19] was tested in two clinical trials. The first ($N=59$ outpatients with psychotic disorders) found mixed results on measures of suicide ideation [15]. The second ($N=51$ psychiatric inpatients, approximately 50% psychosis spectrum) found no improvements in suicide outcomes and some relative deteriorations in other outcomes compared to control [16]. Although it should be noted that sample sizes have been small and modifications of the method are being actively studied [20], including a mobile intervention that incorporates elements of CBT and that has shown promising results in a pilot feasibility trial [21],

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overall findings have not yet been particularly encouraging regarding CBT for suicide prevention in psychosis.

There has been relatively little scientific inquiry into affective variables and their link to suicide among people with psychosis, despite such variables being central targets of some of the most effective transdiagnostic treatment programs for suicidality [22–24]. To address this gap in the literature, in this scoping review we highlight two putative suicidogenic factors that have been relatively neglected in treatment research for people with psychotic disorders: emotional distress and emotion dysregulation. We review research on the relationship of emotional distress and dysregulation to psychosis as well as the relationship of these factors to suicidality in people with psychosis. We then make recommendations with the hope of influencing the direction of future clinical research and practice.

Emotional distress in psychosis

Negative affect is theorized to play a key role in the etiology of psychosis [25–28]. Emotional distress typically precedes and then accompanies the onset of psychotic disorder [29], with more than 60% of first-episode psychosis patients reporting clinically significant depressive symptoms and more than 80% presenting with clinically significant symptoms of either depression or mania [30].

Among people with psychotic disorders, researchers have measured an average level of subjective distress as high or higher than those with primary mood and anxiety disorders [31]. Longitudinal [32] and ecological momentary assessment (EMA) [33, 34] studies have found that changes in dysphoria tend to track changes in positive symptom severity over time, with psychosis frequently occurring proximally to or concurrently with periods of heightened psychological distress. Relatedly, increases in autonomic arousal (which have been linked to elevations in stress) have been identified as predictors of momentary elevations in psychotic symptoms during daily functioning [35]. Unfortunately, people with psychosis may on average have more limited ability to communicate their distress to others given higher rates of blunted affect even when experiencing intense negative emotions [36], and a tendency to have greater difficulty recognizing and naming their emotions in the first place [37, 38]. Accordingly, there is evidence that providers of mental health services tend to underestimate the importance of emotional distress to patients with schizophrenia while overestimating the importance of psychotic symptoms [39].

Relationship between emotional distress and suicide in psychosis

Studies of people with psychosis find that emotional distress is one of the strongest predictors of suicidality, apart

from past suicidal behavior itself [40, 41]. Depression or depressed mood have been found to be among the strongest predictors of the full spectrum of suicidality among people with psychosis, including suicidal ideation [42, 43], self-harm [44], and suicide attempts [42, 45, 46]. The relationship between depressive symptoms and suicidality in psychosis has been confirmed longitudinally [45–48]. Qualitative research with people with psychosis who have attempted suicide finds that negative experiences like frustration, sadness, and interpersonal difficulties are the most commonly cited reasons for suicide attempts, outweighing psychotic symptoms [49, 50].

Emotion dysregulation in psychosis

Emotion regulation may be defined as “the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one’s goals”, [51] or in James Gross’ influential work, as “how we try to influence which emotions we have, when we have them, and how we experience and express these emotions” [52]. Several reviews have concluded that emotion dysregulation is a core feature of psychotic spectrum disorders [37, 53–55], and experience sampling methods suggest a direct relationship between emotion dysregulation and psychotic symptoms [33, 56]. People with psychotic disorders tend to evidence wide-ranging deficits in the perception [57, 58], prediction [59], expression [60, 61], identification [38, 62], and control [53, 63, 64] of emotion. Emotion dysregulation in people with schizophrenia is high when compared to healthy controls, and is comparable to people diagnosed with disorders more commonly associated with emotion dysregulation, such as major depressive disorder [65], bipolar disorder [65], and borderline personality disorder [66]. A meta-analysis of 26 laboratory studies concludes that individuals with schizophrenia exhibit specific impairments in the inhibition of negative emotions even in response to neutral or positive stimuli [67]. A recent report has confirmed that these findings extend to “real-world” daily functioning as well [68].

Relationship between emotion dysregulation and suicide in psychosis

Studies of people with psychosis have demonstrated a direct association between emotion dysregulation and suicide ideation [69–71], self-harm [72], and suicide attempts [69]. For example, in a well-designed experience sampling study, Palmier-Claus et al. [70] found that *variance* in depressed mood predicted suicidality in people with psychosis even after controlling for levels of depression. Studies of young people with psychotic experiences have found that stress

reactivity [73] and difficulties with emotion regulation in general [69] (and with negative affect regulation in particular [70, 74]) are associated with suicidal thoughts. Evidence for suicidal behavior paints a convergent picture, with the vast majority of first episode patients attempting suicide impulsively [7] and at lower levels of perceived hopelessness than non-psychotic populations [8]. A study by Tarriner et al. [75] in a large sample ($n=278$) of people with recent-onset schizophrenia found that emotional reactivity was a greater risk factor for suicidal behavior than depression. Thus, interventions that help patients with psychosis to better tolerate, regulate, and manage psychosocial stress and distress may be particularly helpful in preventing suicidality in this population [7].

Addressing emotional distress and emotion dysregulation to reduce suicide in psychosis

There is an urgent need for research into emotional distress and emotion dysregulation as treatment targets for reducing suicide in people with psychosis. Some of the most widely implemented evidence-based treatments for people with psychosis, such as Social Skills Training [76] and Cognitive Remediation [77], do not attempt to target emotional distress or dysregulation, and there has been limited research on clinical interventions intended to target these domains. Two systematized treatments for people with psychosis, Coordinated Specialty Care (CSC) for psychosis and Cognitive Behavior Therapy for psychosis (CBTp), follow the recovery model and are thus intended to be responsive to patient priorities rather than focusing single-mindedly on psychotic symptoms, and so reductions in emotional distress frequently do become a focus of treatment in these modalities [78]. However, results from clinical trials of these interventions on outcomes related to emotional distress are not encouraging. One large trial (34 clinics in 21 states) of CSC for early psychosis found only a small effect on depression [79], with a subgroup analysis suggesting no significant improvements in subjective quality of life [80]; in general, research suggests that suicide rates remain extraordinarily high even for people who actively engaged with this intensive treatment model [12, 13, 45, 81]. Similarly, in the most recent meta-analysis of CBT for psychosis, Laws et al. [82] found that CBT for psychosis had only a small effect on psychological distress which became non-significant when adjusting for publication bias, and had no significant effect on improving quality of life. A post-hoc analysis from a 2007 trial of CBTp reported decreased suicide ideation [83], but a more recent study that evaluated the effects of CBTp on suicide with pre-planned analyses documented no improvement [47].

To date, there have been only three trials of interventions specifically intended to target emotion dysregulation in people with psychosis. In an uncontrolled study of 17

individuals with early psychosis, Khoury et al. [84] piloted a third-wave treatment called Compassion, Acceptance, and Mindfulness (CAM) designed to improve emotion dysregulation. The intervention resulted in improvements on cognitive emotion regulation and BPRS depression-anxiety, but no changes on other BPRS symptoms or psychological distress. Similarly, Lawlor et al. [85] performed an uncontrolled study of a “DBT-informed” skills group for people with psychosis and found reduced psychological distress, emotion regulation difficulties, and more adaptive emotion regulation skills use with effect sizes ranging from $d=0.5$ to 0.7 . Finally, Ryan et al. [86] carried out an uncontrolled study of an emotion regulation group for people with psychosis and documented improvements in emotion regulation ($d=0.29$) and reduced hallucinations and delusions severity. However, none of these studies employed suicide-related outcomes and no suicide-focused study has targeted emotion regulation to reduce suicide among individuals with psychosis.

Yet emotion dysregulation is considered a central target of some of the best known and well-validated transdiagnostic treatment programs for suicidality [22, 23], most notably Dialectical Behavior Therapy (DBT) [24], which is thought to operate primarily through improving emotion regulation [87]. DBT may be a promising treatment model for suicidality in people with psychosis, as research has supported the DBT treatment model and its efficacy in general: DBT skills use has been shown to mediate improvements in emotion regulation during treatment [88] and improvements in emotion regulation appear to mediate decreases in suicidal behavior [89]. A 2019 meta-analysis of DBT confirmed substantial decreases in self-directed violence including suicide attempts [90]. Trials of group DBT-Skills Training (ST) have documented substantial improvements in depressed mood [91, 92] and emotion dysregulation [88, 92, 93] in transdiagnostic samples.

According to the Social-Behavioral Model of Suicide [94] that guided the development of DBT [95], suicidal behaviors result from the combination of (a) environmental or intrapersonal stressors; (b) inadequate coping due to ineffective self-regulation and problem-solving, hopelessness, low ability to tolerate distress; and (c) an expectation that suicidal behavior is the solution to one’s problems. Individuals who experience acute stress *and* lack adaptive coping strategies may respond with maladaptive escape behaviors, such as suicide. Effective treatment involves disrupting the link between stress and suicidality by teaching more effective coping strategies (Fig. 1). DBT developed accordingly as a skills-training intervention with an emphasis on emotion regulation skills for reducing negative arousal, increasing distress tolerance, and improving the ability to manage stressful situations effectively. As is the case with most suicide-focused clinical trials [9], DBT research has typically excluded people with psychosis [88, 96, 97], with the

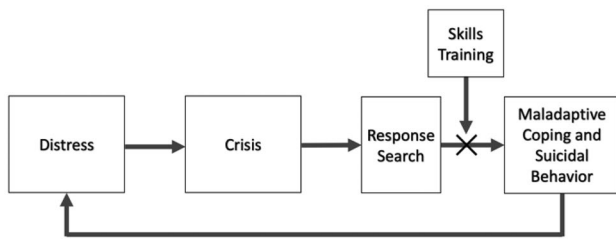


Fig. 1 Skills training is understood to disrupt the link between a perceived crisis and maladaptive coping behaviors (including suicidal behavior) by enabling more effective coping strategies. Effective coping also reduces distress and lessens the likelihood that distress is experienced as a crisis

exception of a non-randomized study of DBT that included a sample with approximately 50% rates of psychosis and found promising results [98].

Future directions

This scoping review examined the evidence that interventions which focus on emotional distress and dysregulation could be effective in reducing suicidality among people with psychosis or psychotic disorder. Future studies should examine the feasibility and efficacy of such interventions in people with psychotic disorders. Specifically, the use of elements of DBT are particularly promising—future randomized clinical trials employing DBT with the aim of reducing emotional distress and dysregulation in individuals with psychosis who are at risk of suicide should be developed.

Because clinical trials of suicide-focused treatments routinely exclude people with psychosis or psychotic disorders [9], there is a lack of evidence for or against the application of existing suicide-focused interventions to people with psychosis. In addition, there is genuine uncertainty about whether researchers should simply allow people with psychosis into trials of pre-existing suicide-focused interventions like standard DBT, rather than adapting interventions specifically for psychosis. There are several reasons to be skeptical of the need for adaptation. First, research suggests that the particular factors that drive suicidality in people with psychosis are largely the same as those driving suicide in people without psychosis [19], suggesting that interventions which are efficacious for people without psychosis are likely to be efficacious for people with psychosis as well. Second, the albeit limited studies of suicide-focused interventions that have been specifically adapted for people with psychosis have not yet shown strong evidence of efficacy [14–16]. A third reason for skepticism about the need for adaptation is pragmatic. Psychosis is a relatively rare symptom, affecting a minority of patients at most clinics [99], and suicidal behavior also affects a minority [100]. If patients with psychosis who are determined to

be at high risk of suicide are excluded from suicide-focused interventions such as DBT, it is not likely that there would be another appropriate treatment program waiting for them. In summary, there remains a need to study suicide-focused clinical interventions for people with psychosis, but it is less clear that such studies would need to be *psychosis*-focused. Instead, we urge researchers who are already studying suicide to include people with psychosis in clinical trials that might otherwise exclude them.

It is a separate question whether conditions *associated* with psychosis are grounds for exclusion or adaptation. For example, cognitive [101, 102] and academic [103] deficits are correlated with psychosis, and such deficits may be grounds for exclusion or adaptation (e.g., lowering the reading level of written materials). However, such a process of exclusion or adaptation can and should be considered independently of the additional presence of psychosis or psychotic disorder.

While concrete clinical recommendations would be premature given existing clinical trials research, we do believe that the evidence warrants increased vigilance by clinicians about the presence of emotional distress and dysregulation among patients with psychosis. These factors appear to be highly prevalent in people with psychosis and to have serious consequences, and yet they can often be missed by clinicians, in part because many people with psychosis experience greater difficulty expressing their emotions verbally [37] or non-verbally [104, 105]. Proactive questioning about these factors—and attention to them in treatment—are crucial. These experiences may not always be volunteered spontaneously.

In summary, we call for increased attention on emotional distress and emotion dysregulation for patients with psychosis, in research settings and in clinical practice. Such attention has the potential to save lives.

Declarations

Conflict of interest DJ receives royalties from American Psychological Association Press and Guilford Press; he is also co-owner of CAMS-care, LLC (a professional training and consultation company). The authors report no relationships with commercial interests.

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