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Development and Feasibility of a Cell Phone-Based Transitional Intervention for Women Prisoners with Comorbid Substance Use and Depression

Jennifer E. Johnson, Ph.D.[1], **Collette Williams, B.A.**[1], and **Caron Zlotnick, Ph.D.**[1,2]

[1]Department of Psychiatry and Human Behavior, Warren Alpert Medical School, Brown University, Providence, RI, USA 02906

[2]Butler Hospital, Providence, RI, USA 02906

Abstract

This article describes the development and feasibility testing of a cell phone-based intervention (Sober Network IPT) among 22 women with comorbid substance use and depressive disorders transitioning from prison to surrounding communities. Feasibility/acceptability measures included phone logs, exit interviews, and pre-post measures of substance use and depressive symptoms up to 9 months post-release. Results indicated that phone-based transitional treatment is feasible and acceptable. Participants valued the opportunity to maintain contact with familiar prison treatment providers by phone after release, and used the cell phones for help with service linkage, support, and crisis management. We describe relational and practical lessons learned.

Keywords

women; substance use disorders; major depressive disorder; telehealth; therapeutic relationship

Incarcerated women are a vulnerable population with high lifetime rates of both substance use disorder (SUD; 70%; Jordan, Schlenger, Fairbank, & Caddell, 1996) and major depressive disorder (MDD; 24% past-year prevalence; James & Glaze, 2006). MDD is particularly common (32–38% lifetime prevalence) among women in prison SUD treatment (Pelissier & O'Neill, 2000; Zlotnick, Clarke, Friedmann, Roberts, Sacks, & Melnick, 2008). MDD worsens the course of SUD for incarcerated women by contributing to persistence of substance abuse (Brady, Krebs, & Laird, 2004; Johnson, O'Leary, Striley, Ben Abdallah, Bradford, & Cottler, 2011), increasing risk for suicide attempts (Charles, Abram, McClelland, & Teplin, 2003), and reducing the likelihood of a successful transition to an independent, sober life in the community (Baillargeon, 2009; Benda, 2005). Despite growing recognition that co-occurring disorders such as MDD among substance abusing incarcerated women present an important public health concern (e.g., Sacks, Melnick, & Grella, 2008), integrated treatments for SUD-MDD have not been developed for or systematically tested in this population.

A social or interpersonal approach to SUD-MDD may be especially pertinent to the needs of incarcerated women because interpersonal difficulties not only affect MDD, but are also strong predictors of SUD relapse and prison recidivism in women (Benda, 2005). Social

support and peer support are strongly related to SUD treatment engagement during and after prison, understanding of prison SUD program rules, and prison program participation (Sacks & Kressel, 2005; Simpson, 2005). Low relationship quality, small network size, and more drinkers and drug users in one's network are associated with more parole violations for treatment non-adherence (Skeem, Louden, Manchak, Haddad, & Vidal, 2009). Among community women, emotional support, functional social support, and support for abstinence predict long-term abstinence (Beattie & Longabaugh, 1999; Dobkin, Civita, Paraherakis, & Gill, 2002; McMahon, 2001).

Interpersonal psychotherapy (IPT) focuses on increasing social support and improving interpersonal relationships and is a treatment of choice for MDD, especially for severe MDD (Hollon & Ponniah, 2010). IPT is also feasible, acceptable, and efficacious for MDD among women prisoners with SUD-MDD (Johnson & Zlotnick, 2012; 2008). This article describes the development and feasibility testing of a novel adaptation of IPT, Sober Network IPT, for women prisoners with MDD-SUD who are re-entering the community.

Sober Network IPT expands IPT's focus on general social support into an explicit, active, concrete, and targeted focus on *sober* support during community re-entry. SUD interventions that seek to strengthen individuals' involvement with social networks that discourage substance use have received substantial empirical support (Carroll & Rounsaville, 2006; Litt, Kadden, Kabela-Cormier, & Petry, 2007; Litt, Kadden, Kabela-Cormier, & Petry, 2009). Sober support variables, such as increasing the number of sober people in one's network and having more frequent contact with others active in recovery (such as sponsors) mediate the positive effects of these interventions (Johnson, Finney, & Moos, 2006; Litt et al., 2007; 2009; Zywiak et al., 2009). Therefore, by integrating strategies to increase network support for sobriety with IPT for MDD, Sober Network IPT integrates empirically supported SUD treatment principles into an empirically supported MDD treatment. Sober Network IPT works to buffer women against SUD-MDD relapse by actively working with them to have positive, reliable, familiar sources of sober support, including professional treatment services, in place before they leave prison.

A second novel aspect of Sober Network IPT as tested in this study was the use of "sober phones" to provide seamless treatment from within prison through the first 3 months after prison release. A combination of in-prison and post-release treatment is far superior to in-prison treatment alone for reducing drug relapse and recidivism (Fletcher & Chandler, 2006). Traditionally, treatment offered while women are in prison is sharply demarcated from treatment offered after release, with little overlap or communication between prison and post-prison providers. This discontinuity in treatment at release is concerning because the transition from prison to the community poses high risk for relapse to SUD and reincarceration. Sober Network IPT provides contact with the same prison-based counselor from within prison through the first 3 months after release to stabilize women until they can get established with community treatment providers. Post-release contact uses "sober phones" (inexpensive cell phones programmed to call only sober resources, such as the prison counselor, crisis lines, community agencies, or sober family members). The sober phones overcome many typical barriers to post-release care for this population, including distance, unreliable transportation, and unreliable access to telephones. In this pilot study,

women received group Sober Network IPT treatment in prison and individual Sober Network IPT phone treatment with the *same* providers after prison to help them follow through on sober and treatment plans, avoid SUD relapse, and maintain MDD gains during re-entry. This article describes the development of Sober Network IPT as a transitional intervention for women prisoners with SUD-MDD, feasibility testing (including pre-post outcomes) in an open trial of Sober Network IPT among 22 incarcerated women with SUD-MDD, and challenges and lessons learned conducting a cell phone-based transitional intervention with this population.

2. Method

2.1. Intervention development

2.1.1. Development of Sober Network IPT treatment theory—Sober Network IPT for women with SUD-MDD leaving prison was developed from an integration of our experience with treatment studies with our target population, extant literature, and qualitative interviews with participants and providers. Initial trials of IPT for MDD among women in prison substance use treatment (Johnson & Zlotnick 2008; 2012) showed that IPT was feasible and acceptable and resulted in lower depressive symptoms than did a control condition at the end of in-prison treatment. After release, six of 19 women (32%) in the IPT condition and 9 of 19 (47%) women in the control condition experienced a substance use relapse after release (a non-significant difference in that underpowered pilot study).

However, in working with participants as they returned to the community, we noticed three problems with the IPT treatment as we provided it. First, substance use relapse and other other problems (e.g., unsafe living conditions, violence) often occurred quickly (in the first few days) after release, before women had initiated post-release outpatient treatment. We had provided 6 weekly in-person booster sessions with women in the community after release, but these came too late and were too infrequent to accomplish their goal of preventing relapse and providing crisis management and support until women could become established with post-release community care. Second, there was a shortage of trained mental health staff (e.g., MSWs) at the prison, suggesting that an intervention would be more implementable if it could be delivered by the bachelor's-level prison substance use counselors. Third, we wanted to increase the intervention's impact on substance use, so we considered ways to adapt IPT to more directly impact substance use, rather than affecting substance use indirectly through increased ability to function (i.e., reduced depression and increased general social support) at community re-entry.

To better understand women's first days and weeks of community re-entry, we conducted qualitative interviews with women with SUD-MDD and with providers working with these women at re-entry. Results verified our impression that women's first drug use or heavy drinking episode often occurred within days of leaving prison (Johnson et al., in press), often with relationship difficulties and depressed mood as triggers (Johnson et al., in press; Johnson et al., under review). Most women were around drinking/using others at the time of first post-prison substance use. In fact, in addition to emphasizing the importance of spending enough time with the "right" people, providers and participants chose "being with the 'wrong' people" as the top precipitant of relapse for women after release from prison

(Johnson et al., in press; under review). This, in concert with a literature review to identify empirically supported substance use treatment principles that might be theoretically consistent with IPT (e.g., Litt et al., 2007; 2009), yielded the idea of integrating IPT with intervention strategies designed to strengthen network support for sobriety to create Sober Network IPT.

2.1.2. Development of the sober phone delivery method—Although the new Sober Network IPT treatment approach made sense, it was still unclear how we could provide women with more assistance to cope with drug triggers, violence, mental health problems, unexpected housing problems, and other challenges in the first days and weeks of community re-entry until they could become established with community care. We knew from our work and others' (Bloom, Owen, & Covington, 2003; Johnson et al., in press; under review) that the therapeutic relationship was important to women in the criminal justice system. We also knew (Johnson et al., in press; under review) that in the days and weeks after community re-entry, women would reach out to people they already knew and trusted, but were unlikely to reach out to strangers (even professional strangers) for help. However, maintaining contact with familiar providers, such as prison counselors, after release could be challenging because women may return to locations hundreds of miles away from where they were incarcerated and often have unreliable transportation and unreliable access to telephones.

To learn more about the feasibility and acceptability of ways for women to maintain contact with prison counselors after release, we conducted 3 focus groups containing 17 women in prison SUD programs. We asked about women's interest in maintaining relationships with their prison counselors, their preferences for phone vs. in-person sessions, and how often they would like to be able to talk to their prison counselors after release. Because it was difficult for women to travel and they wanted to be able to talk to their counselors on an as-needed basis, women said that they would be comfortable with phone sessions, particularly since they would already know the counselor with whom they would be talking. We discussed many ways of trying to help the women have adequate post-release telephone access, including reimbursement for using minutes on their own phones. However, after group discussion, the idea of providing women with cell phones programmed to call only sober resources (e.g., the prison counselor, AA/NA, substance use and mental health resources, housing and job resources, sober friends and family, crisis lines) seemed the most practical. This idea was greeted with enthusiasm from all 3 groups of women, who dubbed the phones "sober phones." Women liked the idea of having sober resources programmed into the phones for easy dialing, and provided us with many suggestions. They also liked the idea of locking the phones to prevent calls to other numbers, so that the sober phone provided access to sober resources and *only* sober resources during times of crisis or craving ("*I need to be able to easily call my counselor or my sponsor, but not my dealer, with these phones*"). Women assured us that the basic cell phone model we were planning to use would have little street value making it unlikely to be sold for money or drugs. They also told us that the sober phones would not be an inconvenience to those who have other phones ("*I carried 3 phones when I was dealing drugs*") and would be "*a lifeline*" to those without reliable phones. When asked what would help the women call sober resources, they said

they are much more likely to call people with whom they are familiar, which prompted us to decide to help women become familiar with as many sober resources and people as possible while they are still in prison. Women said that they would be motivated to speak with their counselors for phone sessions because "*we will already have relationships with them*." For many phone sessions, women said they could initiate calls to counselors. However, for the first post-release phone session, women wanted counselors to call them so it would not feel "*awkward*. " Focus group participants also helped develop the new post-release phone session schedule.

Finally, we asked women whether they thought a focus on getting more of the "right" people in their networks or getting rid of some of the "wrong" people in their networks would be more beneficial to their recovery. Women almost unanimously responded that the intervention should focus on building relationships with the "right" people because (1) it was easier and more helpful to focus on what they should be doing than on what they should *not* be doing, (2) it was difficult to change an attachment to someone negative if there are no positive people around, and (3) "*if we get enough of the right people, the other people will fade away*." These responses validated our choice to focus on building sober network support, consistent with the literature on the importance of adding sober people to one's network (Litt et al., 2009; Zwyiak et al., 2009).

We also met with our corporate wireless carrier to better understand what was possible from a technological perspective. They identified a basic, inexpensive (i.e., $30 USD) cell phone model with solid reliability but little street value. They provided us with access to an online website where we program the phones remotely (allowing us to add additional sober numbers without physical access to the phones). Minutes were shared among phones to avoid overage charges. We vetted the initial list of numbers of post-release services suggested by focus group participants for helpfulness and expanded them to cover a range of sober resources (addiction hotlines and treatment, mental health treatment, study counselors, sexual assault and partner violence hotlines, education and employment resources, low-cost healthcare clinics, parenting resources, probation and parole offices, legal and housing services, social security and food stamp offices) to be programmed into all phones.

2.2. Feasibility trial procedures

2.2.1. The Sober Network IPT transitional treatment—After integrating the various sources of data and the literature, we manualized the Sober Network IPT transitional treatment. In-prison study treatment consisted of 24 75-minute group therapy sessions over 8 weeks, with 3 individual (pre-group, mid-group, and post-group) sessions in prison. Post-release study treatment consistent of 3 months of phone contact with the prison counselor (daily for first 2 weeks, 3 times per week for next 2 weeks, two times per week for Month 2, and once per week for Month 3). Participants had the option to call counselors after the 3 month post-release period if desired, but prescribed phone sessions ended at 3 months post-release. Women received $30 USD gift cards for completing all calls to study counselors each week in Month 1, for completing all calls to study counselors for two weeks in a row in Month 2, and for completing all scheduled calls in Month 3 (for 7 opportunities for gift

cards total). Women also received $30 gift cards for completing each post-intake study assessment.

Each woman had two treatment goals. The first goal was to build sober support for a successful sober transition to the community. The treatment worked with women to identify possible sources of positive sober support (including 12-step programs, sober family members, and other sources of personal and professional support), to become familiar and comfortable with them, and to cultivate mutually trusting relationships before leaving prison. Women worked to reach out to sober people while still incarcerated, to resolve conflicts with potentially positive people already in one's network, and to make concrete plans to participate in sober activities with known people in the first hours and days after release. The treatment used IPT communication skills to help women initiate or re-initiate contact with positive, sober people in the community and discussed ways to treat sober people to keep them in one's network. Finally, Sober Network IPT discussed the importance of connecting with post-release treatment (including opiate agonist treatment) as part of building a sober support network.

Six sessions of the 24 in-prison group sessions were devoted entirely to sober network building. These sessions were adapted from Litt's Network Support manual (2009), and covered (1) the importance of sober support (including SUD and MDD treatment) during community re-entry, (2) how to engage in 12-step programs, (3) ways to meet new sober people and find enjoyable sober activities, (4) improving relationships with sober friends and family, (5) dealing with risky people, and (6) finalization of each woman's sober plan. Sessions differed from the Litt sessions in that they placed a greater emphasis on professional treatment as a source of sober support, focused less on denial, recognized that many women had previous experience with 12-step participation, and recognized that some women had been dependent on substance-using others for survival needs. More time was devoted to discussing resources to help with basic needs, and a list of potential sober activities was adapted to include low-cost soothing activities. Other sessions from the Litt manual (e.g., social skills, enabling, assertiveness, sober agreements) were incorporated into IPT sessions that focused on communication.

The other 18 in-prison group sessions focused on the second goal of Sober Network IPT, which was to resolve the current depressive episode and decrease relational impediments to utilizing sober support through work on one of four IPT treatment foci which were adapted for incarcerated women (Johnson & Zlotnick, 2012). Sessions included work to resolve conflicts (e.g., with friends, family, children's caregivers, romantic partners), manage life changes (e.g., changes in living arrangements, jobs, relationships, lifestyle, primary care of children), address grief (e.g., traumatic bereavement, loss of parental rights to children), and address problematic interpersonal patterns (e.g., isolation, difficulties with trust, attachment to abusive or exploitative relationships). This work was done in the context of building sober support for re-entry.

Throughout the in-prison treatment, women developed a list of sober supports during the in-prison group sessions, culminating in a list of names and numbers given to study staff. Before release, the phones were programmed with the standard sober resource numbers and

the numbers from each woman's individualized list. Women picked up phones as they left prison. Post-release phone sessions focused on monitoring women's use, cravings, and mood, and helping women follow through with sober plans (including treatment), reach out to additional sober resources, solve any problems that arose with network members, and address crises.

All study treatment was adjunctive to prison and community mental health and SUD treatment as usual, which consisted of prison SUD treatment for all women, prison mental health counseling for 10 of the 22 women, and prison psychiatric medications for 15 women (8 started or increased the dose of an antidepressant within the 8 weeks prior to baseline), as well as post-release SUD and mental health treatment. The intention of the Sober Network IPT intervention was not to provide all of women's treatment needs, but to provide extra targeted support to bridge the transition to the community and encourage post-release service linkage.

2.2.2. Providers—Instead of using MSWs, the study used 3 female bachelor's level SUD counselors as treatment providers, except for the first group which the first author co-led. The Sober Network IPT manual simplified some IPT jargon (e.g., "role transitions" became "life changes," "interpersonal deficits" became "problem patterns") and described how to conduct standard psychotherapy tasks in more detail for these providers. For example, sample conversations were provided illustrate how to listen reflectively, conduct therapeutic exploration (e.g., how to find out about a woman's expectations for a relationship), work with ambivalence, and minimize advice-giving. Providers were trained during 12 hours over 1.5 days, and received weekly supervision by the first author who reviewed audio taped sessions.

2.2.3. Participants and recruitment—Participants were 22 women recruited from prison SUD programs in two states who: (1) had current MDD after at least one month of abstinence and prison SUD treatment, (2) had SUD one month prior to incarceration; and (3) were estimated to be 10–24 weeks away from prison release. We excluded those with lifetime bipolar disorder or a psychotic disorder. Potential participants were recruited through announcements made in prison SUD programs or through flyers. Women privately volunteered to be assessed for eligibility. Study staff conducted informed consent procedures in private rooms. The consent form, which was read aloud, described the voluntary nature of study participation. There were no legal incentives for participation. The study followed ethical guidelines for research with prisoners under institutional ethics review board approval.

2.2.4.Assessments—Research assistants (RAs) trained in interviewer-based measures assessed women for eligibility and performed follow-up assessments. Assessments took place at baseline, after the end of in-prison treatment, and 2-weeks, 3 months, 6 months, and 9 months after prison release. Study follow-up rates for the sample of 22 women were 91%, 77%, 73%, 59%, and 64%, respectively. The PI also conducted an intervention exit interview with participants by phone at 3 months post-release (n = 14). Participants were given phones to keep and provided cell phone service during the 9 month post-release study

period. Participants were enrolled in the study in 2009 and 2010. The last follow-up interview was completed in 2012.

2.2.4.1. Diagnosis: Participants completed the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First, Spitzer, et al., 1996) to establish the diagnoses of current primary MDD as well as SUD one month prior to incarceration. Because prison is a controlled environment, participants are unlikely to provide reliable information about substances used in prison. We also administered modules from Axis II (SCID-II; First, Gibbon et al., 1996) and the Trauma History Screen (Green, 1996) to characterize the sample.

2.2.4.2. Feasibility and acceptability measures: Counselor case notes and study cell phone logs were used to determine how many times women called their counselors after release and how many minutes per month they used the phones and with how many different numbers. Counselor competence and adherence to the Sober Network IPT manual and procedures was assessed; in-prison and post-release sessions were audio taped and rated by a trained postdoctoral rater. Adherence and competence measures were adapted from scales used in previous IPT studies (Johnson & Zlotnick, 2012). Participant feedback about treatment components was collected using an adapted End of Treatment Questionnaire (Najavits, 1994). RA process notes were also used to describe comments that participants made about phone use and problems with the phones during the course of the study. Finally, the first author conducted standardized, structured exit interviews with participants to ask about their perspectives on how to improve the intervention, when it was comfortable/uncomfortable and easier/harder to call study counselors, any barriers to being completely honest with study counselors over the phone, why women stopped calling if they did and suggestions for re-engaging them, and women's thoughts about the schedule of the phone sessions, the counselors, and the phones themselves.

Substance use. The Timeline Followback (TLFB; Sobell, Maisto, Sobell, & Cooper, 1980) was used to assess drug using days, drinking days, and days incarcerated in the 6 months prior to the index incarceration and during the post-release follow-up period. Breath alcohol tests and urine drug screens (which tested for benzodiazepines, THC, cocaine, methamphetamine, and morphine) were also used at post-release follow-up interviews.

Depression severity was assessed using the 17-item Modified Hamilton Rating Scale for Depression (HRSD; Hamilton, 1980) and the Beck Depression Inventory (BDI; Beck, 1961).

Sober support was measured using the Important People and Activities interview (IPA; Zywiak, et al., 2009). The Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Zimet, & Farley, 1988) was used to measure emotional support. Post-release service linkage, conceptualized as part of sober support, was assessed using an adaptation of the Treatment Services Review (McLellan et al., 1992).

2.2.5. Analyses—Descriptive results of feasibility measures were provided. We compared scores on outcome measures from baseline to the end of active study treatment (3 months

post-release) and from the end of active study treatment (3 months post-release) to the end of the follow-up period (9-months post release) using paired-samples t-tests for continuous measures and Wilcoxon signed rank tests for count or percentile data.

3. Results

3.1. Sample

The sample was unmarried (95%) and low-income (73% had annual legal income less than $10,000 USD per year prior to incarceration). Four (18%) of the 22 participants were Hispanic and three (14%) were African-American; average age was 36 (range 19–54). Participants reported a median of 7 prior arrests (range 0–28) and 3 prior convictions (range 0–20). Primary substances of dependence were alcohol (59%), opiates (55%), cocaine (36%) and sedative-hypnotic-anxiolytics (23%). All women met criteria for current primary (non substance-induced) MDD. The median number of past depressive episodes was “too many to count.” Most participants reported a history of physical abuse/assault (86%) and/or sexual abuse/assault (82%). About a third (27%) of the women met criteria for borderline personality disorder and more than half (59%) met criteria for antisocial personality disorder.

3.2. Feasibility

3.2.1. Sober phone use—The 22 participants in the intent-to-treat sample were assigned to 5 treatment groups; 18 completed in-prison treatment and received study cell phones at release. Women talked to counselors by phone an average of 22 times (32 calls were scheduled) during the first 3 months. In the first 3 months, women spent a median of 817 minutes per month on active phones (range 18–5,969) in contact with a median of 26.5 (range 5–69) unique phone numbers per month. Sixteen of the 18 women were still using study phones at Month 3.

During months 4–9 post-release after formal study treatment had ended, 6 of the 18 women continued to call their study counselors a median of 4 (range 1–15) times. During this time, women with active study phones were using them a median of 691 (range 0–3,175) minutes per month. Twelve of 18 still had active study phones Month 9; the other 6 women had switched to personal cell phones (n = 4) or had been missing for several months (n = 2). We replaced a total of 10 phones (2 broken, 6 lost, and 2 stolen) for 6 of the 18 women.

3.2.2. Adherence and competence—The bachelor’s-level SUD counselors were adherent (spending an average of 97% of session time on appropriate therapeutic tasks) and competent (mean competence items score of 5.6 on a scale from 1 = “poor” to 7 = “ideal”) during in-prison sessions. Counselors completed assigned tasks of checking on mood in 92% of rated phone calls, asking about sober support and sober plans in 85%, but only asked about urges and cravings in 31%. Phone sessions were often brief (10–15 minutes), though some were much longer. For phone sessions, average competence was 4.9 of 7 on items reflecting maintaining a collaborative stance, reflective listening, encouraging expression of affect, and non-judgment.

3.2.3. Pre-post outcomes—Depressive symptoms and substance use improved significantly from baseline to the end of the active phase of study treatment (3 months post-release; see Table 1). Social and sober support scores did not significantly increase during this time. Positive gains in depression and substance use were largely maintained from the end of active study treatment (3 months post-release) to the 9-month post-release follow-up (see Table 1). Urine drug screens and breath tests matched self-reports of post-release use in 83% of cases.

Service linkage for the 17 women on whom post-release service use data were available was reasonable: 82% attended 12-step meetings, 88% received SUD or mental health counseling or medication, and 11% attended at least some residential treatment in the first 3 months after release. During the follow-up period (3 to 9 months post-release), 80% of the 15 women on whom data were available attended 12-step meetings, 93% received SUD or mental health counseling or medication, and 20% attended at least some residential treatment. Despite our encouragement for opiate agonist treatment, this was an uphill battle because many prison and post-release SUD treatment facilities viewed it as non-sobriety. No participant used any pharma-cologic SUD treatment in the 3 months after release, and only 2 did so by 9 months post-release.

3.2.4. Participant feedback: End of Treatment Questionnaire (ETQ)—The 17 women who attended at least one of the 3-month or later follow-up assessments completed the ETQ. On a 1–5 scale from 1 = "very dissatisfied" to "5 = very satisfied," women were on average very satisfied (4.9) with the Sober Network IPT treatment overall and with the study therapists (4.9). They would "definitely" seek this kind of treatment again (4.9), and found it much more helpful (4.7) than their other prison psychosocial and psychopharmacologic treatment. They found being able to talk to their study counselor after prison release "extremely" (4.8) helpful. Study phones, talking about problems and feelings, building relationships with positive, sober people were reported to be "moderately" (4) to "extremely" (5) helpful (4.7, 4.7, and 4.3, respectively).

When asked what was most helpful about study treatment, most (14 of the 17) women mentioned having someone to talk to after release: "*knowing I have someone to vent to*," or "*the sober phone: knowing I can reach someone at a moment's notice*. " When asked about the least helpful aspect of study treatment, most (14 of 17) did not have an answer. When asked if there was anything else they thought we should know to improve the study treatment, most did not comment, but a few suggested things such as having a group once a month after release where "*successful individuals could meet and share/talk*," screening the people who are programmed into the phone, or providing more detailed information (rather than just phone numbers) about how to obtain medications, clothing, and housing after release.

All women thought that we should "*definitely*" keep using sober phones to help women after release. When asked why, responses reflected the idea that "*most women really do need help and support when leaving jail*" because "*I felt lost when I came out*" and "*It's not easy to make new contacts on the outside*." When asked what was most helpful about the sober phones, responses reflected themes of being able to "*call somebody in time of need*," or

women being able to make a call in an emergency or worrying less because their children could reach them. Women reported being very comfortable talking to their prison counselors after release.

3.2.5. Exit interviews and RA notes: Relational lessons learned—Data gathered through exit interviews and RA notes yielded three lessons about maintaining relationships with women over the transition from prison to the community.

3.2.5.1. Familiar, continuous therapeutic relationships are important during re-entry: At exit interviews and study assessments, women reported using phones to manage cravings, make appointments, refill prescriptions, make and maintain contact with social service agencies and parole officers, ask for directions and advice when lost and stranded, to contact and work out difficulties with housing resources, get rides to meetings, manage break-ups, deaths in the family, and overdoses of friends, make funeral arrangements, to have someone to talk them through difficult days or travel through drug-infested neighborhoods and to have someone to talk to when feeling anxious, lonely, or stressed. One woman said that contact with the study counselor and other prison counselors, who already knew her well, in the weeks and months following release helped her to manage multiple relationship losses, including two deaths in the family, a romantic break-up, and news of another family member's serious illness. Another returned to an unexpectedly violent situation; the study counselor helped her make a safety plan and persuaded her to tell her outpatient mental health provider. In exit interviews (completed with 14 of the 18 women who received study cell phones), others described finding the relationship with study counselors helpful in more mundane ways, such as being "*comforting and reminding me of my growth in prison*," or "*Laughing made me feel better. It was nice to know there was someone who didn't want anything from me*." One woman said that she needed to talk to her study counselor "*every day to get through the day. When I saw the old, using people, I thought of [the counselor]*." Participants said that establishing relationships with counselors in prison made it easier to call them and talk to them candidly after release.

When asked about the schedule of phone sessions in exit interviews, most (13 of 14) participants liked the schedule of post-release phone sessions: "*I don't have many sober people in my life who aren't miserable, so it's helpful to have structure.*" If anything, participants would have liked to talk to counselors more. One woman suggested calling twice a day (once during the day and once in the evening) during the first month, and three women suggested talking to counselors several times per week (including on the weekend) through Month 3.

3.2.5.2. Women leaving prison can be engaged and re-engaged by being caring, non-judgmental, dependable, and persistent: When asked about times they felt comfortable talking to study counselors in exit interviews, all participants said that they almost always felt comfortable talking to the study counselors because "*you can tell she cares*," "*she answers her calls and she is easy to talk to*." When asked about any times women may have felt uncomfortable talking to study counselors, 9 women said "never." A few women (5) said that when they had used or were thinking about using, it could be harder to call because they felt "*guilty*," or "*embarrassed*," but that they were still thinking about the counselors: "*I*

knew she cared about me and I never forgot she cared about me no matter what happened." Women reported that counselors helped them get past these events by continuing to reach out (by calling, leaving messages, etc.) and by reiterating that they cared, would not judge or turn women in, and just wanted to help ("*I'm here for you no matter what*") when they did finally make contact again. All participants said that counselors should reach out when women miss calls because women may be in trouble and be embarrassed to ask for help. When asked directly, no participants mentioned any times when talking to counselors was unhelpful.

Case notes showed that a few women never stopped calling their counselors (5 of 18), 2 stopped calling because they were re-incarcerated, and 11 had gaps ranging from a few days to much longer. Counselors were able to re-engage many women (5 of the 11 who stopped calling at some point for reasons other than re-incarceration) by continuing to call and leave messages. Reasons given during exit interviews for pauses in calling included slips (2), getting busy with the complexities of life at re-entry (5), re-incarceration (1), becoming more depressed and withdrawing (1), being tired (1), or having poor phone reception (1).

Despite finding it more difficult to call counselors when struggling, when asked when calling counselors was most helpful, participants (6) said that it was most helpful to call when they were having difficulties (the other 7 said calling was "always helpful" and one did not respond). One woman mentioned that the most helpful thing her counselor told her was when she was in a difficult situation and tempted to use: "*Don't forget everything you went through, you don't want to go back there, you want to do something with your life*;" the woman said that the counselor "*wouldn't let me forget who I was*." Another woman said that the most helpful conversation with her counselor took place after she relapsed. Her counselor kept the woman motivated to keep working toward recovery by saying, "*You have the tools to pick yourself back up. You didn't fail. It happens, it's part of recovery*." Others reported that it helped when counselors normalized cravings or asked what was wrong when a woman sounded "*off*."

3.2.5.3. Many women's instincts are to withdraw when they start having challenges; normalize cravings and reiterate confidentiality as women re-enter the community: In the study, we had reiterated confidentiality numerous times throughout the informed consent process and during the in-prison treatment, and repeatedly asked women to call us if they had problems after release. However, when asked if there was anything else we could do to encourage women to be honest with counselors about their post-release difficulties, many participants (9) suggested reiterating confidentiality even more than we did, perhaps by drawing up a very simple, one-page, few-point contract between the woman and her provider a few days before she is released, where the woman promises to tell the truth and the provider promises to not judge her and not report drug use, and having both of them sign it and get a copy of it. As one woman explained, "*People are so used to being turned in, the trust issue is hard*." Although most women trusted their counselors ("*calling proves that you care*"), women suggested continuing to normalize cravings and urges, and emphasizing that "*We don't want you to use, but we know that some people will. Don't feel guilty. Use the phone to let us know you're OK*" or "*no matter what happens, please call, we know it's tough, but we can't help you if you won't tell the truth*."

3.2.6. Exit interviews and RA notes: Technical and procedural lessons learned

3.2.6.1. Locking the phones was probably more trouble than it was worth— Adding numbers to locked phones, even online, proved cumbersome. Because participants would sometimes be released with only a few days' warning, study staff needed to be able to get phones programmed very quickly. Although it was quick to push our standard list of sober resource numbers out to each phone, it was time consuming to enter each woman's personal sober numbers into the online phone system, and then participants had to call us to have numbers added as they met more people after release. At best, there was a 1–2 day delay between when women called to give us new numbers and when we could get them into the phones, which frustrated some women.

Although participants in the focus groups had liked the idea of having the phones locked to call only sober numbers, ETQ data indicated that participants who used the phones after release were more ambivalent. When the asked if it would have been better in terms of fostering re-entry and sobriety if the study let them program new numbers into the phones themselves, 4 said "no," 5 said "maybe," and 8 said "yes." Reasons given for keeping the phones locked was "*when someone first gets out it's too easy to get a hold of a dealer if the women are afraid*," and "*sober numbers are the only important ones.*" The reasons given for unlocking the phones included convenience and speed of entering new sober numbers ("*It's hard to remember the numbers I need. When they pop into my head it would be good to just put them in*"), flexibility ("*I was stranded and couldn't call a cab*," "*If the support person we called wasn't answering, then we would have to wait*"), and inevitability ("*if someone is going to relapse, having the phone restricted is not going to change that*"). A significant minority of women (24%) found calling us to add numbers to their phones "moderately" to "very" inconvenient. Three women abandoned their sober phones to use personal unrestricted ones with better wireless reception. So, although women originally liked the idea of having the phones locked for all but sober numbers, the logistics of updating allowed numbers was too cumbersome to be practical. On the other hand, pre-programming the phones with a standard set of re-entry resources, including the prison counselors' numbers, was feasible and useful. In addition, we found texting to be a useful feature that augmented, rather than supplanted, conversations with counselors and sober others.

3.2.6.2. Contingencies for completing calls were probably more trouble than they were worth—We had originally given women contingencies ($30 USD gift cards) for completing sets of calls to their counselors. When asked in exit interviews, eight women said that they would have called the same number of times without the gift cards. Three said that the gift cards helped them get into the habit of calling at first or calling more frequently, so they were probably helpful. However, we had provided participants with the sober phones because they were releasing to locations across two states and could not easily travel. As a result, contingencies for completing post-release calls could only be given at study assessments. This was impractical and less than ideal as a behavioral reinforcement. To reduce administrative burden, we changed our protocol for the final 3 women who received phones to not provide gift cards as incentives for calling; two engaged well in post-release phone sessions and one called infrequently.

Discussion

The goal of Sober Network IPT' is to provide continuous, familiar treatment contact and access to sober network members to help women set their SUD-MDD recovery into practice during the difficult post-release phase. The study intervention was novel in two ways: Sober Network IPT as an adaptation of IPT for depressed substance users, and the extension of participants' relationships with prison counselors into the post-release phase via cell phone. These innovations could be used together or separately, for example, by testing Sober Network IPT with other populations experiencing SUD-MDD, or by extending prison substance use or mental health treatment as usual into the post-release phase via cell phone.

Results suggested that the theoretical approach of Sober Network IPT (i.e., work on building sober network support and solving interpersonal problems) was feasible and acceptable for our target population. In addition, our outreach strategy of providing participants with low-cost cell phones programmed with sober resources and the prison counselor's number proved feasible in most respects. In particular, women valued contact with familiar prison providers in the high-risk days and weeks after release from prison and found this contact helpful in managing cravings and difficult life events, and in establishing contact with post-release treatment and other sober supports.

Some aspects of the intervention, mostly the relational ones, worked more smoothly than anticipated. ETQ responses indicated that all women said that we should "definitely" continue the sober phone program. Study counselors agreed. Study counselors, despite having full-time jobs at the prison, were diligent about making and responding to post-release calls, typically during the evenings. Participants were respectful of counselors' time and schedules. We had been concerned that study counselors would find the calls burdensome. This was not the case; they wanted to know how women were and do what they could to help them after release. Participants' phone use (calling study counselors an average of 23 times after prison release) and answers to ETQ and exit interview questions support the assertion that the development of a trusting and supportive relationship with prison counselors that began before release and continued after release helped to ease participants' re-entry stresses and engage them in post-release care. In addition, results suggested that counselors could engage women in prison and post-release and then re-engage them when they slipped by being caring, non-judgmental, dependable, and persistent. Phones seemed to serve as a "pocket case manager," allowing participants to quickly contact community resources or familiar prison counselors when needed, and as a reminder to "*do right*" and that someone was supporting them. Paying for phone service and a few additional hours for a substance use counselor to answer the phone may be a low-cost addition (relative to re-incarceration) to augment linkage to community services in the high-risk days and weeks after prison release. The phones seemed to serve as a

There are limitations to this small, uncontrolled pilot study. Because it has no control condition and because women were receiving other mental health and SUD treatment services in prison and outside prison, the study provided information on the feasibility and acceptability of the intervention, but little on effectiveness. The study, however, found some preliminary effectiveness for the intervention in that participants improved rather than

deteriorated over time. The follow-up rate at 9 months post-release was only 64%. One strength of the study was an effort to increase external validity by using bachelor's-level prison providers, employing limited exclusion criteria, and targeting a high-risk sample. Another strength is the detailed description of intervention components that worked well and those that provided challenges, which may inform the efforts of those working to develop in-reach and out-reach re-entry interventions.

Results suggest that providing contact with supportive, positive, familiar prison providers after release by giving women inexpensive cell phones is feasible and that women perceive it as helpful. These treatment development efforts are a next step in a program of research designed to result in specialized, effective interventions for incarcerated women to improve re-entry outcomes and decrease negative consequences of SUD and MDD for them and for their families.

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Table 1

Outcomes: Means and standard deviations across time

	Baseline (n = 22)	**Pre-release (n = 20)**	**2 weeks post-release (n = 17)**	**3 months post-release (n = 16)**	**6 months post-release (n = 13)**	**9 months post-release (n = 14)**
Depressive symptoms						
Hamilton Depression score	23.7 (4.9)	15.6 (7.5)	12.4 (8.8)	15.8[d] (11.3)	9.5 (10.6)	11.1 (11.9)
Beck Depression Inventory	23.1 (6.7)	15.9 (7.9)	10.2 (7.6)	14.6[d] (10.5)	11.1 (9.2)	11.4 (11.9)
Substance use[a]						
% Drinking days	30 (35)	--	1 (4)	4[d] (14)	2 (4)	1 (4)
% Drug using days	62 (40)	--	1 (4)	3[d] (11)	11 (29)	6 (16)
% Days abstinent[b]	22 (24)	--	98 (5)	93[d] (17)	87 (30)	92 (16)
% Days incarcerated	1 (2)	100 (0)	0 (0)	5 (14)	15 (31)	12 (24)
% Days in residential treatment	5 (12)	--	11 (32)	15 (41)	0 (1)	5 (16)
Sober support[f]						
MSPSS social support score	52.5 (19.1)	60.7 (15.8)	63.0 (12.5)	58.7 (18.4)	56.2 (23.6)	67.3[e] (15.7)
IPA number of people listed	4.8 (3.2)	4.2 (1.5)	4.5 (1.8)	6.0 (2.9)	5.5 (3.0)	4.4 (3.2)
IPA number of non-drinking, non-using people[c]	3.1 (2.4)	3.4 (1.8)	3.7 (1.6)	4.6 (2.4)	4.3 (2.3)	3.5 (3.1)
% Days attending 12-step groups	24 (24)[f]	28 (21)	55 (39)	38 (35)	27 (31)	24 (31)

[a] Baseline substance use variables reflect use in the 6 months prior to the current incarceration

[b] Days abstinent from all drugs or alcohol

[c] Defined as anyone that is in recovery, is abstinent from drugs and alcohol, or whose drinking/using status is unknown (such as counselors).

[d] Significant ($p < .05$) difference between baseline score and end of active study treatment (3-month post-release) score (days incarcerated and days in residential treatment were not tested)

[e] Significant ($p < .05$) difference between end of active study treatment (3-month post-release) score and end of follow-up (9-month post-release) score (days incarcerated and days in residential treatment were not tested)

[f] Baseline assessment of all sober support variables, including 12-step attendance, referred to current (in-prison) experiences