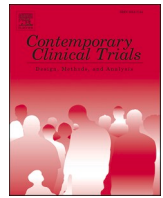




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A randomized trial of acceptance-based behavioral therapy to improve mental health outcomes for LGBTQ+ persons: Study protocol

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ABSTRACT

Background: During the COVID-19 pandemic, public health measures limited social interactions as an effective and protective intervention for all. For many, however, this social isolation exacerbated mental health symptoms. People who identify as lesbian, gay, bisexual, transgender, and queer (LGBTQ+) were already at elevated risk of anxiety and depression, relative to cisgender and heterosexual populations, and pandemic-related social isolation likely heightened these disparities. In our prior work with sexual and gender minorities, we developed and established feasibility and acceptability of a novel acceptance-based behavioral therapy (ABBT) intervention for HIV treatment. ABBT showed promise in improving social support and reducing mental health symptoms. In the current study, we investigate the efficacy of ABBT, compared to a treatment-as-usual control condition, in a full-scale randomized controlled trial to improve social support for LGBTQ+ persons living with anxiety and depression.

Methods: Two hundred forty LGBTQ+ adults with anxiety and/or depressive symptoms will be recruited and equally randomized to receive: (a) the ABBT intervention, consisting of two 30–40 min sessions plus treatment-as-usual (TAU), or (b) TAU only. Primary outcomes are interviewer-assessed anxiety and depressive symptoms. Secondary outcomes are self-reported anxiety and depressive symptoms. Experiential avoidance and social support are hypothesized mediators and presence of an anxiety and/or depressive disorder is a hypothesized moderator.

Conclusions: ABBT represents a novel, identity-affirming real-world approach to promoting social support as a means of improving mental health among individuals who identify as LGBTQ+. This study will contribute actionable data establishing the impact, mediational mechanisms, and effect modifiers of ABBT.

Clinicaltrials.gov registration: NCT05540067

1. Introduction

In the United States (U.S.), individuals who identify as lesbian, gay, bisexual, transgender, and queer (LGBTQ+) demonstrate significantly higher rates of mental illness compared to cisgender and heterosexual populations [1]. A national survey found that 37% of sexual minority adults had mental illness in 2015, compared to 17% among heterosexual adults [2]. According to minority stress theory, these disparities might be explained by the chronic and unique stressors (e.g., discrimination,

stigma, prejudice) that many LGBTQ+ individuals experience. These stressors impact coping methods, emotion regulation, and interpersonal connections [3,4]. Moreover, greater minority stress is associated with lower social support, which in turn is associated with more mental health problems [5]. In sum, LGBTQ+ persons are at elevated risk of anxiety and depression, which is likely related to the social stressors they face.

The COVID-19 pandemic significantly worsened mental health in the U.S. Public health measures, specifically limits on social interaction and

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isolation and quarantine, contributed to loneliness, anxiety, depression, insomnia, self-harm or suicidal behavior, and substance use [6]. For individuals who lost social connections or were unable to adapt to maintain their connections, social support decreased and loneliness worsened [7], putting them at elevated risk of anxiety and depressive symptoms. These social challenges were amplified in the LGBTQ+ community [8]. Data demonstrated that the already vulnerable LGBTQ+ population was harder hit by the pandemic in terms of mental health and quality of life [8]. In a large cross-sectional survey of sexual and gender minority and cisgender heterosexual respondents during the first three months of the COVID-19 pandemic, LGBTQ+ individuals were significantly more likely to have anxiety and depressive symptoms and they were particularly affected by the social isolation [8]. In sum, the COVID-19 pandemic contributed to an exacerbation of pre-existing mental health disparities in the LGBTQ+ community due to social disruptions [9].

Although LGBTQ+ persons are more likely to seek mental health services compared to the general population [10,11], this group consistently demonstrates unmet mental health treatment needs [12]. Prior to the onset of the pandemic, LGBTQ+ individuals reported inadequate care due to having stigmatizing experiences in health care settings [13] and lack of provider knowledge about their unique health care needs [14]. Importantly, LGBTQ+ persons often report a lack of access to affirming care [15]. Efforts focused on mental health and the LGBTQ+ population are urgently needed to develop accessible, identity-affirming, and culturally-tailored interventions. Unfortunately, current approaches for mental health care often do not respond to these challenges as the traditional treatment delivery model of psychotherapy – weekly sessions for several months at an outpatient clinic – may be impractical and logistically challenging for many people.

Acceptance-based behavior therapy (ABBT) is an empirically supported treatment approach for depression, anxiety, obsessive-compulsive disorder, and chronic pain [16], and has been successfully applied to various medical conditions and sub-syndromal concerns, such as stigma [17,18]. Results from meta-analyses and systematic reviews show that ABBT approaches can have large effects on anxiety and depression [19–21]. Additionally, data show that ABBT can improve social support [22–24]. However, to our knowledge, only one ABBT intervention specifically targeted social supports, and it was among traumatized military veterans [25].

ABBT helps patients overcome forms of avoidance that can lead to problems, particularly avoidance of uncomfortable internal states and the situations that trigger such states. We suggest that having skills related to accepting life's challenges while pursuing value-driven goals are well-suited to coping with life during the pandemic. As shown in Fig. 1, we hypothesize that ABBT can help LGBTQ+ persons overcome

the social isolation and loneliness that are associated with minority stress experiences, in addition to the pandemic, through active social behaviors, including support-seeking. However, a recent review of ABBT interventions among LGBTQ+ samples identified only five studies, of which only three were randomized trials [26]. Thus, further investigations of ABBT among LGBTQ+ samples are needed.

The current study protocol is among the first to evaluate a brief (2-session) ABBT intervention's effects on anxiety and depressive symptoms during the COVID-19 pandemic era among LGBTQ+ persons in a fully powered, randomized controlled trial (RCT). We hypothesize that compared to treatment-as-usual (TAU) alone, ABBT will lead to greater reductions in anxiety and depressive symptoms, as measured by interviewer assessment (primary outcomes) and self-report (secondary outcomes). We also hypothesize that compared to TAU, ABBT will lead to improved experiential avoidance and social support (mediators). Finally, we expect that ABBT's effects will be moderated by presence of a psychiatric diagnosis (anxiety or mood disorder vs. no psychiatric disorder) as determined in clinical interview with the Quick Structured Clinical Interview for DSM-5 Disorders (QuickSCID-5 [27];).

2. Materials and methods

2.1. Design

In this 3-year Phase II RCT, we will recruit 240 LGBTQ+ individuals who self-report anxiety and/or depressive symptoms at presentation for medical services at a community health center. Participants will undergo a baseline assessment to characterize their mental health, protective factors (e.g., social support), and factors that might worsen their symptoms (e.g., experiences of discrimination). Participants will then be randomized to either the 2-session ABBT and treatment-as-usual (TAU), or TAU alone. Regardless of treatment or control arm, all participants receive TAU services at the clinic. These services include referrals to psychiatric care, substance misuse counseling, and medication evaluations, if indicated. We will conduct follow-up research study assessments at 3-, 6-, and 9-months post-baseline. This study will have a data and safety monitoring board comprised of three external experts.

2.2. Setting

All study activities will take place at a community health center that primarily serves LGBTQ+ patients in Providence, Rhode Island: Open Door Health. Patients at Open Door Health are highly diverse. Thirty-six percent of patients identify as female. Additionally, 23% percent of patients self-identify as Hispanic/Latinx. Racially, 25% identify as Black/African American, 4% as Asian, and 70% as non-Latinx White.

2.3. Participants and sample size

Based on reported efficacy of acceptance-based treatments for anxiety and depression in a large systematic review and meta-analysis [20], the feasibility of recruitment at our site, as well as statistical power considerations, we plan to enroll a sample of 240 participants. Öst [20] reports meta-analytic effect size estimates for ABBT relative to TAU in the medium range (i.e., Hedge's $g = 0.55$ for posttreatment effects and $g = 0.48$ for follow-up effects). Based on power calculations for a repeated measures analysis of variance, we are well powered (>80%) to detect small effects in the treatment by time interaction across a range of samples sizes. We anticipate a 10–15% attrition rate, leaving us with about 210 study completers. With a final sample of 210, we are powered to detect effects as low as $f = 0.08$, which corresponds to a *Cohen's d* = 0.16, far below those observed in prior meta-analyses.

To increase external validity, we set a minimal inclusion threshold of “mild” anxiety and/or depressive symptoms to capture individuals who would likely benefit from our intervention. Inclusion criteria are: (a) receive services at the recruitment site; (b) identify as LGBTQ+; (c) self-

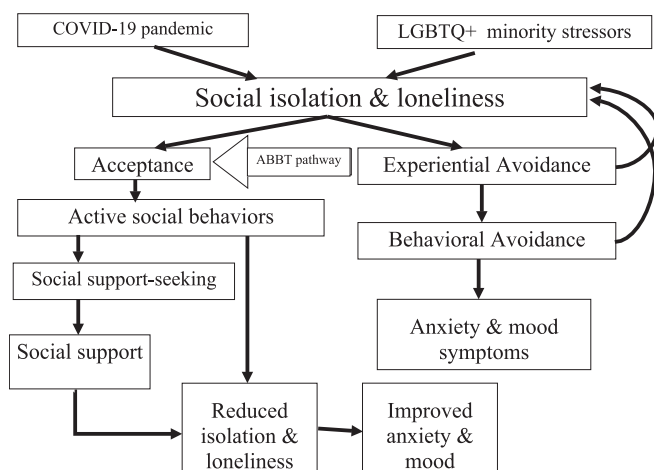


Fig. 1. Acceptance-based model of LGBTQ+ social isolation & loneliness.

reported $\geq$ mild anxiety and/or depressive symptoms, based on the Generalized Anxiety Disorder-7 (GAD-7 [28]); and/or the Patient Health Questionnaire-9 (PHQ-9 [29]); (d) 18 years or older; (e) ability to speak and read English; and, (f) have telephone access. This study does not have any exclusion criteria, beyond not meeting the above criteria. Although receipt of external mental health treatment (e.g., outpatient psychotherapy) could impact effects, we decided to measure external treatment without making it an exclusion criterion; however, we will account for it in analyses. Because our brief ABBT is not a traditional mental health intervention, we suggest that it can be complementary to other treatment approaches.

2.4. Recruitment

Our approach/consent rate in similar studies is $>50\%$ as these individuals might not be actively seeking treatment. Thus, we anticipate that we would need to recruit approximately 12% of the total patient pool (of approximately 2000 patients over 2 years) and at minimum, 30% of individuals who likely report symptoms, to meet our goals ($n = 240$). Staff will review electronic health records (EHR) of patients presenting to the clinic (after obtaining a HIPAA waiver) to identify eligible participants. We will screen all patients presenting for care to the clinic for depression and anxiety. Patients will be approached by telephone or in person. Additionally, recruitment flyers will be posted in the clinic. Informed consent will be obtained based on IRB-approved procedures.

2.5. Randomization

Participants will be randomized in a 1:1 ratio to either ABBT + TAU or TAU alone. In order to increase the likelihood of balance across intervention arms, randomization will be stratified by severity of anxiety and/or depressive symptoms (mild, moderate, severe; resulting in 9 strata) based on the Quick Inventory of Depressive Symptomatology – Clinician Rating (QIDS-C [30,31];) and the Hamilton Anxiety Rating Scale (HAM-A [32];). Treatment arm assignments will be made in blocks of 4 or 6 participants (randomly ordered). An investigative team member will set up randomization tables in REDCap [33,34] (a secure web-based service for building and managing online surveys and databases), and other research staff will not have access to the tables. Participants will be randomized following the baseline assessment using the randomize feature in REDCap.

2.6. Retention plan

We will compensate participants for completion of study assessments (\$50 each, for up to \$200 total), but not ABBT session attendance, to best align with real-world practice. Our goal is to achieve high retention rates even if participants decide to drop out of clinical care at the recruitment site. Staff will call participants to remind them of assessment appointments, which can be conducted by telephone or electronically, unless the participant chooses to come to the clinic. Participants will provide at least two contact persons we can ask for information about participants' whereabouts should we lose contact. ABBT sessions will primarily be delivered by telephone or secure videoconference, but can occur in person, if requested. As in our previous studies, we expect telemedicine to promote high retention in study activities (e.g. [35]).

2.7. Safety monitoring

It is possible that some people will disclose suicidal thoughts or behaviors, in ABBT sessions and/or in questionnaires related to depression. Study staff will be trained to gather risk related information and to then consult with a licensed clinician on the investigative team who will be “on call” for consultation. The clinician will determine next steps and develop an action plan, as needed.

2.8. Interventions

2.8.1. Acceptance-based behavior therapy (ABBT)

ABBT participants will receive the individually-based intervention as specified in the manual, added to their receipt of TAU services. Both sessions will be offered through telehealth, and will be about one hour in total contact time. Session #1 will occur within 1 week of consenting and administration of the baseline assessment. Session #2 will be conducted 2–3 weeks after the first session. See Table 1 for summary of ABBT content.

In the first session, the interventionist will introduce the concept of acceptance and its possible benefits in the context of life values and participant-identified struggles, such as stigma related to identifying as LGBTQ+ and/or coping with social isolation. As discussed in our published papers [22,35], we seek to create a foundation for acceptance at the first session via experiential exercises, using metaphors developed in the acceptance-based literature [36]. Interventionists will use the “Quicksand” metaphor, in which struggling with life's challenges is compared to struggling with quicksand: the more we try to resist and push away from uncomfortable feelings like anxiety, the stronger they become. Session #1 will conclude with a discussion of types of social support, motivation to change or enhance support, and the development of a social support action plan.

To elicit life values in Session #2, interventionists will use a “Growing Old” exercise, in which participants are asked to reflect on what they would want their life to stand for, observing their history at an older age. To complement content from Session #2, types of social support will be reviewed and goals related to further social activity will

Table 1
Acceptance-based Behavioral Therapy (ABBT) intervention.

Session	Topic	Content
1	Introduction and discussion of lived experiences	Challenges related to LGBTQ+ identity? Experiences with the COVID-19 pandemic? Coping skills/strategies? Mental health comorbidities? Quicksand metaphor
	Creative hopelessness, cognitive defusion, acceptance	
	Discussion of social support	Review of types of social support Who are your social supports? What types of support do you need? What support can you offer others?
2	Social support action plan	Motivation to change Review social support resources list Set goals related to supports
	Review of social support action plan	Session #1 goal(s) achieved? Barriers or challenges?
	Review highlights of Session #1	Reaction to quicksand metaphor? Thoughts about coping and support?
	Generate list of social values	Growing old exercise
	Setting goals related to social activity and engagement	How do values connect with social support goals?
	Revisit social support action plan and troubleshooting	Setting additional social support goals Do you want to attend to your existing relationships? Do you want to increase community involvement? Do you want to attend LGBTQ+ support groups? Role play seeking support

be developed. As needed, interventionists will troubleshoot barriers to social activity, including role plays to aid social skill development.

2.8.2. Treatment-as-usual (control)

Because there is no gold standard social support-focused behavioral intervention for LGBTQ+ persons, and to demonstrate an effect beyond usual care, our control condition will be the clinic's usual care procedures (TAU). Similar to many community health centers, our recruitment site has limited capacity to offer co-located mental health services. Thus, TAU primarily consists of referrals to external providers. All participants will receive a list of local mental health and social support resources catered to LGBTQ+ individuals.

2.9. Study assessment schedule

Follow-up assessments will occur at 3-, 6-, and 9-months post-baseline. See Table 2 for summary of study assessments.

2.10. Primary outcomes

Our primary outcomes of interest will be interviewer-assessed anxiety and depressive symptoms. These clinical variables will be assessed using the QIDS-C, a 16-item rater-administered measure of depression severity [30,31], and the 14-item Hamilton Anxiety Rating Scale (HAM-A [32];), which measures anxiety severity. According to numerous reviews, such as Eaton et al. [37], the use of interviewer-assessments of mental health symptoms are more rigorous, less prone to bias, and have better sensitivity and specificity than self-reports.

2.11. Secondary outcomes

Two secondary outcomes will be assessed by self-report: anxiety symptoms measured by the GAD-7, and depressive symptoms measured by the PHQ-9.

Table 2
Measures and assessment schedule.

Measure	Baseline	3-, 6-, & 9-month follow-ups
COVID-19 impact	X	
Demographics	X	
Psychiatric diagnosis (anxiety/depression)	X	
Substance use		
Alcohol use	X	
Drug use	X	
Protective factors		
Mental health recovery	X	X
Resilience	X	
Self-efficacy	X	
Risk factors		
Functioning and impairments	X	X
LGBTQ+ discrimination	X	X
LGBTQ+ stigmatization	X	X
Exposure to trauma	X	
Primary outcomes (rater)		
Anxiety	X	X
Depression	X	X
Secondary outcomes (self-report)		
Anxiety	X	X
Depression	X	X
ABBT mechanisms		
Experiential avoidance	X	X
Perceived social support	X	X
Treatment utilization		
Use of psychiatric medication	X	X
Receipt of psychiatric services	X	X
ABBT acceptability		
ABBT participant exit interviews		9-month
Satisfaction		9-month

2.12. Mediators

Experiential avoidance, defined as attempts to avoid distressing experiences (e.g., depressive feelings, fearful thoughts of rejection) [38], is a primary mechanistic target of ABBT. To counter experiential avoidance of life's challenges, ABBT uses acceptance and committed action towards valued life areas. Experiential avoidance will be measured by the self-report Acceptance and Action Questionnaire-2 (AAQ-2 [39];). Social support is also a proposed mediator of this intervention, as we hypothesize that improved social support will lead to improved mental health. This variable will be measured by self-report using the Multidimensional Scale of Perceived Social Support (MSPSS [40,41];).

2.13. Covariate adjustment

Prior to analysis, we will examine statistical assumptions for all variables and test for baseline differences between groups on study measures and key demographics. Because treatment is randomly assigned and stratified, most variables should be evenly distributed. However, we will adjust for baseline values of outcome measures as applicable. As patients might be receiving other non-study treatments during the trial (assessed at baseline and all follow-ups), we will conduct sensitivity analyses that introduce statistical control for post-randomization variables (e.g., other treatments received) as well as explore other possible treatment effect modifiers or subgroups that differentially respond to treatment to inform future intervention studies [42].

2.14. Quality control

2.14.1. Treatment fidelity

Clinical supervision will be provided by the study's lead investigator during weekly teleconference sessions throughout the RCT. Interventionists will discuss their caseload, troubleshoot as needed, and otherwise discuss audio recordings of sessions that the investigator listened to prior to the supervision meeting. At the conclusion of the RCT, two trained postdoctoral students who are not part of the study will rate 50% of the randomly selected ABBT sessions. Fidelity rating training will entail reviewing the intervention manuals with the study investigator, listening to sessions as a group to practice coding, and then independently coding sessions and comparing them to ratings conducted by the investigator to refine coding practices. Once these steps are completed, the two raters will rate a random selection of ABBT sessions until adequate reliability is achieved (ICC > 0.80). Adherence to the treatment manual will be assessed in a previously developed coding system used in the pilot work. This system focuses on adherence to the intervention manual, allowing raters to note if each topic in the manual was delivered/administered, "yes, no, or partially." A percent adherent statistic will then be calculated for each rated session.

2.14.2. Data management

All participants will receive a unique study ID number. An electronic tracking database that links participants to their ID numbers will be used; this will be password protected so that only study staff can access it. Informed consent will be securely facilitated through REDCap. REDCap will also function as the study's data repository.

2.15. Statistical analyses

Data initially will be examined for assumptions and appropriate estimation procedures will be applied as a function of data characteristics. Per intent-to-treat (ITT) principle, missing data will be handled with multiple imputation or maximum likelihood estimation and assumptions checked with sensitivity analyses.

2.15.1. Primary outcomes

We hypothesize that compared to TAU, ABBT will reduce overall psychiatric symptom severity by 9 months follow-up. We will examine the QIDS-C and HAM-A total for change in depressive and anxiety symptoms based on blinded rater assessments, respectively. We will approach this analysis using a general linear mixed effect model, with depression and anxiety symptom scores as repeatedly-observed outcomes across study assessments (baseline, 3-, 6-, and 9-month) in two separate models. A linear mixed effect model will be used if the residuals from such a model are normally distributed; otherwise, an alternative link function will be used. Given these design parameters, the hypothesis that the active treatment condition (ABBT) results in greater reduction of depression/anxiety symptoms relative to TAU at month 9 will be tested with the sign and significance of the treatment group indicator, and expressed using marginal effects [43]. We will also follow-up this approach with a generalization of the ANCOVA (Analysis of Covariance) [44] in which we will test each study follow-up separately, while controlling for a time factor and baseline scores. The potential for a non-linear relationship between baseline and follow-up will be examined using restricted cubic splines [45].

2.15.2. Secondary outcomes

The GAD-7 and PHQ-9 will be the secondary outcome measures as they are self-reports of overall symptomatology. These outcomes are continuous measures and will be analyzed using a generalized linear mixed model approach as described above for the primary hypothesis.

2.15.3. Mediator and moderator analyses

We hypothesize that compared to TAU, ABBT will result in reduced experiential avoidance, measured by the AAQ-2, and increased perceived social support, measured by the MSPSS, which in turn will mediate the group effect on the clinical outcomes (QIDS-C, HAM-A; assessed in separate models). Thus, using a classic mediation framework, the *a* path represents effects of treatment group on perceived social support, the *b* path represents the effect of perceived social support on depression/anxiety outcomes, and the *c* path represents direct effects of treatment group on depression/anxiety outcomes. Mediation is supported when the indirect effect (*ab*) is statistically significant using bootstrap methods [46].

In moderator analyses, we will test the effects of treatment condition and the potential moderating variable of diagnosis: DSM-5 anxiety and/or mood disorder versus no diagnosis, which may identify patients who will benefit more or less from ABBT as compared with TAU. It is possible that severity of illness might relate to treatment effects. For these analyses we will add putative moderators (main effects and their interaction with treatment) to outcome models described above. Moderation effects will be expressed similarly and their effects displayed graphically using simple slope analysis and Johnson-Neyman technique [47].

3. Discussion

This will be among the first studies to evaluate a brief ABBT intervention focused on improving mental health among the LGBTQ+ population following the COVID-19 pandemic. Community health clinics are an ideal venue to deliver brief, evidence-based interventions to support the mental health of patients, including those who identify as LGBTQ+. Yet, limited attention has been paid to developing and implementing sustainable behavioral health services in community health clinics, particularly interventions that can address social support. A meta-analysis of 125 studies on outpatient psychotherapy in the general population found that 40% of patients terminated treatment after the first or second visit [48]. In fact, because high attrition rates are a known problem in psychotherapy, some have argued that the term “gold-standard” evidence-based treatment must be reserved for interventions that not only show positive effects in RCTs, but also show feasibility and strong retention rates in clinical settings [49]. These data

coalesce to emphasize the importance of novel, brief treatment approaches that could be relevant to LGBTQ+ persons.

Until recently, efforts to address mental health in the LGBTQ+ population have been hampered by a lack of culturally-competent mental health care services [50]. Efforts focused on mental health and the LGBTQ+ population during COVID-19 are urgently needed and these approaches must be accessible, identity-affirming, and culturally-tailored. Taken together, these data lay the groundwork for the present study.

3.1. Strengths

The few identity-affirming and currently available interventions for improving mental health in LGBTQ+ populations can be efficacious [26], but often are not routinely deployed in real-world, community-based clinical settings due to barriers related to feasibility, cost, and access. Moreover, limited attention has been paid to improving social support as an essential mechanism for emotional health and well-being among LGBTQ+. Social support is particularly relevant given the way in which minority stress can increase isolation for LGBTQ+ individuals, which has become more pronounced as individuals cope with the widespread and damaging effects of the COVID-19 pandemic. Telehealth, as a treatment delivery option, is emerging as a means of streamlining access to urgent services and providing real-time assessment and intervention in more efficient ways. However, there are notable gaps in existing research.

The proposed research is innovative for a number of reasons: (a) We focus on LGBTQ+ individuals who are at significantly high risk of mental health challenges, in general, and specifically as a result of the COVID-19 pandemic; (b) We integrate brief, “real-world” behavioral health services into routine care at a community health clinic; (c) We apply an intervention that has been shown to specifically engage a pandemic-affected mechanism (social support); and, (d) We use an experimental therapeutic approach to examine mechanisms of change (experiential avoidance, social support) that are consistent with the theoretical underpinnings of our ABBT intervention.

3.2. Challenges

Given our broad eligibility criteria, we do not expect to exclude many potential participants from our recruitment site. However, it is possible that we would not recruit a sufficient sample to meet our aims. The investigative team will regularly monitor if the study is meeting recruitment targets. If not, we would consider expanding to another recruitment site or recruiting from the community. Retention might be a challenge as well; however, we anticipate that our methods to retain individuals in this study (e.g., financial remuneration for study assessment) will mitigate this concern.

We recognize that in community-based clinics, the use of the QIDS-C and HAM-A is unlikely. However, to maintain scientific rigor and to be consistent with prior studies that provided effect sizes to power our RCT, we selected these interviewer-assessed measures as our primary outcomes. The GAD-7 and PHQ-9 self-reports were selected as secondary outcomes. We plan to cross-validate these measures and expect that if they are strongly correlated ($r \geq 0.50$) with the QIDS-C and HAM-A in this sample, we would use them as primary outcomes in future trials.

We acknowledge that comorbid alcohol or other substance use could relate to patients' mental health, coping with the pandemic, and social supports. Yet, our prior data do not show that ABBT's effects vary depending on comorbid substance use. As such, we do not heavily emphasize substances in this study as our intervention is not designed to address these issues. However, we will assess these variables at baseline to characterize the sample and could analyze if intervention response depends on the presence of substance use problems.

4. Conclusions

Our preliminary data strongly suggest that the use of ABBT to support mental health for LGBTQ+ patients with anxiety and/or depressive symptoms will be feasible, acceptable, and effective. By providing data in the first study of its kind, we will lay the groundwork for further use of ABBT in community health settings to address the urgent social support needs of people who identify as LGBTQ+. At the conclusion of this trial, we anticipate demonstrating that ABBT, a simple and easily replicable intervention, can effectively improve mental health among LGBTQ+ persons.

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Declaration of Competing Interest

The authors have no competing interest to declare.

Data availability

No data was used for the research described in the article.

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