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Factors Influencing Engagement in In-Person and Remotely Delivered Lifestyle Interventions For Young Adults with Serious Mental Illness: A Qualitative Study

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Abstract

Aim: Young adults (ages 18–35) are underrepresented in lifestyle interventions for people with serious mental illness (SMI), such as schizophrenia, bipolar disorder, and severe depression, and little is known about factors influencing their engagement in these programs. This qualitative study examined factors affecting engagement among young adults with SMI who were enrolled in a lifestyle intervention trial at community mental health centers.

Methods: Seventeen young adults with SMI participated in this qualitative study. Participants were drawn from a 12-month randomized controlled trial ($n=150$) comparing an in-person group lifestyle intervention augmented with mobile health technology (PeerFIT) to one-on-one personalized remote health coaching (BEAT) using purposive sampling. The 17 participants completed semi-structured qualitative interviews at post-intervention to explore their perceived benefits of the intervention and factors impacting engagement. We used a team-based descriptive qualitative approach to code transcripts and identify themes in the data.

Results: Participants across both interventions reported experiencing improved ability to engage in health behavior change. Participants described managing psychosocial stressors and family and other responsibilities that limited their ability to attend in-person PeerFIT sessions. The remote and flexible BEAT remote health coaching intervention appeared to facilitate engagement even in the context of challenging life circumstances.

Conflicts of Interest

All authors declare that they have no conflicts of interest.

Conclusions: Remotely delivered lifestyle interventions can facilitate engagement among young adults with SMI navigating social stressors.

Keywords

Digital health; exercise; nutrition; schizophrenia; bipolar disorder; depression

Introduction

People with serious mental illness (SMI), including schizophrenia, bipolar disorder, and major depression, have a cardiovascular mortality rate more than twice that of the overall population (Correll et al., 2017; Olfson et al., 2015; Saha et al., 2007). Increased prevalence of cardiovascular risk factors and behaviors, including diabetes, hypertension, obesity, smoking, sedentary behavior, and poor diet are present early in the course of mental illness (Correll et al., 2014; Correll et al., 2010; McCloughen et al., 2016). Although behavioral lifestyle interventions adapted for persons with SMI have shown efficacy in randomized controlled trials (Bartels et al., 2013; Bartels et al., 2015; Cabassa et al., 2021; Daumit et al., 2013), young adults ages 18 to 35 with SMI have been underrepresented in these studies (Naslund et al., 2017). Furthermore, while prior studies have explored correlates of lifestyle intervention engagement among middle-aged adults with SMI (Tuda et al., 2022), little is known about the factors that influence engagement in lifestyle interventions among young adults with SMI. Given the increased risk for obesity in young adulthood and decline in health-promoting behaviors (Kwan et al., 2012; Laska et al., 2012; Nelson et al., 2008), identifying effective strategies for engaging this group in lifestyle interventions is critical to prevent chronic and disabling physical disease.

Engaging young adults in behavioral interventions that promote weight loss in the overall population has been a challenge (Brokaw et al., 2015; LaRose et al., 2016). Data pooled from three behavioral weight loss trials for overweight and obese adults showed that young adults aged 18–35 years represented 7% of the sample, attended significantly fewer sessions than middle-aged adults and were less likely to be retained for study assessments (Gokee-LaRose et al., 2009). Multiple factors contribute to a young person's willingness to engage in structured behavioral programs that promote weight loss and physical activity, including time and costs of programs and conflicts with work and school responsibilities (Lanoye et al., 2016; LaRose et al., 2016). Mental health symptoms, substance use, social isolation and lack of family involvement are predictors of disengagement from mental health services among persons with SMI (Dixon et al., 2016; Kreyenbuhl et al., 2009), which may create additional barriers to participating in lifestyle programs for young adults.

Much of what is known about motivation to adopt healthy eating and physical activity behaviors among young people has been discovered through research in the overall population. The motivating factors for weight loss and physical activity among young adults identified in the literature include physical appearance, peer influences, and social inclusion and connection (Ashton et al., 2015; Larose et al., 2013). Based on these preferences and the unique challenges of living with SMI, our team developed and evaluated PeerFIT, an in-person group lifestyle intervention (including exercise and lifestyle education

sessions) augmented with mobile health (mHealth) technology (Aschbrenner et al., 2018). We evaluated PeerFIT against Basic Education and Activity Tracking (BEAT), a one-on-one personalized remote health coaching intervention, in the Fit Forward Trial, a 12-month randomized controlled trial (RCT) of 150 young adults with SMI. Primary findings (Aschbrenner et al., 2021) did not indicate superiority of one intervention over the other and participants in both conditions experienced significant improvements in cardiovascular disease risk reduction (i.e., clinically significant weight loss of 5% from baseline or clinically significant improvements in fitness, reflected as an increase of >50 meters on the six minute walk test from baseline). Yet, intervention attendance was significantly higher in BEAT (70%) compared to PeerFIT (22% for exercise sessions; 26% for lifestyle sessions). Therefore, exploring the factors that contributed to these disparate attendance rates could inform future tailoring and delivery of lifestyle interventions for young adults with SMI. The purpose of this qualitative study was to identify factors impacting lifestyle intervention engagement from the perspective of young adults with SMI enrolled in the Fit Forward trial.

Methods

Study Overview

The protocol for the Fit Forward Trial has been published (Aschbrenner et al., 2018) and the trial was registered on [clinicaltrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT02815813) (NCT02815813). Briefly, the study was a two-arm RCT conducted in four community mental health centers located in the northeastern U.S. The study evaluated the effectiveness of PeerFIT compared to BEAT on cardiovascular risk reduction. All participants gave written informed consent after receiving a complete description of the study, and institutional review boards at Dartmouth College, the Massachusetts Department of Mental Health, and the State of New Hampshire Department of Health and Human Services approved the study.

Participants

Participants in the Fit Forward Trial were young adults aged 18 to 35 with a chart verified diagnosis of SMI receiving services at community mental health centers and who were overweight or obese defined as having a body mass index of ≥ 25 kg/m². Participants obtained medical clearance from their primary care provider to participate in the study prior to randomization (See Aschbrenner et al., 2021 for exclusion criteria).

Interventions

Mental health or fitness professionals with a minimum of a bachelor's degree served as lifestyle coaches for both PeerFIT and BEAT interventions. They received training and supervision from members of the research team. Both interventions were delivered in two phases over 12 months: 1) intensive phase (Months 1–6); and 2) maintenance phase (Months 7–12).

PeerFIT.—PeerFIT was a 12-month in-person group lifestyle intervention with mHealth adapted from the Diabetes Prevention Program (Diabetes Prevention Program Research Group, 2012). Lifestyle coaches provided intensive, ongoing contact with participants to help them achieve and maintain their weight loss and physical activity goals. PeerFIT's

intensive phase consisted of twice weekly in-person group sessions: 24 group lifestyle sessions and 24 exercise group sessions. PeerFIT participants also received Fitbit devices, access to a private Facebook group, a digital scale, and 2–3 weekly text messages from the lifestyle coach. These digital components promoted peer-to-peer support for health behavior change and encouraged self-monitoring of physical activity and body weight. The intensive phase was followed by a six-month maintenance phase during which lifestyle sessions were discontinued (all other components remained accessible).

BEAT.—BEAT was a 12-month one-on-one personalized remote coaching intervention that included once monthly telephone coaching calls, 2–3 weekly text messages from the coach with reminders and encouragement, and wearable activity devices (i.e., Fitbits) to promote self-monitoring of physical activity. During the intensive phase, coaches delivered six monthly 30-minute telephone coaching calls as well as weekly text messages. Lifestyle coaching calls were discontinued during the maintenance phase with all other components still accessible.

Qualitative Interviews

Sampling Approach.—As participants completed their 12-month outcome assessment and completed the study, our team used purposive sampling to invite 10 participants categorized as high and low intervention engagers stratified by intervention type (Palinkas et al., 2015). For the PeerFIT intervention, high engagers were defined as participants who attended 50% or more of the weekly lifestyle and exercise sessions offered during the 6-month intensive phase of the study, whereas low engagers were defined as participants who attended less than 50% of the weekly lifestyle and exercise sessions offered during the same period. For the comparison condition (BEAT), high engagers were defined as those participants who attended 50% or more of the monthly telephone coaching calls offered during the 6-month intensive phase of the study, whereas low engagers were defined as those who attended less than 50% of the monthly telephone coaching calls offered during the same period. These definitions for high vs. low engagers were selected given that a range of prior lifestyle intervention studies have observed significant positive relationships between participant engagement (e.g., attending classes or intervention sessions) and achieving health behavior changes, including in lifestyle intervention studies among adults with SMI (Green et al., 2015; Porter et al., 2020; Thomson et al., 2015). Research staff invited 10 participants in each category (i.e., high vs. low engager) across intervention type using a list generated by the data manager to participate in a 30-minute telephone based qualitative interview to learn about their experiences with the intervention. Seventeen participants agreed to participate in the qualitative interviews of which 10 were from PeerFIT (6 high engagers, 4 low engagers) and seven were from BEAT (6 high engagers, 1 low engager). Participants received \$50 for participating in the telephone interviews, which were audio recorded for transcription with their permission.

Interview Guide.—The semi-structured interviews explored participants' experience with the interventions centered around the domains of feasibility, acceptability, and perceived benefits. Questions included on the interview guide covered participants' enjoyment ("What did you like the most/least about the intervention?"), ease of use ("Tell me about the parts

of the program that were easiest/most difficult to use”), helpfulness (“What parts of the program were the most helpful?”), and views of intervention components (e.g., “What did you think about the number of sessions?”).

Data Analysis

Qualitative interview transcripts were analyzed using a team-based descriptive approach (Colorafi & Evans, 2016). Three members of the study team independently read and coded all transcripts. The researchers applied descriptive codes from a preliminary codebook developed by the principal investigator and added new codes as they were identified in the data (Miles et al., 2013). The team met after coding sets of three transcripts to compare consistency of code application. Any discrepancies in coding were discussed at team meetings until consensus was reached. When all transcripts were coded, the team evaluated the usefulness of the codes and refined the code list by eliminating codes and adding new codes identified and agreed upon by the team. The team arrived at a final set of codes organized into themes corresponding to three domains for each intervention: (1) barriers to intervention engagement, (2) facilitators of engagement, and (3) perceived benefits of the intervention.

Results

Participants

Participants in the qualitative interviews were, on average, 29 years old, primarily female (82%), White (77%), and unmarried (82%) with a high school education or higher (77%). Just under half (47%) of the sample identified as Hispanic and just over half (52%) were living independently. Most participants (88%) were not working and had at least weekly in-person contact with their parents. Participants had psychiatric diagnoses of schizophrenia-spectrum disorders (41%), mood disorders (41%), or posttraumatic stress disorder (18%) and the majority (77%) were taking antipsychotic medications. These characteristics are generally consistent with the larger sample from the parent RCT (Aschbrenner et al., 2021) except for gender, race, and ethnicity in which this sample had a higher proportion of female, White, and Hispanic participants.

Barriers to Engagement

PeerFIT.—Participants expressed that it was difficult to attend scheduled in-person exercise and lifestyle sessions due to competing demands and responsibilities (e.g., childcare, appointments, work). Psychosocial stressors related to housing and finances were described as barriers to engagement. One participant shared the impact of life circumstances on their ability to attend PeerFIT sessions:

“Then like I missed some groups because I was living in a place that was transitional living for families. Kicking us out with no notice.”— Participant 1

In addition to logistical and psychosocial challenges related to attending in-person groups, participants expressed difficulties with being able to fully engage in the exercise sessions due to physical limitations. One participant shared their struggles with the exercise sessions:

“The only thing that was difficult was for me to do certain exercises. It was-- yoga was a little hard for me, and a couple of things was hard for me, the pushups and stuff.” – Participant 2

BEAT.—As engagement in BEAT was high and the intervention sample consisted of primarily high engagers, barriers to engagement were not consistently identified across interviews.

Facilitators of Engagement

PeerFIT.—Overall, participants found the communication and coaching style helpful for engaging in PeerFIT. Specifically, participants expressed that the coaches were encouraging, motivating, and supportive. Participants also shared that it was helpful to talk with coaches about challenges that arose during the course of the study that could impact engagement (e.g., new job that conflicted with groups, anxiety). Coaches were able to discuss strategies for overcoming these challenges to maximize engagement. Taken together, coaches’ ability to provide encouragement and support while acknowledging the overall context that the person is navigating (e.g., personal stressors) was important for facilitating engagement.

BEAT.—Participants found the flexibility of the BEAT intervention helpful for being able to engage in the intervention. One participant shared how they were able to engage despite having multiple additional responsibilities:

“Because I have so many appointments and so much daily stuff in life plus a son, I didn’t have time to go to groups and all that so doing it this way, it was so much easier where I knew I’d be able to participate and still text and do all that and talk to [my son] and then talk to you guys.” – Participant 3

Additionally, BEAT participants enjoyed communicating with the coach and found their coaching style supportive, non-judgmental, and motivating. These positive qualities promoted engagement in the intervention.

Perceived Benefits

PeerFIT.—Participants reported that the peer-to-peer support increased their self-confidence and was helpful in facilitating health behavior changes. One participant shared their perspective on how peer-to-peer support was beneficial:

“Like it’s not just get fit and get healthy. It’s socializing and getting to know people in the same boat and just very supportive and nonjudgmental type of environment. You’re getting more than just exercise and fitness out of it, you know?” – Participant 4

BEAT.—Participants found that they became more aware of their health behaviors through BEAT, particularly by using the Fitbit for tracking sleep, weight, and steps. Participants also shared that their engagement in BEAT and communication with the BEAT coaches helped them pay greater attention to their eating habits and exercise (Figure 1).

Discussion

This qualitative study examined factors influencing engagement in lifestyle interventions for young adults with SMI in the context of an RCT that evaluated PeerFIT, an in-person group program with mHealth compared to BEAT, a one-on-one personalized remote health coaching program. We explored themes corresponding to the domains of barriers to engagement, facilitators of engagement, and perceived benefits of the programs within each intervention. Results highlighted perceived benefits of both PeerFIT and BEAT, particularly with regard to awareness and capacity to engage in health behavior change. The findings also showed that young adults with SMI face several personal and psychosocial challenges that interfere with intervention engagement but that these barriers may be overcome through supportive coaching, problem-solving, and flexible remote intervention delivery.

Consistent with the goals of the lifestyle interventions, participants in PeerFIT and BEAT perceived benefits to their awareness and ability to increase their physical activity and improve their nutrition. While both interventions involved coaching support that facilitated health behavior change, PeerFIT capitalized on peer-to-peer support in particular. PeerFIT participants found that peer-to-peer support from group sessions both led to improved self-confidence and was helpful for facilitating lifestyle changes. Group-based exercise interventions have been shown to be feasible and acceptable in young people with psychosis (Shannon et al., 2020). Further, these types of programs may be especially valuable given that individuals with SMI experience high levels of loneliness, and both loneliness and lack of support are barriers to health behavior intervention engagement (Firth et al., 2016; Fortuna et al., 2022; Roberts & Bailey, 2011). Thus, group-based designs and embedded peer-to-peer support appear to be critical ingredients for improving confidence and health behavior change in young adults with SMI.

Despite these perceived benefits, barriers to engagement were particularly salient for participants randomized to PeerFIT. Specifically, the reported challenges of attending in-person lifestyle and exercise sessions due to responsibilities and stressors (e.g., work, childcare, appointments, unstable housing) likely explain the low attendance rates observed in the parent RCT (Aschbrenner et al., 2021). Much of the existing research on barriers to engagement in exercise and lifestyle programs in the SMI population has focused on psychological reasons (e.g., low mood, mental health symptoms, stress) for low adherence (Firth et al., 2016; Roberts & Bailey, 2011). Our findings highlighted how social determinants of health (SDOH) impact engagement in lifestyle interventions for young adults with SMI, particularly for the in-person PeerFIT program. Evidence has shown that SDOH, such as financial and housing instability and low access to resources, disproportionately affect individuals with SMI and negatively impact mental health (Alegría et al., 2018; Compton & Shim, 2015). It may be that young adults with SMI have difficulty engaging in lifestyle interventions due to synergistic effects of psychological stressors and SDOH. As such, consideration of the array of challenges affecting young adults with SMI should be considered when designing lifestyle interventions for this group.

The combination of flexibility and supportive, one-on-one, remote coaching provided in BEAT appeared to promote engagement even among participants navigating social stressors.

Future iterations of BEAT may specifically examine the role of SDOH in behavior change interventions to help participants manage these challenges while making positive changes to their health behavior. For example, BEAT coaches could be trained to connect participants with childcare and housing-related supports and resources while promoting increased physical activity. Further, it may be possible for BEAT coaches to promote improved nutrition while simultaneously assessing access to healthy food options and connecting participants to local, affordable resources. BEAT has the potential to serve as an effective lifestyle intervention for young adults with SMI that considers the context in which they live and addresses relevant SDOH for this population.

The study was limited in the small sample size of 17 participants. Further, although the recruitment of low engagers for this qualitative study was a strength, the sample primarily consisted of high engagers, particularly in BEAT. Thus, it is possible there were barriers to engagement with BEAT that were not captured through our interviews. Our study focused on factors affecting engagement from participant perspectives, thereby highlighting a need for future work to consider factors that affect maintenance of outcomes, as well as perspectives from multiple stakeholders on implementation outcomes of lifestyle interventions at the provider, community, and facility levels. The sample also was primarily female and White, which limits generalizability to participants of other genders and racial backgrounds. Despite these limitations, this study adds important insights on barriers and facilitators to engagement in lifestyle interventions for the young adult population with SMI.

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Data Availability Statement

The data that support the findings of this study will be available upon request through the National Institute of Mental Health Data Archive (NDA; <https://nda.nih.gov/>) once the parent study is complete.

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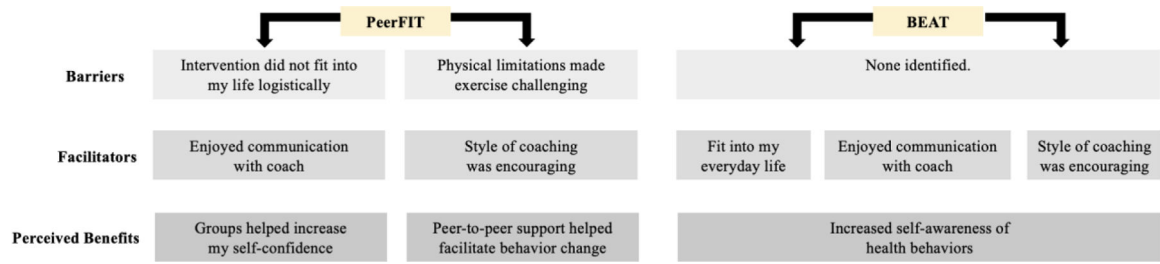


Figure 1. Themes corresponding to domains of barriers, facilitators, and perceived benefits by intervention type