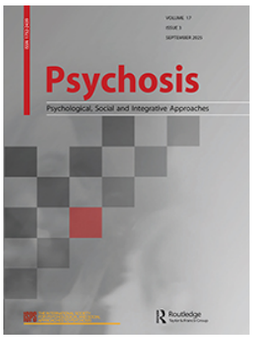

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Pilot of Dialectical Behavior Therapy (DBT) skills training for people with psychosis spectrum conditions and high risk of suicide

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ABSTRACT

Background: We conducted a community clinician training in DBT ($n = 19$) and a subsequent pilot DBT skills group ($n = 7$) to assess preliminary feasibility and acceptability of DBT for people with psychotic diagnoses and high risk of suicide, in anticipation of a pragmatic Randomized Controlled Trial (RCT).

Methods: For the clinician training we monitored attendance, satisfaction, and the proportion of clinicians who volunteered to be study clinicians. For the DBT pilot group, we collected data on acceptability, feasibility, satisfaction, preliminary quantitative outcomes, and posttreatment qualitative interviews.

Results: There was strong interest in DBT from community clinicians, with 95% of training participants indicating a desire to serve as volunteer study therapists. There was strong patient satisfaction with the DBT skills group, and improvements on measures of emotion dysregulation, depression, and suicidality. Patients described the group as causing improved emotional well-being, better interpersonal relationships, and reduced suicidality, and appreciated the group atmosphere and interactions with other group members.

Discussion: This pilot study suggested an encouraging outlook on DBT for people with psychosis and high risk of suicide, and there appeared to be strong stakeholder interest.

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Conservative estimates suggest that 5% of people diagnosed with psychosis spectrum conditions die by suicide (Bachmann, 2018; Hor & Taylor, 2010). In the general population there is an estimated 2.7% lifetime prevalence of suicide attempt (Nock et al., 2008), while among people with schizophrenia estimates range from 25 to 50% (Álvarez et al., 2022; Cassidy et al., 2018; Lu et al., 2020). Suicide is the greatest relative risk factor for mortality in individuals with schizophrenia (Correll et al., 2022).

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One important and relatively neglected suicidogenic factor for people with psychosis is emotion dysregulation. People with psychosis tend to have pervasive difficulties with emotion dysregulation (Khoury & Lecomte, 2012; Tully & Niendam, 2014) which is theorized to play a key role in the etiology of psychosis (Beck et al., 2011; Freeman et al., 2002; Garety et al., 2001; Morrison, 2017), and emotion dysregulation has been linked with both suicidal ideation and behavior among people with psychosis (Buyuksandalyaci Tunc & Gul, 2023; Palmier-Claus et al., 2013; Phalen et al., 2024). Because Dialectical Behavior Therapy (DBT) is thought to help reduce suicidality primarily through improvements in emotion regulation (Ritschel et al., 2015), in recent years there has been increasing interest in the application of DBT to people with psychosis. A DBT skills workbook for people with psychosis was published (Mullen, 2021), a brief DBT-informed skills group for individuals with psychosis was implemented and evaluated (Lawlor et al., 2022), and a program evaluation of DBT composed mostly of people with psychosis was carried out and published (Phalen et al., 2022). However, to our knowledge, there have been no randomized controlled trials (RCTs) of DBT for people with psychosis, and in fact people with psychosis have typically been excluded from suicide-focused controlled trials of any kind (Goldberg, 2024; Lawrence et al., 2024; Villa et al., 2020).

Clinical trials for people with psychosis can be complex given correlates of psychotic disorder that impact clinical care such as higher levels of food insecurity, poverty, low literacy (Anglin, 2023), psychiatric comorbidities (Bhavsar et al., 2021) and significantly higher rates of serious physical health problems (Suetani et al., 2016). In this context, pragmatic clinical trials are crucial; they evaluate how treatments work in real-world settings rather than under rigidly restricted conditions (Humphreys, 2017, 2023; Wagner et al., 2024) that do not resemble the experiences of the patients who receive care or the clinicians who deliver it. Pragmatic trials deepen our understanding of what interventions are effective in these real-world settings, taking into account the conditions surrounding intervention delivery in community settings, and the complexities of the challenges that patient face, ultimately supporting identification and implementation of practices that are applicable to and effective in the context of everyday psychiatric clinics (Hotopf et al., 1999; Wagner et al., 2024).

As the first step in a planned pragmatic RCT of DBT skills training for people with psychosis and high risk of suicide, we conducted a community clinician training followed by a pilot DBT skills group for people with psychosis and high risk of suicide to assess preliminary feasibility and acceptability and to allow for adaptations to the treatment and implementation model. We present findings from these experiences and lessons learned.

Methods

Study setting

The community clinician training and pilot DBT skills group took place at the University of Maryland Division of Community Psychiatry, which houses a number of outpatient community mental health clinics serving patients with public insurance in Baltimore. Given their location and insurance targets, the clinics

disproportionately serve Baltimore neighborhoods with a high area deprivation index (low income, education, employment, and housing quality; 2025; Kind & Buckingham, 2018).

Clinician training

We hoped to recruit at least one Division of Community Psychiatry clinician to serve as a volunteer co-facilitator for the pilot group as well as a study clinician for the subsequent pilot RCT. Because DBT had not deeply penetrated the Baltimore clinical community and DBT-trained therapists were not readily available, we offered a free day-long training in DBT for Serious Mental Illness to all clinicians working in any of the Division of Community Psychiatry's outpatient clinics. The training was advertised directly to the Community Psychiatry division director and program leads at four associated clinics. Prospective attendees were asked to submit applications that included questions about their experience with and interest in DBT, typical caseload, and whether they would be interested in participating as a clinician in the future pilot RCT of DBT for people with psychosis (interest in the study was explicitly not a condition of admission). Continuing Education Units (CEUs) were offered for nurses, social workers, psychologists, and counselors.

The community clinician training ("Dialectical Behavior Therapy for Serious Mental Illness") was led by the first author and lasted one day from 9 am to 3pm. The training included details on the structure and format of DBT skills groups, along with example skills from each module, as well as implementation and style considerations (e.g. a substantial portion of the training was dedicated to validation and dialectical strategies, as well as behavioral shaping). Structured time was dedicated to role playing skills training.

Pilot skills group

As a pilot for the subsequent RCT of DBT for psychosis, we delivered a DBT skills group to determine feasibility and acceptability and obtain qualitative feedback from participants on the intervention model.

Patient recruitment

Seven patients were recruited for the pilot DBT skills group from two co-located Division of Community Psychiatry clinics: an outpatient program and an ACT program. Inclusion criteria were: age 18+, a psychotic spectrum disorder as determined by the Mini International Neuropsychiatric Interview (MINI) for Psychotic Disorder Studies (Sheehan et al., 1998), high risk of suicidality as determined by a score of 8 or higher on the Suicide Behaviors Questionnaire-Revised (SBQ-R; Osman et al., 2001), and reading ability of sixth grade or higher as determined by a functional comprehension test. Participants could earn up to $186 dollars for completing assessments. Prospective participants were formally evaluated for capacity to consent before consent was obtained using a six-item assessment of their comprehension of the procedures. As part of informed consent, it was made clear that patients did not have to attend any DBT skills group sessions to remain enrolled in the study or receive full compensation.

Table 1. DBT skills group session topics.

Week	Topic
1	Orientation to DBT; Wise Mind
2	Mindfulness: "What" Skills
3	Mindfulness: "How" Skills
4	Understanding emotions
5	Check the Facts
6	Opposite Action
7	ACCEPTS+IMPROVE or STOP*
8	TIPP
9	PLEASE
10	Radical Acceptance and Willingness
11	Pleasant Events (Short- and Long-term)
12	Clarifying Interpersonal Goals and DEARMAN
13	DEARMAN (cont.)
14	GIVE and FAST
15	Cope Ahead and Graduation

*Facilitators select skill based on group needs/composition.

Intervention description

We opted to implement standalone group DBT skills training as opposed to "full model" DBT (i.e. group DBT plus individual DBT plus phone coaching) because (a) DBT skills training groups have been shown to improve emotion regulation in other populations (Hill et al., 2011; Neacsiu et al., 2014), (b) head-to-head research suggests that standalone group DBT may not be less effective than "full" DBT in reducing suicidality (Linehan et al., 2015), and (c) DBT skills groups tend to be more widely implemented than the more resource-intensive "full model" DBT program (Phalen et al., 2022). (However, regarding point [c], see the Lessons Learned section of the Discussion for considerations based on our later experience).

The DBT skills group was structured as fifteen weekly 90-minute sessions and followed the standard protocol described by Linehan (2014). Session topics are listed in Table 1. We made no adjustments to the manual for psychotic symptoms per se, however, we lowered the reading level of the DBT skills manual, simplified some contents, and made some cultural adjustments. For example, we reduced the number of steps for certain skills (e.g. "Check the Facts" was reduced from six steps to four steps, and the DBT model of emotions was reduced to an "emotion diamond" consisting of Events, Interpretations, Body, and Action) and we replaced many Pleasant Events Schedule activities with more socioculturally consistent options (e.g. fewer money-intensive options like "flying a plane" or frequently stressful activities like going for a walk in one's neighborhood). The group was facilitated by the first author and cofacilitated by a division clinician who attended the previously described community clinician training.

There was no compensation for group attendance and no monetary penalty for failing to attend group sessions.

Evaluation process

The community clinician training was monitored via standard ratings of satisfaction and attendance. The feasibility and acceptability of the pilot DBT skills group was assessed via monitoring of group attendance and dropout as well as post-treatment administration of the Client Satisfaction Questionnaire (CSQ-8; Nguyen

et al., 1983). The CSQ-8 is an eight-item Likert-scale measure of patient satisfaction with a clinical service that has been validated in a number of trials (Attkisson & Greenfield, 1996), with at least one study of patients with psychosis demonstrating strong internal consistency (Skar-Fröding et al., 2025). The response anchors for the CSQ-8 vary between items, but all items have four potential response options with higher scores indicating higher satisfaction (e.g. [1] Quite dissatisfied; [2] Indifferent or mildly dissatisfied; [3] Mostly satisfied; [4] Very satisfied). A total score is calculated by adding up the responses for a potential minimum of 8 and maximum of 32.

We additionally administered detailed post-treatment semi-structured interviews with participants that addressed key topics such as their personal reasons for joining the DBT study, the impact of DBT on their lives (with supplemental prompting about emotions and suicidality), their thoughts on the DBT program and DBT skills, positive and negative aspects of the intervention, any suggestions for improvement and potential barriers to participation, as well as open-ended prompts for any feedback the participant wanted to suggest. Interview transcripts ($n = 5$) were analyzed by four team members (PP, KF, AY, AL) using the Rapid Assessment Process (Beebe, 2001) to identify key themes in participant interviews in these domains. After these team members deeply familiarized themselves with the transcripts, they created a rapid coding matrix of the interviews (rows) and interview guide domains (columns). One coder then read through each transcript while copying or paraphrasing passages or points under each domain, annotating with observations and questions as needed. A second coder then reviewed this work and added to the notes, and the process was discussed in group meetings. This process led to some refinement of the coding domains, such as pulling "Impact of DBT on emotions" out of the broader "Impact of DBT" domain for specific consideration. A complete coding document was created containing the combined coding results for all transcripts, and this was reviewed by every member of the team to ensure agreement that saturation had been achieved.

Additionally, a series of outcome measures were administered to patients at baseline, post-treatment, and three months post-treatment. We present plots of patient scores at each of these timepoints on key outcome measures which help contextualize the qualitative findings. Specifically, we present outcome data related to emotion (depressive symptoms as measured by the Patient Health Questionnaire-9 [PHQ-9; Beard et al., 2016] and emotion dysregulation as measured by the Difficulties in Emotion Regulation Scale-36 [DERS-36; Hallion et al., 2018]) as well as suicidality (the Beck Scale for Suicide Ideation [BSS; Beck et al., 1979; Pinninti et al., 2002] and the Columbia-Suicide Severity Rating Scale triage and risk identification version [CSSRS; Phalen et al., 2022]). While the sample size is too small to warrant generalization, in order to appropriately summarize pre-post changes in the context of imbalanced numbers of pre-post measures and occasional missing data, we fit multilevel models with patient ID as a random effect and before (baseline) versus after treatment (post-treatment or 3-month follow-up) as a fixed effect.

Results

Community clinician training

Nineteen clinicians attended the training, with another five clinicians asking to be waitlisted after we decided we had reached maximum capacity for a single clinical training. 95% of clinicians (18/19) expressed a desire to serve as future volunteer study clinicians. Of the nine post-course surveys completed, most clinicians (5/9) said they had known only "a little" about DBT before the training and none self-described as knowing "a lot". Full survey results are presented in Supplemental Table 1, which suggest high satisfaction (e.g. 100% of respondents "Strongly agree" they were satisfied with the course and 100% would recommend it to others) but that some participants would want additional training to feel competent in delivering DBT (e.g. one third thought the full day of training was not enough time to cover all the material).

Pilot DBT skills group

Patient demographics

Patient demographics are presented in Table 2. All patients were black or multiracial. Just one patient had a paying job at the time of enrollment, and all patients made less than $15,000 USD per year. 6 out of 7 patients (86%) had not graduated high school and one patient had dropped out of school before completing the 6th grade. All patients had a history of suicide ideation. The majority had a history of suicide attempts (71%) and the majority had made multiple suicide attempts (57%).

Patient attendance and dropout

Five of the seven patients recruited for the skills group completed treatment. Of the two non-completers, one attended two group sessions but dropped out because she had obtained a full-time paid job, and the other never attended a group as they had lost contact with the research team before the group start date could be determined. Among the six patients who attended any sessions, the median number of sessions attended was 9 out of a possible 15 sessions (range: 2 to 15).

Patient satisfaction

Patients were asked to complete the CSQ-8 as a standardized measure of patient satisfaction (Nguyen et al., 1983). The average satisfaction score was 31.4 out of a maximum possible rating of 32, which corresponds to an average individual item score of 3.93 out of 4, indicating consistent and very high satisfaction with the DBT group (Marchand et al., 2011). Seven out of eight CSQ-8 items received maximal satisfaction ratings from every participant (i.e. 100% of participants rated the quality of service as "Excellent", "Definitely" got "the kind of service [they] wanted", would "Definitely" recommend the program to a friend, were "Very satisfied" with the amount of help received, thought the service helped them "A great deal" to deal more effectively with their problems, were "Very satisfied" with the services they received, and would "Definitely" come back to our program if they were to seek help again). The question "To what extent has our program

Table 2. Demographics.

Variable		
	Mean	**SD**
Age	57.5	10
	N	**%**
Income		
<$15,000	7	100%
$15,000 or more	0	0%
Employed at enrollment		
Employed	1	14%
Not employed	6	86%
Education		
Elementary school or less	1	14%
Some high school	5	71%
Some college	1	14%
Other	0	0%
Gender		
Male	5	71%
Female	2	29%
Transgender	0	0%
Other	0	0%
Diagnosis		
Schizophrenia	2	29%
Schizoaffective Disorder	2	29%
Bipolar Disorder with Psychotic Features	2	29%
Other Psychotic Disorder	1	14%
Race		
Black	6	86%
Multiracial	1	14%
Other	0	0%
History of suicidal behavior		
Yes	5	71%
No	2	29%
History of suicide attempt		
Multiple	4	57%
Single	1	14%
None	2	29%

Note: Totals do not always sum to 100 due to rounding.

met your needs?" received two 3-point responses out of a possible 4, corresponding to "Most" of the patient's needs being met by the program rather than the maximum score ("Almost all") given by the other participants.

Qualitative interview themes

Five DBT skills group participants – all treatment completers as defined by the DBT "four-miss" rule (Lindenboim et al., 2017) – were successfully recontacted for interviews following treatment. We attempted to recontact the two treatment non-completers for continued assessment but were unsuccessful.

Reasons for participation in the study. Three participants (PT1; PT4; PT5) said they had joined the study to improve their mental health(e.g. "I agreed to try it to better my mental health"; PT5). A fourth participant (PT3) said that they joined "so I could learn more for myself" and to be able to "help someone else". PT2 primarily cited financial reasons as well as wanting something to do or "to keep me busy".

Impact of DBT. Participants described a broad range of impacts of DBT, most of which related to suicidality (all participants: PT1; PT2; PT3; PT4; PT5), emotion regulation (PT2; PT3; PT4; PT5), and communication (PT1; PT3).

On suicidality. All participants described improvements in suicidality and/or their ability to cope with suicidal thoughts. Two participants said that they continued to have suicidal thoughts but with reduced intensity and/or an improved ability to cope. For example, one said that after participating in DBT "I don't want to hurt myself as much… the thoughts don't come like it was at first. It's come like slowly and I'm able to deal with it more now" (PT1). Another participant said that while suicidal thoughts "never went away … I don't want to die. Coming to y'all program gave me a tool to help me try to learn to cope with things in a better way" (PT4). Another participant (PT5) gave multiple examples of being able to avoid suicidal behavior and thoughts in response to stressors that would previously have induced suicidality. In the week prior to the post-treatment qualitative interview, this participant had experienced some major acute life stressors which had impacted her mood, but she stated, "I'm not reacting to [my auditory hallucinations] to where I'm going to be hospitalized. So I think that's a great plus for me to not be in the hospital, or to say them dumbo words, 'I wanna hurt myself' or 'I want to kill myself'. Because I used to do that all the time". (In a related interview on the same day, she stated: "so like I said I'm dealing with the situation, I'm learning more due to DBT services. Although I'm upset and depressed, but I'm not *acting* on it. You know I mean crying is okay. But I'm not doing no – I'm not taking no razor blades just doing like this to myself [*mimics cutting self*], self-inflictions, you know I'm not doing that".)

One participant (PT3) said they had not been feeling actively suicidal when they first joined the DBT skills group, but that "the group has reinforced that in me. You know, just keep reaching for help when I'm in trouble. I feel good".

One participant (PT2) described a total elimination in suicidal thoughts: "I'm still depressed some days but as for suicide changing, I more want to – I haven't really had a suicide episode in a long time". This participant attributed these improvements in suicidality to "trying to get advice from my friends and DBT", specifically citing skills focused on "distraction" and "breathing techniques".

On emotion. Four participants (PT2; PT3; PT4; PT5) described the group as making them feel better emotionally, including that it made them better able to "keep calm and relax" (PT2), "feel better in my emotions" (PT4), and that they now had "many more good days than bad days" (PT3; when asked about changes in emotion following participation in group). Participants sometimes explicitly described these improvements as better emotion regulation. For example, participants described being better able to "control my emotions when I'm overboard" (PT2), being "able to grab onto a positive emotion more easily now" (PT4), and having a better idea of "if you're feeling a certain way what can you do to make it better or calm yourself down" (PT5).

On communication. Two participants (PT1; PT3) spontaneously described improvements in communication. One described "opening up" more and being better able to listen to others and understand "what people are saying to me" (PT1) because of the group. Another (PT3) similarly stated that he became more "willing to listen to someone" after participating in the group. He stated, "I am a shy person but today I can communicate with strangers I meet and that makes me feel good". He also described being better able

to "word" things when communicating with a person who had wronged him so that he doesn't hurt that person's feelings. The other three participants we interviewed did not spontaneously describe the group as impacting their communications.

Other impacts: positivity and reduced psychosis. Two participants described the group as helping them to do more "thinking about positive things" (PT1) or "focus[ing] on something good" (PT4).

One participant (PT5) spontaneously described an impact on psychosis, viz., reduced command hallucinations telling her to self-harm and "learn[ing] to deal with the voices a lot". As described above, in the week before the post-treatment qualitative interview this participant had experienced some major acute life stressors: "usually when I'm like this upset that I – what comes in my head my mind was just going to do something to yourself [*i.e., self-harm*] but since I been here, even as down as I feel, it didn't even come. The voices didn't talk. It didn't come in my head or that to do something to myself". She also described an improved ability to avoid responding to hallucinations: "I'm not reacting to [my auditory hallucinations] to where I'm going to be hospitalized". She gave an example of an in-session mindfulness exercise from the DBT group that involved listening to sounds that are often considered annoying, which helped her learn to better tolerate voice-hearing experiences: "I heard a buzzing you know all these things was clashing right so I've been dealing with my voices, you know me, so I'm like oh I got a little irritated right I said I don't like this sound. One was more stronger than the other so I had to learn to cope you know try to deal with it. I recognized it you know but each sound you know and what can I do to better it and not get irritated".

Experience of DBT. Participants described generally positive perceptions of the intervention. Four participants (PT2; PT3; PT4; PT5) specifically denied any unappealing aspects of the group, while one participant expressed a preference for more group members closer to his age (early forties): "it's good to have elderly people but get in more younger people" (PT1).

Among the appealing aspects of group, participant responses could be grouped under the categories of interactions with other group members (all participants: PT1; PT2; PT3; PT4; PT5), learning new skills (PT1; PT3; PT4; PT5), and the non-judgmental atmosphere (PT1; PT3).

Interactions with other group members. All participants mentioned interactions with other group members and the facilitators as a draw and/or benefit of group, including the chance to hear from other people who were going through similar things (e.g. "seeing the struggle of other people in the group you know that motivated me to show up every week . . . it made me feel better in knowing that I wasn't alone", PT4). Some participants said they appreciated the opportunity to help other people (PT3; PT5) or to be helped by others (PT4).

Learning new skills. Four participants (PT1; PT3; PT4; PT5) said they liked that they learned things from the group and three participants (PT3; PT4; PT5) described still referring to their DBT skills manual after the group rotation ended, e.g. "when I was feeling depressed, which I am, I went back on the book and picked you know how to my emotions and what can I do instead of me reacting in a different way" (PT5).

Group atmosphere. Three participants said they appreciated the warm, judgment-free atmosphere, with everyone in the group "show[ing] kindness" (PT3) and the group being

"comforting" (PT5) and "mak[ing] me feel better about myself" (PT4). Two people said it was important that group was "fun" (PT3; PT5) and that it incorporated humor, with one participant saying that humor and a non-judgmental atmosphere is especially important for people who "don't have the education" (PT5) and may be intimidated by the group setting.

Other appealing aspects of group. One participant (PT4) described group as a positive way of physically removing himself from his unpleasant neighborhood and living situation.

DBT skills acquisition and use. Four participants described DBT skills that were helpful to them, such as mindfulness (e.g. "breathing techniques", PT2; "the breathing thing", PT4; "meditation", PT5), the DEARMAN skill ("when I have something to say to someone, going to say it, I'm going through it in my mind what the words to say you know so it wouldn't get crazy", PT3), the ACCEPTS skill (e.g. "distraction", PT2) and the IMPROVE skill (e.g. prayer, PT4). Three participants (PT3; PT4; PT5) gave detailed examples of tangible benefits they had received from engaging in skills use since the group had ended, such as one participant who got out her manual and practiced a DBT skill earlier in the same day of the qualitative interview in order to successfully calm down (PT5). These three participants who provided detailed examples of post-group DBT skills use all described referring to the physical DBT Skills Manual, e.g. "I still have my book and I still go through it you know to get more out of it" (PT3). Participants tended not to use the formal DBT acronyms for skills (e.g, STOP, GIVE, FAST) except PT2 who said that they had successfully used "YES MAN" since the group (a misstatement of the "DEARMAN" name; although the participant plausibly described the skill qualitatively). One participant (PT1) said they had difficulty understanding some of the skills fully.

Quantitative outcomes

Patient scores on measures of depression (PHQ-9), emotion dysregulation (DERS-36), and suicidality (BSS and CSSRS) are presented in Figure 1. Estimated average scores following treatment (post-treatment and 3-month follow-up) were consistently better than estimated average scores before treatment. Scores improved from 113 before treatment to 104 after treatment on the DERS-36, from 17 to 14.5 on the PHQ-9 from 3.4 to 2.1 on the C-SSRS, and from 12.75 to 11 on the BSS. Despite the small sample size, p-values for improvements were 0.10 or better on all four outcomes, and improvements were classically statistically significant on the DERS-36 ($p < .04$) and C-SSRS ($p = 0.03$).

Discussion

In this article, we describe results from a community clinician training in DBT for people with serious mental illness and a pilot study of a DBT skills group for people with psychosis and high risk of suicide. We found high interest from community clinicians with 95% expressing a desire to be volunteer study interventionists, as well as strong patient satisfaction with the pilot group. Patients in the study described the group as improving their emotional well-being and feelings of suicidality, and these qualitative self-descriptions cohered with quantitative assessments of emotion regulation, depression, and suicidality, which also showed improvements.

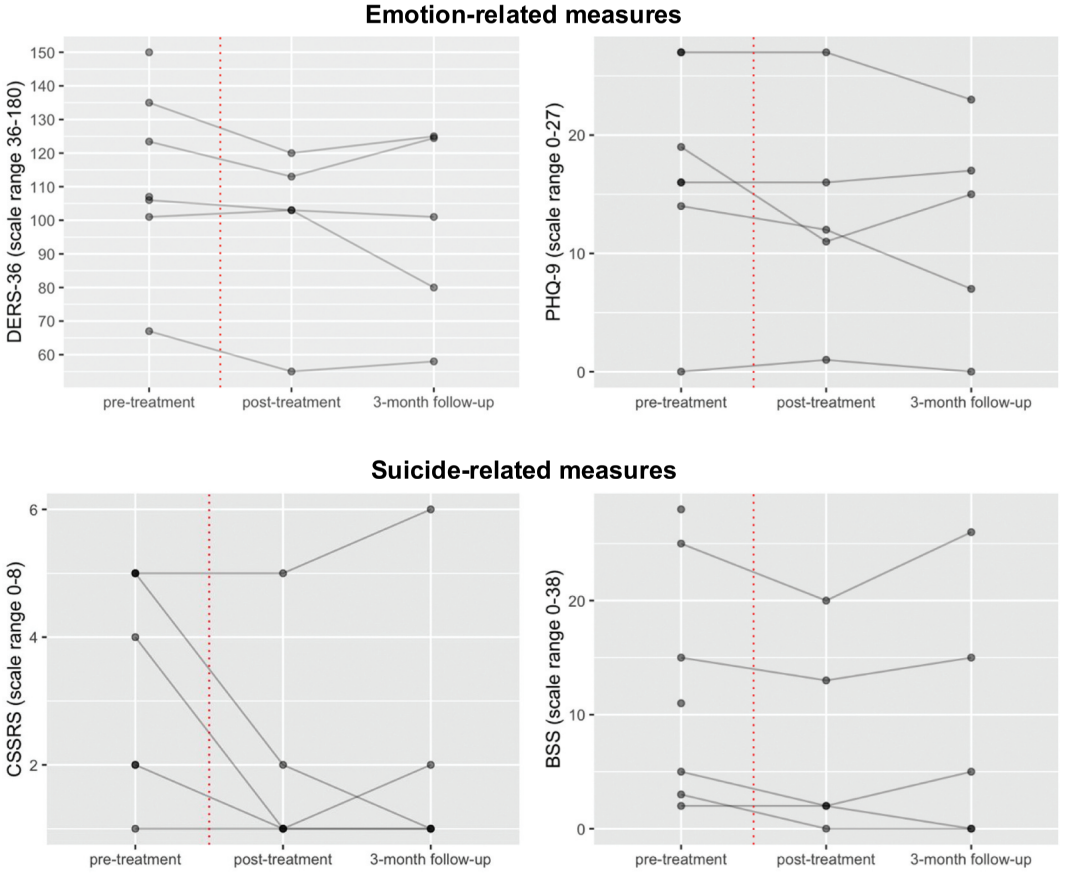

Figure 1. Outcome measures. Estimated average scores following treatment (post-treatment and 3-month follow-up) were consistently better than estimated average scores before treatment. Scores improved from 113 to 104 on the DERS-36 ($p<.04$), from 17 to 14.5 on the PHQ-9 ($p=.09$) from 3.4 to 2.1 on the C-SSRS ($p=.03$), and from 12.75 to 11 on the BSS ($p<.1$).

Findings from this pilot compare favorably to studies of DBT with non-psychotic populations. Patient engagement as measured by dropout rate (two out of seven, with one of these two never attending a group) was comparable to or better than other community implementations of DBT (Comtois et al., 2007; Feigenbaum et al., 2012; Priebe et al., 2012). Qualitative findings from the present study of DBT were similar to those documented in studies of DBT with non-psychotic populations, including patients frequently citing both DBT skills and the interpersonal group dynamic as major therapeutic aspects of treatment (Ohlis et al., 2023; Pardo et al., 2020).

The present study is relatively novel in applying DBT to patients with psychotic spectrum diagnoses. While the group materials were not modified for psychosis, as with all implementations of DBT, patient experiences and personal hardships were directly addressed during group and homework review and so psychosis (particularly paranoia) was a frequently discussed topic. The study's qualitative interview guide did not specifically mention psychosis, and yet one participant (PT5) spontaneously discussed how the group had reduced her voice-hearing and in particular reduced the experience of voices telling her to self-harm, which she partially attributed to mindfulness skills. The fact that this group addressed psychosis without being modified for it has important implications for implementation: if people with psychosis derive benefit from standard DBT implementations, then dissemination may be achieved by simply involving these patients in existing groups, rather than creating separate programming specifically for people with psychosis (Phalen et al., 2024).

Patients evidenced skills acquisition but some appeared to have difficulty retaining specific steps of individual skills and one participant expressed difficulty understanding some of the skills. This finding is similar to other qualitative studies of DBT with non-psychotic populations, which frequently find that patients use general terms to describe skills they have learned rather than the formal acronyms (Ohlis et al., 2023; Pardo et al., 2020; Tilley et al., 2022) and that patients often express difficulty recalling skills (Barnicot et al., 2015). In our study, the participants who gave detailed examples of practicing skills after the end of treatment (PT3; PT4; PT5) uniformly described referring to their physical skills manual, which may be one effective way of addressing the difficulty of recall (PT3; PT4; PT5).

Lessons learned

Strong community interest

Community clinicians demonstrated strong interest in learning and using DBT, and indeed for the subsequent (currently ongoing) pilot RCT of DBT for psychosis and high risk of suicide we have been able to deliver the DBT intervention exclusively using volunteer clinicians who are working in the clinics from which patients are recruited. We had initially chosen the "skills group only" intervention model in part because we thought that community clinics would not be able to sustain a "full model" DBT program. However, given community enthusiasm, we no longer believe that to be the case, and the first author is now in the process of leading a number of community clinics in implementing a full model DBT program that will accept patients with psychotic disorders in addition to other non-psychotic patients from across the university hospital system. This program

has not yet launched and no data has been collected; future clinical trials and/or implementation studies should consider the benefits of a full model DBT program in community mental health settings.

Need for continued training

Approximately one-third of clinicians who responded to training satisfaction surveys felt that a one-day training was insufficient to learn the intervention. In response to this feedback, we implemented a continuous weekly one-hour training targeted specifically at clinicians who were planning to begin a DBT skills group, allowing additional time to teach more skills and facilitation techniques as well as additional time for role playing. Clinicians have engaged in at least two months of these weekly trainings before facilitating their first groups, as well as engaging in an on-going DBT Consult Group concurrent with their group facilitation.

Potential improvements to patient skills acquisition

As described earlier in the Discussion, some patients (as in other studies of DBT with non-psychotic populations; Barnicot et al., 2015; Ohlis et al., 2023; Pardo et al., 2020; Tilley et al., 2022) evidenced difficulty recalling individual DBT skills, in some cases successfully coping by referring to their physical DBT manual when skills were needed. The pilot DBT skills group included standard components designed to improve skills generalization and acquisition such as homework assignment and in-session review, but no additional between-session support was provided to participants. The individual therapist component of DBT is often effective at helping patients crystalize knowledge of individual skills and at giving patients a chance to learn skills they may have at first had difficulty understanding or retaining (Barnicot et al., 2015). Although the underway RCT is specifically funded to test the DBT skills group, we are considering ways of involving individual therapists such as providing therapists with copies of patient homework even when formal individual DBT therapists are not available.

Conclusions

This study reports results from a pilot of DBT skills training for people with psychosis and high risk of suicidality. Patients tended to express appreciation for the group atmosphere, the group participants, and for the opportunity to learn new skills. They described a positive impact of the group on suicidality, emotional well-being, and interpersonal relationships, and quantitative assessments suggested corresponding improvements. In addition to the patient response, there was an unexpectedly strong response from community clinicians, who overwhelmingly expressed an interest in receiving training in DBT and who almost universally offered to act as volunteer clinicians for the study. While it is important to qualify the present results given that both study patients and clinicians appeared highly motivated to participate in the initiative, our experience with this pilot suggested strong stakeholder interest in DBT for people with psychosis and high risk of suicide.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Ethics statement

Data collection for the community clinician training was designated as Not Human Subjects Research by the University of Maryland Baltimore Institutional Review Board. All study procedures for the pilot DBT skills group were approved by the same Institutional Review Board.

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