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A Feasibility Study of Trauma-sensitive Obstetric Care for Low-Income, Ethno-racial Minority Pregnant Abuse Survivors

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Abstract

Purpose: This study evaluated the feasibility and acceptability of an integrated (psychological and obstetric) intervention for pregnant abuse survivors with posttraumatic stress symptoms (PTS) from low-income, ethno-racial minority backgrounds.

Methods: *Trauma-sensitive Obstetrics to promote Control, Anxiety-Reduction, and Empowerment (TO-CARE)* offers Cognitive-Behavioral Therapy (CBT) coping skills delivered over six sessions by therapists, coupled with trauma-sensitive obstetric care from specially-trained obstetric physicians.

Results: Participants were 21 women who completed at least three sessions of CBT, totaling 51.2% of eligible participants. Participants received approximately one-third ($M = 2.29$; $SD = 2.15$) of their prenatal visits with obstetric residents trained in trauma-sensitive care. Nearly all participants (95%) reported that they benefited from the intervention. Although most participants demonstrated improvement in PTS, only 4 demonstrated reliable improvement, and 2 demonstrated reliable improvement in depression symptoms. These improvements appeared to be maintained at postpartum follow-up for two of the participants.

Conclusions: Our findings suggest that TO-CARE was acceptable to pregnant abuse survivors and may be a promising intervention to reduce symptoms of distress. Implications of the low retention rate for the CBT (51.2%) are discussed in the context of interventions for low-income minority pregnant women. Limitations regarding feasibility of the integrated intervention are discussed.

Keywords

pregnancy; abuse; posttraumatic stress; obstetric care; trauma-sensitive care

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Disclosure Statement

The authors report no conflicts of interest.

Introduction

Traumatic stress threatens the health of pregnant women and their developing babies, yet remains insufficiently addressed in current obstetric care [1–2]. About half of American women experience a traumatic event in their lifetimes [3]. Obstetric care providers often fail to detect these traumatic events [4–5] despite the fact that they are associated with long-lasting psychological consequences, including posttraumatic stress disorder (PTSD), major depressive disorder (MDD), and sub-threshold posttraumatic stress symptoms (PTS) [6]. The risk of developing PTS during pregnancy is more than twice the national average among ethno-racial minority women living in poverty; thus, PTS has been identified as a contributing factor to racial disparities in adverse pregnancy outcomes [7–9]. Thus, interventions targeting PTS during pregnancy have the potential to reduce risk of adverse medical outcomes, especially among vulnerable populations [10].

Intervention is more likely to be effective if it recognizes that obstetric care *itself* can be a traumatic stimulus for abuse survivors. Obstetric procedures are invasive and often trigger hyper-arousal symptoms of PTS such as fear, shame, anger, or irritability in women with active trauma symptoms [11–12]. Abuse survivors report greater anxiety and pain during pelvic examinations and heightened fear of childbirth compared to women without abuse histories [13–14]. Abuse survivors may connect these powerful emotional reactions to the original traumatic event, making them highly stressful. The potential for symptom exacerbation is compounded by the fact that PTS is associated with a higher likelihood of pregnancy complications, which may necessitate more frequent invasive exams than indicated in routine obstetric care [5]. Furthermore, physicians are often unaware of patient abuse histories and PTS, which increase the chances of unintentionally exacerbating anxiety. Although programs have been developed to promote trauma-informed medical care for abuse survivors [15], to our knowledge no standardized interventions have been developed specifically for obstetric practice to address the unique needs of pregnant trauma survivors [4].

To address this gap, we conducted a feasibility study of an integrated (i.e., psychological and obstetric trauma-focused integration) intervention called *Trauma-sensitive Obstetrics to promote Control, Anxiety-Reduction, and Empowerment (TO-CARE)*. In TO-CARE, pregnant abuse survivors receive 1) a Cognitive Behavioral Therapy (CBT) coping skills intervention from psychotherapists and 2) a trauma-sensitive obstetric care intervention from obstetric physicians that directly reinforce CBT coping skills. The primary goals of this study were to 1) examine the feasibility of recruiting underserved pregnant abuse survivors with PTS, 2) examine the feasibility of integrated psychological-obstetric intervention implementation in the obstetric care setting, and 3) examine the acceptability of using an integrated psychological-obstetric intervention with underserved pregnant abuse survivors. In addition, we explored whether TO-CARE decreased symptoms of PTS and depression.

In order to examine the feasibility of integrated psychological-obstetric intervention implementation in the obstetric care setting (goal 2 above), we conducted this study within the ambulatory training clinic of a large urban teaching hospital. We conducted the study in

the obstetric training clinic because it is a setting where at-risk pregnant women commonly receive their prenatal care. These clinics are often staffed by obstetric residents who rotate through the clinic. In other words, a key feasibility outcome in this study was whether participants received trauma-sensitive obstetric care from residents in the training clinic, once residents had undergone specific training.

Methods

Intervention Description

TO-CARE is a manualized intervention (manual available upon request) based on CBT principles and is comprised of two components: (1) six weekly sessions of CBT coping skills delivered by a therapist and (2) Trauma-sensitive obstetric care delivered by obstetric physicians at prenatal visits. Detailed descriptions of CBT session content and trauma-sensitive obstetric care components are provided in Table 1. CBT sessions lasted 60 minutes and were aimed at teaching participants coping skills to reduce PTS symptoms and increase sense of self-efficacy in the obstetric care setting. Thus, sessions incorporated frequent role-play between the therapist and the participant. Sessions 1–3 covered how to use coping skills and sessions 4–6 focused on applying skills to participants' pregnancy, childbirth, and postpartum-related concerns. Completion of sessions 1–3 constituted receiving the "core dose" of CBT.

Trauma-sensitive obstetric visits were redesigned to give participants a safe space to practice coping skills, learn to reduce anxious arousal, and overcome feelings of vulnerability. Obstetric providers were coached to recognize and respond to hyperarousal symptoms, prompt participants to use their coping skills, and maximize participants' sense of control during the prenatal visit. For example, a trauma-sensitive pelvic exam includes the physician guiding the woman in how to properly use breathing and muscle relaxation and stopping an exam upon detecting discomfort. The physician manual provides "vignettes" of obstetric encounters (e.g., for a pelvic exam) illustrating trauma-sensitive techniques (see Table 1).

Recruitment and Eligibility

Participants were eligible if they were less than 30 weeks pregnant, had a history of physical or sexual abuse, reported at least three or more PTS symptoms, and were able to speak and read English fluently. Participants were excluded if they had a history of bipolar disorder or psychosis, exhibited significant suicidal ideation or risk, or suffered from medical conditions that would significantly impact participation (e.g., preterm labor, seizures, heart disease, uncontrolled diabetes, pre-eclampsia). Participants were recruited from an obstetric-gynecology clinic at a large Midwestern teaching hospital. We utilized a "standard offering" recruitment procedure such that all pregnant patients in the training clinic were provided with informational TO-CARE brochures and were invited to complete an eligibility screening interview, regardless of whether they had previously disclosed a history of trauma. Interested patients met with a trained research assistant to complete the eligibility screening.

Procedure

Eligible participants attended an in-person baseline assessment in which they provided informed consent. Participants were then scheduled to begin the weekly CBT coping skills sessions. Once participants enrolled, staff at the obstetric training clinic was instructed to schedule participants' prenatal appointments with any of the nine trained obstetric residents provided it did not interfere with timely prenatal care. Self-report measures were collected at baseline, at each CBT session, immediately post-CBT, and at the 6-week postpartum follow-up visit. Qualitative interviews were conducted at the 6-week postpartum follow-up visit to assess satisfaction and feedback about TO-CARE. Participants were offered monetary compensation for assessments and travel (up to \$100). Study procedures were approved by the medical center's Institutional Review Board.

We initially examined feasibility of delivering the CBT coping skills in a group format with the option to complete individual "makeup" sessions for missed group sessions. However, group sessions were deemed not feasible when participants indicated that they could not attend group sessions at the specified times and preferred more flexibility of scheduling individual sessions. Therefore, CBT coping skills sessions were subsequently delivered in individual format. Because the majority of the CBT used individual format (> 90% of CBT sessions) we determined that participants who participated in group sessions (three participants initially completed 1–2 group sessions) received essentially equivalent interventions. Therefore, the data in this report includes participants who completed 1–2 group sessions.

Therapist Training.—During Phase II, three therapists (postdoctoral fellows) delivered the individual-based CBT coping skills sessions under the supervision of the first author. Therapists received 10–12 hours of training activities with the first author including conducting mock sessions of all six sessions. Training included how to conduct in-session coping skills practice and role-plays as well as emphasizing uniform session structure. The first author provided ongoing supervision throughout Phase II to ensure participant safety as well as therapist adherence to the manual.

Physician Training.—Nine obstetric residents volunteered to deliver trauma-sensitive obstetric care over the course of the 36-month feasibility study. Residents completed a 2-hour training session with the first author including review of power point slides, handouts, and a simulated "role-play" of a trauma-sensitive pelvic exam using a pelvic model. Direct observation in clinic with actual patients was also offered to residents to provide additional feedback on communication and pelvic exam sensitivity. Retraining was conducted on a yearly basis to ensure adequate skill competency and to train new residents as senior residents graduated.

Measures

Abuse history was assessed using the Childhood Trauma Questionnaire (CTQ; [16]) and the Trauma History Questionnaire (THQ; [17]). PTS symptoms were assessed using the validated PTSD Symptom Checklist for Civilians (PCL-C; [18]). Because PTS is frequently comorbid with depression, we also assessed depression symptom severity using the Patient

Health Questionnaire (PHQ-9; [19]). Information regarding medical complications of pregnancy and obstetric outcomes was extracted from the participants' electronic medical record (EMR).

As our acceptability measure, participants were asked to comment on the usefulness of the intervention, to identify the most/least useful components of the intervention, and to provide open-ended feedback about their obstetric care experiences. These qualitative interviews were conducted by a trained research assistant (who did not deliver any portion of the intervention).

Data Analysis

To examine feasibility, we examined recruitment, retention, participant receipt of prenatal care from trained obstetric residents, and adherence to the CBT and physician manuals. Statistical analyses of feasibility outcomes included descriptive statistics and tests comparing drop-outs and completers (i.e., *t*-tests and *chi*-squares). We analyzed acceptability via participants' qualitative interviews upon completion of the study. To examine changes in symptom PTS and depression symptoms over the course of the intervention and at postpartum follow-up, we calculated Reliable Change Index (RCI; [20]) scores for each participant by subtracting the baseline score from the post-CBT or follow-up score and dividing by the standard error of difference between the two scores. RCI values > -1.96 were considered indicative of significant symptom change ($p < .05$).

Results

Sample Characteristics

A total of 45 women were screened eligible for the study, provided informed consent, and completed a baseline assessment. Information regarding demographics, trauma history, psychological distress, and obstetric characteristics of the sample are provided in Table 2. Characteristics of the sample indicated that the intervention reached mostly low-income, African-American and Hispanic women who were less likely to be partnered and more likely to have been pregnant before. Most (86.6%) had experienced some form of childhood abuse. Few (6.7%) were receiving mental health treatment for their symptoms at the time of the study. More than half (58%) experienced medical complications of their current pregnancy, such as hypertension, diabetes, and preeclampsia.

Feasibility

Recruitment and Retention.—Over the 28-month recruitment period, 166 patients elected to complete the eligibility screening (see Figure 1). Half of the women were eligible, and of those, half consented to participate and completed the baseline assessment ($n = 45$). The remaining 41 women (48% of the eligible sample) who did not consent either declined to participate (27%) or were lost to follow-up (21%).

Of the 45 participants who enrolled in the study, 11 (24%) dropped out after the baseline assessment (i.e., received no intervention) and were considered “dropouts.” Nine participants (20%) attended 1–2 CBT sessions and were considered “partial completers.”

Fully 21 participants (46%) attended at least the first three CBT sessions, which was considered the “core dose” of the intervention, and were considered “completers.” The most common reasons for discontinuation were lack of transportation, difficulty finding childcare, and lack of time to schedule appointments. Four participants (10%) gave birth prior to completing the “core dose” of CBT and were excluded for subsequent analyses.

As shown in Table 3, chi-square and one-way ANOVAs analyses comparing dropouts, completers, and partial completers revealed no significant differences in age, ethno-racial status, income, education level, marital/partner status, parity, or baseline levels of PTS or depression symptoms. Significant differences did emerge for pregnancy complications, such that “completers” ($n=21$) were significantly more likely to have a medical complication of pregnancy as compared to dropouts. The remaining analyses described below include the 21 “completers” who received the “core dose” of the CBT intervention.

Trauma-sensitive Obstetric Visits.—We assessed feasibility of implementing trauma-sensitive obstetric care by calculating the number of prenatal visits participants received with TO-CARE trained residents. “Completers” ($n=21$) attended an average of 6.14 prenatal visits ($SD=2.89$) during study enrollment. Approximately one-third ($M=2.29$; $SD=2.15$) of these visits were with trained residents. Availability of appointments was the chief reason for participants receiving care from non-trained residents. Five participants did not attend any visits with designated residents and of these, three were transferred to another clinic for medical or insurance reasons but were permitted to remain in the study and one participant stopped attending all of her prenatal visits upon enrolling.

Adherence to the TO-CARE Manual.—Adherence to the CBT Coping Skills manual was assessed by evaluating session progress notes for evidence of 1) assessment of stress/distress, 2) assessment of safety, 3) in-session coping skills practice, and 4) a coping plan to apply skills to pregnancy-related concerns. Notes were scored based on the presence or absence of each item. Therapist adherence ranged from 89% ($SD=18.2$, $n=16$ progress notes) for Session 6 to 94% ($SD=13.5$, $n=21$ progress notes) for Session 3. We also calculated the number of sessions that included in-session skill practice as means of determining the potency of the CBT. In-session skill practice was delivered in 92% of the 108 sessions, demonstrating a high level of active coping skills training.

Adherence to the TO-CARE physician manual was evaluated using self-rated behavioral checklists completed by trained obstetric residents after each prenatal obstetric visit. Checklists consisted of elements of trauma-sensitive obstetric care based on the TO-CARE physician manual. Adherence to the physician manual was scored as a percentage of behaviors completed and ranged from 71% to 100% ($n=31$ returned checklists).

Acceptability

Overall, satisfaction with the program was high. Nearly all (95%) of the participants who completed the qualitative interview at the postpartum follow-up ($n=19$) stated that they believed TO-CARE was useful or extremely useful. Two-thirds of these participants (68%) stated that the relaxation skills and/or the communication skills were the most helpful aspects of the CBT coping skills sessions. Table 4 includes example quotes of how TO-

CARE affected participants' obstetric care experiences. Most women (79%) reported positive changes in their communication with their obstetric providers. For some women, the very fact that they were encouraged to make requests of their physicians was empowering to them. Interview feedback also revealed potential gaps in trauma-sensitive care, also shown in Table 4.

Symptom Improvement

Table 5 reports participant RCIs from baseline to post-CBT and from baseline to postpartum follow-up. Four participants (19%) demonstrated reliable improvement in PTS symptoms at post-CBT while two participants (9.5%) demonstrated reliable improvement in depression symptoms at post-CBT. Reliable improvement in PTS symptoms trended toward significance for an additional three participants (14%) at post-CBT ($p < .10$). At postpartum follow-up, two participants (9.5%) demonstrated reliable improvement in depression symptoms while one participant (4.8%) demonstrated reliable improvement in PTS symptoms. Finally, none of the participants demonstrated worsening of PTS or depression at either post-CBT or postpartum follow-up.

Discussion

Results of this study provide partial support for the feasibility and acceptability of TO-CARE among underserved pregnant abuse survivors with PTS, the vast majority of whom were not receiving any intervention for their trauma-related distress. Our results also suggest that TO-CARE may help improve symptoms of PTS and depression, though the evidence for this is less strong. It is notable that none of the participants experienced significant worsening of symptoms during the postpartum period, which is typically a time of great vulnerability to exacerbations of psychological distress. Our findings suggest that further research is warranted to refine TO-CARE, bolster its accessibility for the target population, and to examine its potential impact.

Our study reached a large number of pregnant patients (half of all patients screened in the clinic) who would likely benefit from trauma-sensitive obstetric care. Notably, attrition from the CBT sessions was higher than is typically observed in PTSD treatment studies, with 21 (51.2%) of participants receiving the core dose of CBT and 31 (75.6%) receiving at least one CBT session (four participants gave birth after attending 1–2 sessions, therefore we did not include them in the CBT completion analysis) [21–23]. There are several possible explanations for this. First, completers were more likely to have medical complications of pregnancy than partial completers and dropouts, suggesting that women with medically high risk pregnancies sense a higher need for support from health care providers. Given that several women who dropped out reported that they could not accommodate additional appointments, it is also possible that the CBT sessions were less burdensome for women who were already attending frequent prenatal appointments. Second, the sample was mildly distressed overall, suggesting the possibility of lower motivation for treatment than would have been observed in a more highly distressed sample. It is notable that uptake of the CBT was similar to rates observed in similar populations (i.e., low-income pregnant women) who face greater barriers to care in general [24]. Use of targeted recruitment and retention

strategies will be important for future trials of TO-CARE, in light of these barriers [25–27]. Overall, findings suggest that TO-CARE may be a useful intervention for abuse survivors with high risk pregnancies who are already receiving intensive obstetric care.

Participants received, on average, one-third of their prenatal care from specially-trained obstetric residents. Although ensuring care from specially-trained providers at every visit was not necessarily an aim of the current study, results suggest there are practical considerations that must be addressed in future research examining TO-CARE's efficacy. Moreover, trauma-sensitivity of non-trained residents was not captured in the current study, so it is unknown how participants' prenatal care experiences differed across trained versus non-trained providers. Future iterations of TO-CARE will need to maximize the trauma-sensitivity component while minimizing barriers associated with low provider continuity, insurance changes, and transfers of care.

Limitations of this study are important to consider when interpreting results. Given the open trial (i.e., no control group) design and within-person symptom change analysis, we cannot conclude that changes in symptom measures are due to TO-CARE. Although adherence measures indicate that the TO-CARE therapist and physician manuals were followed, variability across therapists and obstetric residents may nevertheless have affected results. Adherence to the physician manual was self-rated by residents, which may have resulted in a biased evaluation of residents' sensitivity. Further, participants received only a portion of their prenatal care from trained residents and there were some participants who were unable to receive care from any trained residents. Therefore, individual differences in providers' trauma-sensitivity are unknown, and we cannot draw conclusions regarding whether trauma-sensitivity of the obstetric residents was associated with participants' PTSD and depression symptoms. Finally, attrition suggests potential barriers to accessing TO-CARE for women who are already at risk for inadequate prenatal care. Additional strategies should be explored to increase access, such as offering CBT coping skill sessions delivered by trained nurses directly in the obstetric clinic. Generalizability of results is also limited to pregnant patients who chose and were able to participate in an intensive intervention. Accordingly, generalizability of results is limited to a self-selected sample of mildly distressed abuse survivors with high risk pregnancies.

This is the first report to examine potential impact of an intervention integrating psychological intervention with trauma-sensitive obstetric care for pregnant abuse survivors with PTSD. To our knowledge, there are no existing interventions involving obstetricians altering their behavior to alleviate psychological distress in pregnant abuse survivors, and in particular altering the manner in which invasive exams are conducted. TO-CARE overcomes important limitations of empirically-validated treatments for PTSD that often involve repeated recall of traumatic events, which, although effective, initially increase anxious arousal and distress [28]. Instead, TO-CARE uses CBT-informed coping skills training to help women feel empowered while attempting to minimize the trauma-evoking aspects of obstetric care. Based on the findings from this feasibility study, which include a generally positive evaluation from participants, we conclude that TO-CARE is a promising model for helping women overcome trauma-related distress during pregnancy. However, additional

research is warranted to address the feasibility concerns outlined in this paper, especially of physician-delivered component, and to fully examine the efficacy of TO-CARE.

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Current Knowledge on the Subject

- Abuse histories often go undetected in obstetric patients despite the fact that prior abuse has been associated with an increased risk of psychological distress (i.e., PTSD and depression) as well as medical complications of pregnancy.
- Pregnant abuse survivors, and particularly those who are also low-income and ethnic minorities, are vulnerable to increased anxiety and pain during obstetric care.
- Currently, no standardized interventions exist to address the unique needs of pregnant abuse survivors in the context of their obstetric care.

What this study adds

- *Trauma-sensitive Obstetrics to promote Control, Anxiety-Reduction, and Empowerment (TO-CARE)* is the first integrated (psychological and obstetric trauma-focused integration) intervention designed to help pregnant abuse survivors reduce distress, feel empowered, and minimize the trauma-evoking aspects of their obstetric care
- TO-CARE demonstrated adequate treatment acceptability and was evaluated favorably by our sample of underserved pregnant abuse survivors with symptoms of PTSD. TO-CARE shows promise as an intervention that may help women overcome psychological distress during pregnancy.
- Additional research is needed to address uptake and retention issues endemic to low-income minority populations that face substantial care barriers.

Figure 1.
Participant recruitment and flow.

Table 1:

Overview of TO-CARE

COGNITIVE BEHAVIORAL THERAPY COPING SKILLS (CBT)	TRAUMA-SENSITIVE OBSTETRIC CARE
<i>Intervention delivered by therapists across 6 60-minute sessions</i>	<i>Behaviors used by obstetric resident physicians at prenatal care visits</i>
<p>S 1: Trauma Education and Relaxation skills</p> <ul style="list-style-type: none"> ■ PTS and Pregnancy ■ Breathing exercises ■ Progressive muscle relaxation ■ Guided imagery <p>S 2: Assertive communication skills</p> <ul style="list-style-type: none"> ■ Making specific requests ■ Stopping an exam or procedure ■ Explaining reasons ■ Role-play scenarios between therapist and patient <p>S 3: Self-care skills</p> <ul style="list-style-type: none"> ■ Maximizing safety ■ Pregnancy health behaviors ■ Overcoming barriers to self-care <p>S 4: Coping with triggers in pregnancy</p> <ul style="list-style-type: none"> ■ Identifying common pregnancy symptoms that trigger PTS ■ Invasive prenatal exams ■ Assertiveness at prenatal appointments <p>S 5: Coping with triggers in childbirth</p> <ul style="list-style-type: none"> ■ Identifying labor and delivery processes that can trigger PTS ■ Relaxation exercises for pain coping (in addition to other pain control measures) ■ Assertiveness with nurses, physicians, staff <p>S 6: Coping with triggers during postpartum</p> <ul style="list-style-type: none"> ■ Identifying early postpartum symptoms that can trigger PTS ■ Assertiveness with primary support system ■ Postpartum self-care 	<ul style="list-style-type: none"> • Respond to signs of distress • Assess readiness during invasive exams • Reinforce patient's preferred coping skills • Use guided relaxation during exams • Encourage assertive communication • Maximize patient's sense of control <p><u>Phrases from Trauma-Sensitive Vignettes</u></p> <p><i>"I understand you have some difficulties with anxiety related to stressful experiences you have had. How are you coping right now?"</i></p> <p><i>"I know these exams are uncomfortable because they are pretty invasive. Are there any techniques that I can help you with to feel more comfortable?"</i></p> <p><i>"It is really important for me to know that you are comfortable. How about you just stop me anytime you feel discomfort? You can say 'Stop' or 'Hold on please.'"</i></p> <p><i>"I am stopping what I am doing now. Why don't we take a few deep breaths and I will not begin again until I know you are ready."</i></p> <p><i>"Let's practice some more deep breaths and each time you exhale, let go of any tension in your legs and hips. During the exam, I'll ask you to keep taking breaths and releasing tension."</i></p> <p><i>"Is it okay if I give some feedback to our medical student for her training?"</i></p>

Table 2:

Sample Characteristics (N = 45)

	<i>n</i> (%)
Demographics	
African-American	24 (53.3%)
Hispanic/Latina	19 (42.2%)
White	2 (4.4%)
Medicaid/Public health insurance	41 (91.1%)
Unemployed	25 (55.6%)
Poverty (<\$1000 monthly income)	20 (44.4%)
Partnered	25 (55.5%)
Post-Secondary Education	24 (53.3%)
Multiparous	39 (86.6%)
Trauma History	
Lifetime physical assault	25 (55.5%)
Lifetime sexual assault	28 (62.2%)
Child physical abuse	27 (60%)
Child sexual abuse	26 (57.8%)
Child emotional abuse	18 (40%)
Mental Health Treatment	
Prior psychotherapy	19 (42.2%)
Prior medication	10 (22.2%)
Current psychotherapy	3 (6.7%)
Medical Complications of Pregnancy	
Hypertension	13 (30.2%)
Preeclampsia	8 (18.6%)
Diabetes	12 (27.9%)
Intrauterine Growth Restriction (IUGR)	3 (7.0%)
Cholestasis	2 (4.7%)
Fetal Anomaly	2 (4.7%)
Preterm Birth (<37 weeks)	10 (22.2%)

Table 3.

Comparison of Treatment Exposure by Subgroup (n = 41)

	Dropouts (n = 11)	Partial Completers (n = 9)	Completers (n = 21)	Test of difference
Demographics	<i>M(SD)</i> N(%)	<i>M(SD)</i> N (%)	<i>M(SD)</i> N (%)	Statistic
Age	28.91 (4.16)	27.33 (5.0)	26.95 (6.47)	F = .42
Race/Ethnicity				
African American	5 (45.5%)	3 (33.3%)	12 (60.0%)	X ² =4.23
Latina/Hispanic	4 (36.4%)	6 (66.7%)	7 (33.3%)	
Non-Hispanic/White	2 (18.2%)	0 (0%)	2 (9.5%)	
Annual Income				
<\$15,000	7 (63.6%)	4 (36.4%)	11 (52.4%)	X ² =.08
>\$15,000	4 (36.4%)	3 (27.3%)	7 (33.3%)	
Missing Data	0 (0%)	2 (18.2%)	3 (14.3%)	
Education				
GED or Trade School	6 (54.5%)	5 (55.6%)	7 (33.3%)	X ² = 1.96
Some College or Higher	5 (45.5%)	4 (44.4%)	14 (60.9%)	
Partner Status				
Single	5 (45.5%)	5 (55.6%)	10 (50%)	X ² = .23
Partnered	6 (54.%)	4 (44.4%)	11 (52.4%)	
# of People in the Home				
0–3	7 (63.6%)	5 (55.6%)	9 (42.9%)	X ² =1.33
>= 4	4 (36.4%)	4 (44.4%)	12 (57.1%)	
Parity History				
Primiparous	1 (9.1%)	1 (11.1%)	8 (38.1%)	X ² =4.40
Multiparous	10 (90.9%)	8 (88.9%)	13 (61.9%)	
Medical Complications	N(%)	N(%)	N(%)	Statistic
Pregnancy Complications				
Yes	3 (27.3%)	5 (55.6%)	14 (63.6%)	X²=6.11
No	8 (72.7%)	4 (44.4%)	5 (26.3%)	
Missing Data	0 (0%)	0 (0%)	2 (9.5%)	
Delivery Outcome				
Term	9 (81.8%)	7 (77.8%)	14 (73.7%)	X ² =.26
Pre-Term	2 (18.2%)	2 (22.2%)	5 (26.3%)	
Missing Data	0 (0%)	0 (0%)	2 (9.5%)	
Baseline Distress	M (SD)	M (SD)	M (SD)	Statistic
PTS Symptoms	38.18 (17.69)	36.33 (19.58)	39.14 (15.22)	F =.09
Depression Symptoms	9.55(5.52)	9.78 (8.77)	8.33(5.07)	F =.25

Note. "Dropouts" = Received no CBT sessions; "Partial completers" = received < 3 CBT sessions; "Completers" = Received at least core 3 CBT sessions. Bolded statistic indicates significant between-group difference at the $p < .05$ level.

Table 4.**Example Quotes from Qualitative Interviews*****Reasons for Overall Satisfaction with TO-CARE***

- Being open with the doctor—it [TO-CARE] helped me shorten what I ask the doctor. Asking them things more concisely—i.e. I want to be induced.
- As far as expressing my concerns, it was really helpful. Felt comfortable expressing concerns to the doctor because we talked about it here [in therapy sessions].
- Affected [my care] in a good way. I would come in feeling bad and leave feeling better. Returned to my therapist helped me tell the doctor what I was and wasn't comfortable with. Also, the doctor asked if something was wrong and she noticed I was having a bad day.
- Relaxation- Used it at home, breathing and closing your eyes does work.
- The exercise-the breathing and relaxation- helped me to calm down. Helped bring me down when I'm all the way up.
- Communication- open up—better able to express needs rather than out of anger assert what okay with open up more.
- The doctors listened to my needs more, and I was able to express my needs more. For example, when I went into labor, I asked for an all-female staff.
- Knowing that you can make requests of physicians. Communication-didn't know could do that.

Suggested Areas for Improvement of Obstetric Practices

- Gotta talk about the operation room. Liked learning to talk and voice opinions but when in operating room it went right out the window.
- The whole program was nice but doctors and nurses needed to be taught more about it. Maybe they don't have time.
- I was disappointed that I would get different answers from different doctors. A lot of dealing with the policy because they can't go against their policy.
- I was very shy when it came to people seeing my private area especially because my vagina was going through a lot of changes and having males in the room was hard but I was too scared to say no they can't come in. They always asked is it okay for him to be in there after they're in the room.
- I didn't really know who my doctor was until I gave birth. I would have liked to meet with the doctors beforehand.

Table 5.

Reliable Change Index (RCI) Scores from Baseline to Post-CBT and Postpartum Follow-Up by Participant.

ID	Number of Sessions	<i>PTS Symptoms</i>		<i>Depression Symptoms</i>	
		Post-CBT	Postpartum Follow-up	Post-CBT	Postpartum Follow-up
1	6	-4.295 ^a	-1.768	-2.904 ^a	-2.131 ^a
2	5	-1.399	-0.495	-1.089	-0.888
3	6	-0.300	0.141	-0.363	-0.533
6	6	0.499	0.000	0.726	-0.178
8	6	-1.399	-1.344	-0.726	-0.710
10	6	-1.898	-0.919	-0.907	-0.533
18	3	-0.300	0.495	0.000	0.355
19	6	-0.300	-0.495	-0.726	-0.710
20	6	-0.899	0.919	-1.270	0.533
22	6	-1.898	-0.919	-1.270	-1.243
31	4	-2.697 ^a		-1.089	
34	6	-1.498	-0.283	-0.181	0.710
35	3	-1.698		0.544	
36	6	-1.099	-0.778	0.000	-1.953
37	6	-1.299	-1.061	1.089	-0.178
38	6	-2.298 ^a	-2.122	0.000	-1.598
39	6	-3.896 ^a	-3.536 ^a	-2.904 ^a	-3.552 ^a
40	6	-0.599	-0.637	-0.181	-0.355
42	5	-1.199	-0.919	-1.270	-0.710
44	6	-1.099	-0.778	-1.270	-1.421
45	4	-0.100	-0.071	-0.363	-0.533

Note. Negative RCI values indicate scores that decreased over time.

^aSignificantly improved (RCI > -1.96 for measures of PTS and Depression).