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## In-person versus remote CBT groups during COVID-19 for adolescents with mood disorders or psychosis-risk syndromes

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### Abstract

**Background:** Since the COVID-19 pandemic, psychosocial therapies have been provided in varying formats, including remote, in-person, and hybrid services. It is unclear whether varying formats are similarly efficacious in improving psychiatric symptoms and functioning, lead to similar rates of treatment retention, and are equally acceptable to patients. This study compared youth with mood disorders and/or psychosis-risk syndromes who participated in a group cognitive behavioral therapy (CBT) in-person prior to COVID-19, to youth in the same treatment given remotely during the pandemic.

**Methods:** Adolescents ages 13–17 years participated in 9 sessions of group-based CBT given in-person (2018–2019) or remotely (2020–2021). Youth participants provided self-report ratings of psychiatric symptoms, psychosocial functioning, and emotional regulation at the study baseline and post-treatment and ratings of treatment satisfaction and burden at post-treatment.

**Results:** There were no differences between in-person and remote treatment improvements in psychiatric symptoms, psychosocial functioning or emotional regulation. However, youth in remote treatment had increased retention compared to youth who received treatment in person.

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#### Declaration of competing interest

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#### CRediT authorship contribution statement

**Marc J. Weintraub:** Writing – review & editing, Supervision, Methodology, Project administration, Investigation, Formal analysis. **Jamie Zinberg:** Writing – review & editing, Supervision, Methodology, Investigation, Conceptualization. **Megan C. Ichinose:** Writing – review & editing, Supervision, Methodology, Investigation. **Carrie E. Bearden:** Writing – review & editing, Methodology, Funding acquisition, Conceptualization. **David J. Miklowitz:** Writing – review & editing, Supervision, Methodology, Funding acquisition, Conceptualization.

Youth in the remote treatment reported similar levels of satisfaction but reported lower burden compared to those who received in-person treatment.

**Limitations:** Participants were not randomized into remote or in-person treatment. Participants prior to COVID did not have the same frame of reference for alternative treatment delivery options as those during or post-COVID.

**Conclusions:** Remote group treatment can provide similar levels of psychiatric benefit but less burden than in-person treatment for youth with mood disorders and/or psychosis-risk syndromes.

### Keywords

Unified Protocol; Transdiagnostic; Depression; High risk; Cognitive behavioral therapy

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The recent COVID-19 pandemic has underlined the importance of treatments that are not only flexible but also can be delivered remotely. Preliminary evidence suggests that individual and group therapy given remotely is comparable in efficacy, acceptability, and retention to the same therapy given in person among adults with depression and psychosis (Giovanetti et al., 2022; Mendelson et al., 2022). It is unclear, however, whether the same is true for group treatments for youth. We have adapted and begun testing the Unified Protocol for Adolescents, a transdiagnostic cognitive behavioral therapy for youth with mood and/or anxiety disorders, in a group format for adolescents with mood disorders and/or psychosis-risk syndromes (Ehrenreich et al., 2009; Weintraub et al., 2020). In a 9-week open trial, the group CBT was associated with improvements in psychiatric symptoms, emotion regulation, and psychosocial functioning (Weintraub et al., 2022). However, we did not examine whether there were differences in the treatment's psychiatric benefit, retention, and acceptability between adolescents who participated in the treatment in person versus remotely.

In this non-randomized trial of the group CBT for adolescents with mood disorders and/or psychosis-risk syndromes, we compared cohorts that were conducted in-person (prior to the COVID-19 pandemic) to cohorts that were held remotely during the pandemic. We hypothesized that the two treatments would show similar improvements in psychiatric symptoms and functioning. Given the convenience and reduced barrier to access associated with telehealth, we hypothesized that the remote format would be reviewed more favorably by youth in terms of treatment satisfaction and that rates of participant would be accordingly higher.

We recruited adolescents ages 13–17 years from two specialty outpatient programs within the UCLA Semel Institute – the Child and Adolescent Mood Disorders Program (CHAMP) and the Center for the Assessment and Prevention of Prodromal States (CAPPS). Youth had to meet Diagnostic and Statistical Manual of Mental Disorders 5 criteria for a lifetime unipolar or bipolar mood disorder using the MINI International Neuropsychiatric Interview (Sheehan, 2014) and/or current criteria for a psychosis-risk syndrome based on the Structured Interview for Psychosis-Risk Syndromes (Miller et al., 2003). Participants were excluded if they were too acutely ill to participate in outpatient treatment and/or who would be disruptive to the other group participants (e. g., significant behavioral issues).

The treatment was a modified version of the Unified Protocol (UP) for Adolescents (Weintraub et al., 2020). The treatment was administered in a group format across nine, 90-min sessions. Treatment content included psychoeducation (e.g., emotions and their function), cognitive skills (e.g., identifying cognitive distortions, cognitive reappraisal), and behavioral skills (e.g., scheduling pleasant activities, opposite action). A total of eight group cohorts were included, which were consecutive entries into the same study protocol. However, the first four cohorts took place between 2018 and 2019 prior to the COVID pandemic, whereas the final four cohorts took place between 2020 and 21 during the pandemic, which necessitated transferring the treatment to a telehealth format.

Participants were assessed at the study baseline and within two weeks following treatment termination. Adolescents rated their psychiatric symptoms using the Symptom Checklist 90 – Revised (SCL-90; Derogatis, 1979). Emotion regulation was rated by youth using the Difficulties with Emotion Regulation Scale (DERS; Gratz and Roemer, 2004). Psychosocial functioning was measured by youth self-report on the KINDL (Ravens-Sieberer et al., 2000). Treatment satisfaction and treatment burden were measured at treatment termination by adolescents on a 10-point scale, with 1 being ‘not at all’ satisfying/burdensome to 10 being ‘very much’ satisfying/burdensome, respectively. Using paired samples *t*-tests, we examined changes in the SCL-90 and the DERS from pre-to-post treatment. We used analyses of variance (ANOVA) to compare differences between in-person and remote cohorts on psychiatric symptom severity, difficulties in emotion regulation, and treatment satisfaction and burden.

A total of 61 adolescents enrolled in the study, with 30 receiving treatment in person and 31 receiving remote treatment. Youth in the study had an average age of 15.4 years ( $SD = 1.4$ ) and were predominantly Caucasian and biologically female (both  $ns = 35; 57.4\%$ ). There were no statistically significant differences on baseline demographic or clinical study variables between the youth who received in-person compared to remote treatment. Thirty-eight youth (62.3 %) were deemed treatment completers based on the previously published threshold of 6 sessions signifying treatment completion (Weintraub et al., 2022). More details regarding the study population can be found in Table 1.

Youth in the remote format group attended marginally more sessions than those in person (Remote  $M = 6.7$  [ $SD = 2.8$ ], In-person  $M = 5.2$  [ $SD = 3.1$ ];  $F(1, 59) = 3.52, p = 0.07$ ). Youth in the remote groups were more likely to complete the treatment compared to their in-person counterparts ( $X^2(1) = 6.14, p = 0.02$ ). The youth in the remote format reported less treatment burden at treatment termination ( $F(1, 39) = 4.36, p = 0.04$ ) but similar levels of treatment satisfaction ( $F(1, 39) = 1.41, p = 0.24$ ) compared to the youth receiving the in-person format. There were no differences between in-person vs. remote treatment delivery in pre-to-post treatment changes in symptom severity (SCL-90;  $F(1, 39) = 0.34, p = 0.56$ ), emotion regulation (DERS;  $F(1, 39) = 0.05, p = 0.82$ ), or psychosocial functioning (KINDL;  $F(1, 39) = 2.41, p = 0.13$ ).

Since the onset of the COVID pandemic, the administration of psychosocial treatments has widely varied between in-person, remote, and hybrid formats. Thus, it is important to ensure that these various delivery modalities have comparable levels of efficacy and acceptability.

Additionally, it is important to understand the benefits and drawbacks of these various modalities. The present study suggests that remote and in-person delivery of GroupUP have similar levels of psychiatric and functional benefit for youth with mood disorders and psychosis risk syndromes. It also appears that remote delivery of this group therapy is less burdensome but equally satisfying to consumers compared to in-person treatment among youth. The in-person and remote group differences in treatment completion and self-reported burden of participation may be confounded by a cohort effect. Additionally, we did not measure the impact of the pandemic on baseline distress levels in the remote groups, although it is notable that there were no statistical differences on baseline clinical variables between the in-person and remote groups. Overall, we cannot be certain that the results would have been the same had we randomly assigned two identical groups to remote vs. in-person treatment. Future research should examine whether there are subgroups (e.g., youth with mood disorders versus psychosis risk syndromes) or individual factors (e.g., level of symptom severity) that respond best to one format over the other.

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**Table 1**

Baseline demographic and clinical characteristics of study adolescents.

Demographics	In-Person (n = 30)	Remote (n = 31)	Total (N = 61)
	Mean (SD)	Mean (SD)	Mean (SD)
Youth age (years)	15.2 (1.4)	15.1 (1.5)	15.2 (1.4)
Youth academic grade	10th (1.4)	10th (1.5)	10th (1.4)
	<b>n (%)</b>	<b>n (%)</b>	<b>n (%)</b>
Youth sex, female	16 (53.3)	19 (61.3)	35 (57.4)
<i>Youth race</i>			
Non-Hispanic White/Caucasian	15 (50.0)	20 (64.5)	35 (57.4)
Hispanic White/Caucasian	8 (26.7)	4 (12.9)	12 (19.7)
Black or African American	3 (10.0)	1 (3.2)	4 (6.6)
Asian or Asian-American	0 (0.0)	4 (12.9)	4 (6.6)
Mixed race	4 (13.3)	1 (3.2)	5 (8.2)
Other race	0 (0.0)	1 (3.2)	1 (1.6)
<b>Youth baseline illness characteristics</b>			
	<b>n (%)</b>	<b>n (%)</b>	<b>n (%)</b>
<i>Mood and/or psychosis spectrum diagnoses</i>			
Attenuated psychosis syndrome + mood disorder	9 (30.0)	7 (22.6)	16 (26.2)
Attenuated psychosis syndrome only	1 (3.3)	1 (3.2)	2 (3.3)
Bipolar spectrum disorder only	2 (6.7)	5 (16.1)	7 (11.5)
Depressive spectrum disorder only	18 (60.0)	18 (58.1)	36 (59.0)
	<b>Mean (SD)</b>	<b>Mean (SD)</b>	<b>Mean (SD)</b>
<i>Symptom Severity Rating Scales</i>			
Symptom Checklist 90 – Revised (SCL-90)	108.7 (75.0)	107.3 (77.3)	108.0 (75.6)
Difficulties with Emotion Regulation Scale (DERS)	104.8 (25.2)	103.0 (27.0)	104.0 (25.7)
KINDL	87.2 (18.9)	90.6 (18.2)	88.9 (18.5)