Telephone based smoking cessation intervention for adults with serious mental illness during the COVID-19 pandemic

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ABSTRACT

BACKGROUND: The high rates of smoking in adults with serious mental illness (SMI) increases risk for COVID-19 infection. The purpose of this paper is to present the results of a smoking cessation intervention that was adapted to be offered by phone during a Shelter in Place (SIP) period in San Francisco, California, at the beginning of the COVID-19 pandemic.

METHODS: During the SIP, we offered counseling sessions by phone to five participants. At the end of each session, we assessed readiness to quit, tobacco cessation or reduction, and inquired about the impact of the shelter in place on smoking habits and mental health. Grounded theory guided data collection and analysis.

RESULTS: The categories that emerged around barriers and facilitators for smoking cessation were COVID-19–related stressors, having purpose, structure and feelings of connections, and the importance of quitting aides for smoking cessation.

CONCLUSION: Offering telephone based smoking cessation counseling to adults with SMI while they shelter in place may improve their readiness to quit.

KEYWORDS: smoking cessation, serious mental illness, COVID-19 pandemic, telehealth

Introduction

Adults with serious mental illness (SMI) have greater morbidity and mortality than the general population.[1] The COVID-19 pandemic will heighten this morbidity and mortality due to multiple factors including psychiatric symptom exacerbation related to disruptions in mental health services, living situations that increase risk for infection, and marginal access to telehealth and online appointments.[2] In addition, cigarette smoking is the major contributing factor to the high prevalence of acute and chronic disease, including cancer, and disability among adults with SMI. The high rates of smoking in this population increase risk for COVID-19 infection and confers a worse prognosis if COVID-19 is contracted.[3] Adding to the risk profile is that adults with SMI are more likely to have low annual household income, limited access to health care, and help quitting smoking. Smaller social networks may limit ability to obtain support from friends or family members. All of these factors make it more challenging for adults with SMI to quit smoking and these challenges are amplified during the COVID-19 pandemic.

Despite evidence that effective cessation interventions for smokers with SMI include a combination of behavioral therapy and pharmacology, they continue to smoke at alarming rates.[4] Compared to a quit ratio of 52.8% in the general population, adults with a SMI have a quit ratio of 38.4%.[4] Reasons for poor success include: lack of treatment, misconceptions among patients that tobacco use decreases psychiatric symptoms, and mental health settings and living situations that are not tobacco-free.[5] Research is needed to adapt existing smoking cessation interventions for the COVID-19 pandemic environment and these interventions must be accessible, feasible, and acceptable for adults with SMI. The purpose of this paper is to present the results of a smoking cessation intervention that was adapted to be offered by phone during a Shelter in Place (SIP) period in San Francisco, California at the beginning of the COVID-19 pandemic. We analyzed the interviews with grounded theory techniques with the intent of creating a theoretical framework that could guide our future intervention work.

Materials and methods

To be included in the study, participants had to be English speaking adults 18+ years old with a diagnosis of SMI that passed a capacity to consent test based on comprehension of the consent form. Participants also needed to be willing to set a quit

date, not currently taking bupropion or nicotine replacement therapy, and smoke daily for the past 6 months. All participants gave consent for use of their information in our study, their information have been fully anonymized, and the study was approved by our University's Institutional Review Board. A study modification was submitted and approved to conduct telephone counseling and data collection during the SIP period. A convenience sample was recruited from an outpatient assertive community treatment center. The time duration for data gathering, coding, and analysis was 6 months.

Prior to the SIP order issued in California in March 2020, we were conducting a randomized controlled trial of a videogame-based smoking cessation program for adults with serious mental illness. We had just consented and enrolled the second wave of participants (n=14) in the trial. For this second wave, participants were recruited from an outpatient case management program. We stayed in contact with participants as we waited for the shelter in place order to be lifted. During the SIP, we offered counseling sessions by phone to participants that were interested and able to participate (n=5) and included information specific to COVID-19 infection prevention. At the end of each counseling session, we assessed readiness to quit and tobacco cessation or reduction. We added an open-ended questionnaire to the end of each counseling session to inquire about the impact of the shelter in place on smoking habits and mental health.

Smoking cessation counseling

We adapted a smoking cessation intervention protocol tested for psychiatric outpatients.[6] The project director delivered the intervention by phone and has a background in delivering counseling protocols for intervention studies. Telephone counseling consisted of individual sessions that lasted approximately 30 to 45 minutes. The project director took detailed notes during the phone conversations and that allowed for the collection of direct quotes. The counseling intervention used a cognitive-behavioral framework that aimed to enhance commitment to abstinence, promote medical adherence, and increase behavioral skills for achieving and maintaining abstinence. Counseling focused on developing an individualized quit plan through engaging participants to complete a set of brief questionnaires to gain self-understanding of reasons for smoking, concerns and benefits of quitting, identifying triggers or high-risk smoking situations and corresponding coping strategies.

Prior to the quit date in sessions 1, 2, and 3 counseling focused on developing an individualized quit plan by engaging each participant to complete a set of brief questionnaires to gain self-understanding of reasons for smoking, concerns and benefits of quitting, and identifying triggers or high-risk smoking situations and corresponding coping strategies. Session 1 included information on COVID-19 and smoking, and steps to protect from infection. In Session 4, on the Target Quit Date, the focus was on managing withdrawal symptoms. Counseling at <u>post-quit date</u> focused on managing withdrawal
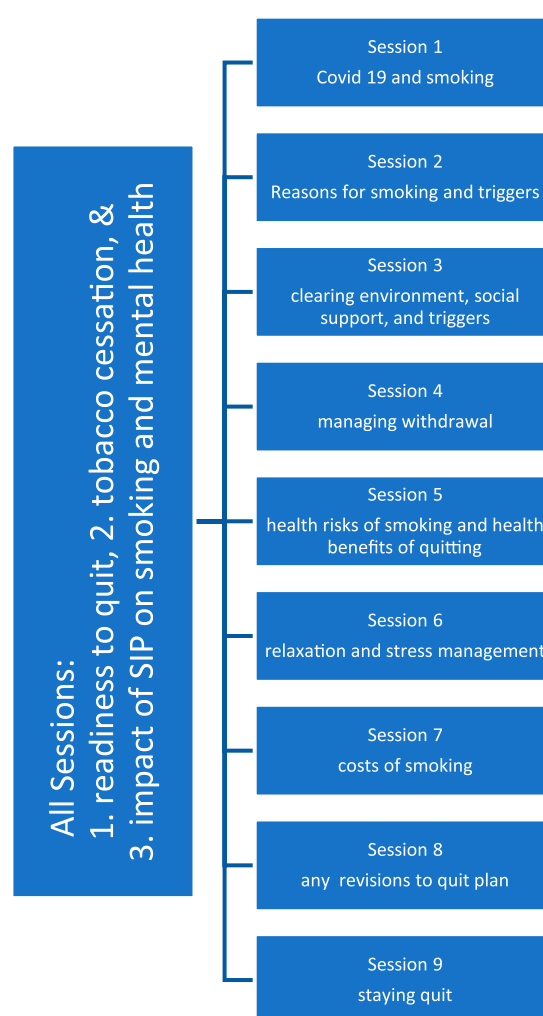

Figure 1. Telephone session format.

symptoms, mood management with discussions on increasing pleasant activities, adapting healthy lifestyles and increasing social support. Session 5 included a discussion on health risks of smoking and health benefits of smoking cessation. Session 6 provided tips on relaxation and stress management. Session 7 covered the costs of smoking and the benefits of non-smoking. Session 8 was a time to re-visit the quit plan and make any needed adjustments. Session 9 included a discussion about tips for staying quit. The sessions were offered over 9 weeks. Figure 1 is a diagram of the counseling sessions.

Adherence to the quit plan was assessed by asking participants about if and how much they smoked over the past week. A manual for the smoking cessation counseling is available from the authors upon request.

Measures

We assessed participants' readiness, motivation, and confidence to quit smoking with a Readiness Scale.[7,8] The scale included 2 questions: 1. On a scale of 1–10, with 10 being extremely important, how important is it to you that you quit using

tobacco? And 2. On a scale of 1–10, with 10 being extremely confident, how confident are you that you could quit using tobacco? A follow up question asked after the "importance" question included, "What makes you say you are a 5 and not a 3?" (Elicits motivational statements and can be used to discuss reasons to quit). A follow-up question asked after the "confidence" question was, "What needs to happen to make you a 7 instead of a 5?" (Helps identify perceived barriers). Predictive validity (ability of the scale to predict smoking behavior in 2 weeks) and convergent validity (correlations between the scales and stages of change in the transtheoretical model) have been demonstrated in previous work[7] and suggests that this scale is better at predicting who will initiate change than at predicting transition to successful change. Given the goal with the phone sessions during SIP was to work with participants in initiating change, the scale was a good fit for the study purpose.

At each telephone session, we asked patients about tobacco use (even a puff) over the past week. In addition, we asked two open-ended questions about the impact of the shelter in place on smoking and mental health: 1. Please describe the impact of the shelter in place on your smoking habits? and 2, Please describe the impact of the shelter in place on your mental health?

Analysis

Grounded theory guided data collection and analysis of responses to the readiness to quit scale and the impact of the SIP questions. Symbolic interactionism provides the theoretical framework of grounded theory methodology, supporting the approach that individuals' understandings occur within the context of relationships and situations.[9] Symbolic interactionism rests on 3 premises: 1. People act toward things on the basis of the meanings things have for them; 2. These meanings arise out of social interactions; and 3. These meanings are handled and modified through an interpretive process. Charmaz[10] reminds us that people are unlikely to change their meanings unless situations become problematic and their habitual responses no longer work. In addition, we used qualitative content analysis, a strategy for the analysis of qualitative studies.[11] Content analysis was chosen for this study because the approach allowed the research team to extract categories from a limited data set that could be further explored in future work. We utilized a type of focused coding that allows the researcher to move "across interviews and observations and compares people's experiences, actions, and interpretations"[10] aiding the researcher to condense the data.

The content analysis process included reading the responses to the open-ended questions and generating initial codes to describe the data. Then, comparisons were made across the codes to identify patterns as well as exceptions to the patterns. The principal investigator (PI) and project director both coded the interviews and discussed their codes to cross check for interpretation. From the codes and patterns, the broad categories described in this report were created. Data collection concluded when theoretical saturation was achieved.

Results

For this report, we describe the results for five adults with serious mental illness that participated in the SIP counseling sessions. Figure 2 illustrates the participants' smoking cessation trajectories over the nine weekly counseling sessions and during the first 6 months of the COVID-19 pandemic. The figure visually depicts the fluctuations in cigarettes smoked per week. The participants' average age was 47.4 (SD = 11.739) and 80% of the sample self-identified as male. The average rating for importance of quitting at the beginning of counseling sessions was 9.4/10 (SD = .894, range 8–10). The average rating for confidence to quit was 7.3/10 (SD = 2.636, range 4.5–10). The average number of cigarettes smoked in the past week at the first session was 29.2 (SD = 22.610, range 4–60). All participants were living in the community at the time of the interview and were engaged with an outpatient community case management program although their level of psychiatric illness varied by individual and throughout the course of the study.

From our focused analyses, the broad categories that emerged around barriers and facilitators for smoking cessation during the first 6 months of the COVID-19 pandemic were: 1. COVID-19 related stressors: anxiety from sheltering in place, avoiding infection, isolation, disruption in mental health care, and boredom; 2. Engagement in life, having a purpose, structure, and feelings of connections; and 3. The importance of quitting aides for smoking cessation. Table 1 depicts the barriers and facilitators to smoking cessation that were described by participants.

COVID-19 related stressors. The changes to daily life and routines due to the COVID-19 pandemic created additional stressors that participants described in response to the impact of the SIP on quitting smoking, on mental health, and in response to the readiness scale. Participants described that a motivating factor for quitting smoking was trying to prevent COVID-19 infection. However, other stressors related to the pandemic contributed to participants' difficulty in quitting such as disruptions in their mental health care routines (e.g., in person-support groups), feeling isolated, and increased anxiety from the uncertainty of the pandemic situation. Participants described how one way they were coping with these stressors was through an increase in smoking cigarettes.

Engagement in life, having a purpose, and structure and feelings of connections. The outpatient case management program where we recruited participants from provided a place for participants to not only meet with their case manager and members of their treatment team but it was also a place to meet with peers, attend groups, and find a place of connection and belonging. When the COVID-19 pandemic necessitated the closure of the clinic for in-person interactions, many participants described feeling a loss of
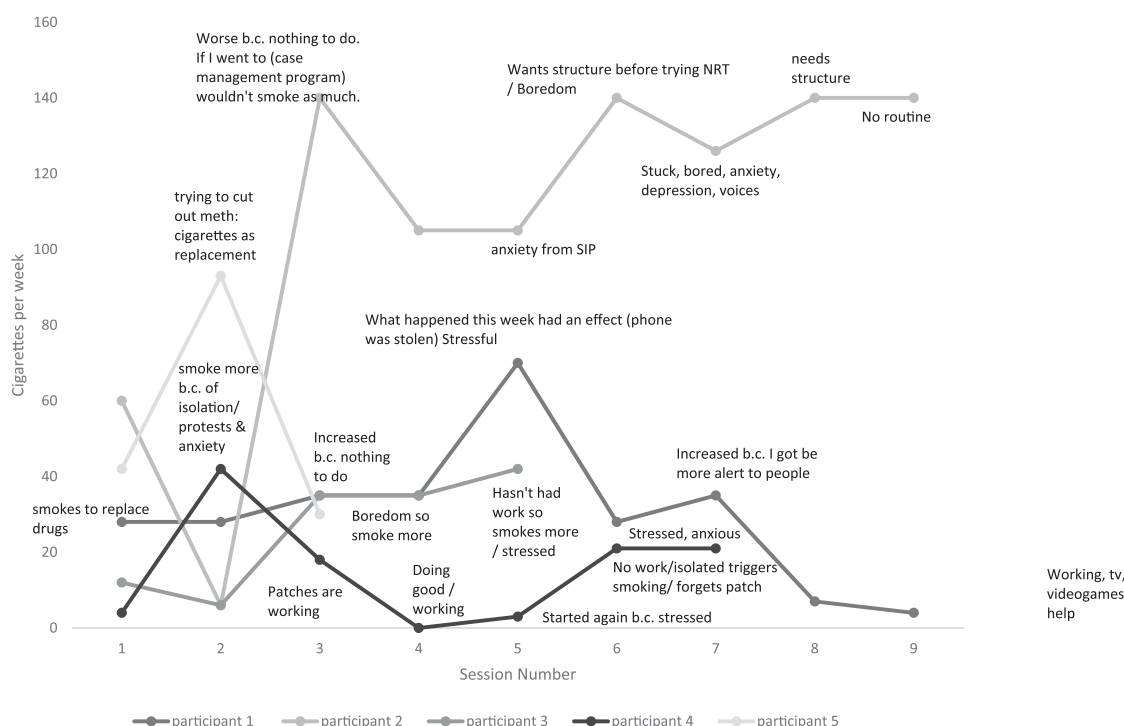
Figure 2. Cigarettes smoked per week by session number.

Table 1 Barriers and facilitators for smoking cessation while SIP.

CATEGORIES	
COVID-19 RELATED STRESSORS	
BARRIERS	**FACILITATORS**
Anxiety from sheltering in place	Avoiding infection
Isolation	
Disruption in mental health care	
Boredom	
Engagement in life, having a purpose, and structure and feelings of connections	
Barriers	**Facilitators**
Clinic closures and loss of belonging	Structure and employment
No structure	
The importance of quitting aides for smoking cessation	
Barriers	**Facilitators**
	NRT

Abbreviations: SIP, Shelter in Place.

belonging. Participants described how this place of connection and belonging would support their journey with smoking cessation.

One participant described the importance of connecting with the following statement: I need "someone to tell me not to smoke." Often, participants described the need for structure, engagement in activities, and purpose as necessary for quitting smoking. For example, when asked what would help with quitting, a participant said: "Need something going on in my life that is positive or someone in my life. A computer would help." Another participant described how the lack of structure created by the cancellation of groups affected his cessation process because he could not attend Alcoholics Anonymous in the morning and have coffee so he would smoke cigarettes to fill that time. Another person indicated: "I don't have a schedule now and can't think of anywhere to go now."

However, some participants found employment as a way to create the needed structure and meaning in their daily lives: "I'm working for (company) and (company). Not smoking between breaks now. Focused on orders." Along these lines, the motivation of extra income helped some participants: "I want to become more like the guys on the block, selling them, instead of smoking them."

The importance nicotine replacement therapy as a quit aide. The PI coordinated with participants' clinicians to connect them with a prescription for nicotine replacement therapy or bupropion sustained release if appropriate. One participant described how the nicotine lozenges helped with quitting smoking: "I'm glad I had the substitute lozenges. They really help." One person described how the nicotine transdermal patch would help but they would forget to consistently put it on. Another person wanted to try nicotine lozenges but wanted the structure of their mental health groups to resume before adding on the nicotine replacement therapy.

Discussion

Our results show that people wanted to quit but the abrupt change in structure and routines related to the pandemic made the quitting process more difficult. Telephone counseling sessions offered some support and structure but more structured support was needed on a daily basis.

At the beginning of SIP, many clinics rapidly transitioned to phone and video visits.[12] It has been reported that while mobile phone ownership is widespread in the general population, the use of digital technologies is lower among those with psychosis.[13] During the beginning of the SIP, many of our participants without digital phones were given a phone by their case management program. Other authors have reported similar issues that we encountered with our participants.[14] Murphy et al.[14] surveyed providers from behavioral health organizations (BHO) throughout New York. The survey showed that clients had no or limited access to technology (e.g., smart phones and computers) and reliable internet. In addition, some clients had minimal experience with the technology making the rapid switch to telehealth more difficult.[14]

The stressors associated with the COVID-19 pandemic such as isolation and reduced access to traditional treatment and supports may increase symptoms of mental illness. Our participants talked about the need to create structure where there is none. We found ourselves wondering how we can best support clients during the SIP. We saw that our telephone sessions provided some structure in a space where structure abruptly stopped. We also saw how participants' case managers continued to play a critical role in their lives and one of the ways they played a key role was through supporting their routines and reminding participants of potential supports such as our program. Other authors reported[15] social isolation is a risk factor for relapse in people with substance use disorders and the necessary social distancing measures implemented to reduce disease transmission limits access to peer-support groups and other ways of social connection. Virtual supports and telephone contact are a way around this isolation but these virtual connections are not without flaws and are not a substitute for in person peer support.

Several evidence-based treatments for smoking cessation are available and covered by most insurance plans. Bupropion, varenicline, and NRT have shown efficacy for smoking cessation among individuals with SMI.[16] Discussing options for smoking cessation aides needs to be a part of routine care offered by primary care and mental health care clinicians. It is also important to remind clients that most insurance plans (including Medi-Cal) cover two unique 90-day quit attempts per year. Clinicians also need to re-evaluate the quit plan with clients after they begin to use the quit aides for efficacy, side-effects, and need for refills. A survey of mental health clinics in New York state showed that more than a third (39%) are not prescribing NRT and nearly half (47%) are not prescribing bupropion or varenicline.[17] Group counseling and peer support are even less likely to be offered.

Our study is limited by the small sample size and the under-representation of participants that identify as female.

Conclusion. Our participants were interested in quitting smoking and the COVID-19 pandemic provided both an impetus to quit as well as posed formidable barriers to quitting. We heard the importance of clinicians talking to their patients about quitting, offering support in terms of counseling and pharmacotherapy. In addition, peer support and group support were critical prior to the pandemic and continue to be critical now.

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