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Research Article

The Use of Trauma Narrative in Group Trauma-Focused Cognitive Behavioral Therapy for Mothers of Preterm Infants

Emily Wharton¹, Monica Rodriguez², Celeste Poe², Stephanie Simon¹, Erin Armer², LaTrice L. Dowtin^{3,4}, Angelica Moreyra⁵, Tonyanna C. Borkovi², Richard J. Shaw^{2*}

¹PGSP-Stanford Psy.D. Consortium, Palo Alto University, USA

²Division of Child and Adolescent Psychiatry, Stanford University School of Medicine, Palo Alto, USA

³School of Human Development and Well-being, Gallaudet University, 800 Florida Ave NE, Washington, DC 20002, USA

⁴PlayfulLeigh Psyched, 5557 Baltimore Ave, Hyattsville, USA

⁵Children's Hospital Los Angeles, 4650 Sunset Boulevard, Los Angeles, CA, USA

*Corresponding author: Richard J. Shaw, Division of Child and Adolescent Psychiatry, Stanford University School of Medicine, Palo Alto, USA.

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Abstract

Background: Trauma-Focused Cognitive Behavioral Therapy (trauma-focused CBT) is an effective treatment for PTSD in mothers of preterm infants, with the trauma narrative (TN) component providing an opportunity for mothers to process their NICU experience. Yet trauma-focused CBT, including its distinctive TN component, has only recently been provided in a group format for this population. The acceptability and feasibility of writing and reading aloud a trauma narrative in a group format has not been evaluated in parents of preterm infants. **Methods:** After participating in a six-session trauma-focused CBT group intervention, mothers (N=19) of premature infants in a Neonatal ICU (NICU) completed Trauma Narrative Questionnaires and Distress Rating Forms before and after the trauma narrative components of trauma-focused CBT sessions. **Results:** Mothers perceived the writing and recounting of their Trauma Narrative (TN) exercises as positive and helpful. While mothers reported increased distress while writing and reading their trauma narrative, they also endorsed decreased levels of distress at the end of treatment as well as decreased isolation. **Conclusions:** These findings support the writing and reading of a TN in group therapy, and demonstrate the TN as a viable method to target maternal isolation with a brief, focused intervetnion and to help process trumatic experiences associated with a NICU stay.

Keywords: Posttraumatic stress disorder; Trauma narrative; Neonatal intensive care unit; Preterm infant; Maternal distress.

Introduction

There is wide support for the concept that the birth of a premature infant is a traumatic experience for parents. Research has found the prevalence of posttraumatic stress disorder (PTSD) in mothers of preterm infants to be as high as 41% at fourteen months after their infant's birth [1]. Recognition of this issue has led to several studies that have shown the benefits of individual trauma-focused interventions for this population [2-5].

In 2020, Simon and colleagues published findings from a successful six-session group-based trauma-focused CBT psychotherapy intervention which included components of psychoeducation, relaxation training, cognitive restructuring, and writing, reading, and processing of a trauma narrative (TN). This intervention was designed to prevent or reduce symptoms of posttraumatic stress, depression, and anxiety in a small group of mothers of preterm infants hospitalized in a NICU. A key component of this intervention is the construction and narration of a TN in which mothers share aspects of their traumatic NICU experience in a group with other mothers.

Although Affleck, Tennen, & Rowe [6] have suggested that the facilitation of TN exercises in a group setting may counteract the isolation that many mothers of preterm infants experience, it was not known whether the early recounting of these narratives in a brief treatment would be experienced as helpful or harmful by mothers. In fact, findings from a meta-analysis have raised concerns about the risks to individuals who recount the narrative of trauma experiences in a group setting [6]. These include: (1) the fear that hearing the details of another member's trauma will cause other group members to become vicariously traumatized [7]; (2) the concern that when one group member discloses a trauma, others will make comparisons between that person's trauma and their own; and (3) group therapy may not allow sufficient time for each member to verbalize and adequately process the details of their trauma. In addition, Critical Incident Stress Debriefing (CISD), a trauma intervention administered to groups of trauma survivors within 24 and 72 hours after an incident, has shown mixed results, with limited efficacy in preventing PTSD in trauma survivors [8,9]. In some cases, CISD may delay natural recovery or contribute to increased rates of PTSD [10,11].

The goal of the current study was to expand Simon and colleagues' 2020 findings of the impact of a novel treatment on PTSD symptoms in mothers of preterm infants by assessing the acceptability of this brief group intervention. This study aimed to explore the risks and benefits of mothers recounting trauma experiences in the context of a group therapy setting. Questions we

hoped the analysis would answer included whether the 6-session intervention provided sufficient time to prepare participants for the TN component, and whether they would experience benefits from writing and reading their TN in the group, or whether premature disclosure may result in negative reactions. We hypothesized that: (1) Mothers would perceive the experience of writing and reading their TN aloud as helpful; (2) Mothers would perceive the group environment as safe and supportive during TN exercises; (3) Mothers would report low frequency of negative reactions, such as regret, embarrassment, overwhelm, and re-experiencing symptoms; (4) Mothers would experience an increase in distress while writing their trauma narrative; (5) Mothers would experience an increase in distress while reading their trauma narrative out loud; and (6) Mothers would experience a decrease in distress by the end of the last session.

Method

Subjects

TThis study was approved by the Stanford University Institutional Review Board. The subject sample and methodology of the current study has been previously described [12]. Mothers were recruited through the screening protocol provided as part of routine clinical care to all mothers with infants in the Lucile Packard Children's Hospital NICU, two weeks after their infants' NICU admission [13]. Adult, English-speaking mothers of infants 24-34 weeks gestational age were included. Mothers of children who were awaiting cardiac surgery or who were unlikely to survive were excluded. Trauma-focused treatment involves a processing of past traumatic situations when there is relative current safety; thus, mothers who were likely to experience ongoing traumatic events with strong threats to their children's ongoing health were not appropriate for trauma-focused treatment at this time and were instead referred for supportive individual therapy for managing these ongoing stressors. Mothers of children with congenital abnormalities were also excluded, given that these mothers were likely to have long-term concerns about their infants. By contrast, the mothers of premature infants who participated in this study experienced a hospitalization that was sudden and unexpected, contributing to the traumatic nature of the birth experience. Infants of all study participants remained hospitalized in the NICU during their mothers' participation in this study. Mothers found to be at high psychiatric risk (such as mothers experiencing frequent suicidal ideation) were excluded and referred for individual therapy in order to provide these mothers more individualized care and monitor for risk. Mothers were not required to have a psychiatric diagnosis for inclusion due to the preventative purpose of treatment.

Nineteen mothers completed baseline assessment, thirteen mothers completed posttreatment assessment, and seven mothers

completed six-month follow-up. Nine out of the nineteen mothers participated in the current study. Sociodemographic data and symptom outcome data reported in this manuscript were collected as part of a larger data collection that has been previously published [12]. The baseline sample consisted of predominately white (32%) and Hispanic (32%) women, with a mean age of 34, 100% married or in a committed relationship, with 63% holding a college or advanced degree, and 89% employed.

Measures

Questionnaires were used to assess demographic information, distress levels, and group trauma narrative experiences.

Trauma Narrative Questionnaire: The Trauma Narrative Questionnaire (TNQ) was created by the research team to assess participants' experiences writing, reading aloud, and processing their TN (see Table 2). The questionnaire focused on the TN components that occurred during sessions four, five, and six and was administered at the end of those sessions. Each questionnaire contained open-ended questions and 5-point Likert scale statements, from strongly disagree (1), disagree (2), neutral (3), agree (4), to strongly agree (5).

Distress Rating: Participants were prompted to rate their level of distress through verbal prompting and written questionnaires, at a total of twelve time points combined. The group therapist asked each participant to verbally rate their level of distress, 0 (not at all distressed) to 10 (extremely distressed) at nine time points: at the beginning of Session 4, while listening to the sample narrative, before writing their TN, while writing their TN, at the beginning of Session 5, while listening to others' TN, before reading their TN, while reading their TN, and at the beginning of Session 6. For an additional three time points, the TNQ at the end of Sessions 4, 5, and 6 included the same distress rating scale, to which participants responded in written form.

Study Design

The study was a one-group pre-/post-quasi-experimental design. Group leaders were postdoctoral child psychology fellows in the Lucile Packard Children's Hospital NICU, who had conducted individual trauma-focused CBT for at least six months and had received training in the specific group trauma-focused CBT protocol. Eligible mothers completed distress rating forms at twelve time-points (before and after TN components) and trauma narrative questionnaires at three time points (at the end of each TN session). Six 1.5-hour sessions were delivered twice per week over three weeks. There was no comparison group.

Trauma-Focused CBT interventions usually include components of psychoeducation, relaxation training, and cognitive restructuring, as well as writing, reading, and processing the TN, as has been previously described (Simon et al. 2020). The

intervention used trauma narration and processing as a way for participants to organize their memory, reduce isolation, normalize experiences, and gain social support from other mothers who have also experienced premature birth. In Session 4, mothers wrote their narratives in response to questions about the birth, their experience of their child's NICU hospitalization, and its impact on them and their family; specific prompts for trauma narrative writing are provided in Table 1.

Statement/Question

- 1. When did you first find out that there was a possibility you might have a premature birth? Do you remember any of the conversations with your doctor?
- 2. How did you feel when you first found out you were going to deliver early?
- 3. What do you remember about your birth experience?
- 4. What do you remember about the first time you saw your baby? What were your first thoughts about your baby? What were you feeling? Were you worried? Relieved? Happy? Excited?
- 5. Please tell me about the first time you visited your baby in the NICU? What was it like for you? Who was there? Were you surprised/shocked by anything you saw? What were you feeling when you first saw him/her?
- Please tell me about your experiences since your baby has been here in the hospital, including any difficult or stressful medical events, procedures, or conversations/interactions with nurses or doctors.
- 7. What impact has this experience had on you and your family?
- 8. How has this experience affected your view of yourself?
- 9. How has this experience affected your sense of closeness with other people?
- 10. How has this experience affected your confidence and ability to handle difficult situations?

Table 1: TN Writing Development Prompts.

In Session 5, participants were invited to share sections of their narrative that had been selected by the therapist. As the mothers shared their TN throughout the session, the therapist identified common themes in the accounts, such as guilt, helplessness, and lack of parental self-efficacy.

Data Analysis

The mean, standard deviation, and range of items scored for each TNQ question were calculated. Items rated as greater than 3 were considered as being endorsed. The mean, standard deviation, and range of distress rating were calculated at each time point and paired sample *t*-tests were used to assess statistically significant

change. Qualitative data from the TNQ were reviewed and themes were identified in participants' responses.

Ethical Statement

Authors have abided by the ethical principles outlined in the Declaration of Helsinki. This study was approved by the Stanford University Institutional Review Board (#45436). Informed consent documentation was obtained from each participant prior to participation in study.

Results

Perceptions of Trauma Narrative Exercises

In the previously published data on this intervention, trauma symptom reduction was not significant from baseline to post-treatment but was significant from baseline to follow up and post-treatment to follow up [12]. The TNQ was added to the study protocol beginning with the fourth group of participants. Seven participants completed the TNQ for Session 4 and 6, while nine participants completed the TNQ for Session 5, due to two participants missing Sessions Four and Six. As illustrated in Table 2, participants endorsed positive reactions of feeling supported, safe, and in control. Participants endorsed that writing their TN was helpful. Some participants endorsed feeling like they were reliving their experiences when writing the narrative. No participants endorsed wishing that they had not written their TN.

| Statement/Question (Scale 1-5) | N | Mean | SD | Range |
|---|---|------|------|-------|
| Writing my TN made me feel like I was reliving my experiences again. | 7 | 3.86 | 1.07 | 2-5 |
| I felt confident in my ability to manage my emotions while writing my TN. | 7 | 3.14 | 0.90 | 2-4 |
| I felt supported by the other group members while writing my TN. | 7 | 3.71 | 0.76 | 3-5 |
| I felt supported by the therapist while writing my TN. | 7 | 4.14 | 0.69 | 3-5 |
| I wish I had not written my TN. | 7 | 1.86 | 0.69 | 1-3 |
| I felt connected to the other group members while writing my TN. | 7 | 3.43 | 0.79 | 3-5 |
| I felt safe in the room while writing my TN. | 7 | 4.29 | 0.49 | 4-5 |
| I felt in control while writing my TN. | 7 | 3.86 | 0.69 | 3-5 |
| It was helpful to write my TN. | 7 | 4.00 | 0.58 | 3-5 |

Table 2: TN Questionnaire Session 4.

As illustrated in Table 3, participants endorsed positive experiences of reading their TN aloud in Session 5, such as feeling supported by and more connected to the other group members. Some participants endorsed feeling like they were reliving their experiences when reading their narratives aloud. Some participants endorsed feeling exposed after reading their narrative aloud. No participants endorsed wishing they had not shared details from their narrative nor endorsed regretting sharing the TN as a whole.

| Statement/Question (Scale: 1-5) | N | Mean | SD | Range |
|---|---|------|------|-------|
| I felt overwhelmed by my distress. | 9 | 3.11 | 0.78 | 2-4 |
| I felt confident that I could manage my emotions while reading my TN aloud. | 9 | 3.56 | 0.88 | 2-5 |
| Reading my TN aloud made me feel like I was reliving my experiences again. | 9 | 3.67 | 1.00 | 2-5 |
| I felt supported by the other group members while reading my TN aloud. | 9 | 4.44 | 0.53 | 4-5 |
| There were things in my narrative that I wish I had not shared. | 9 | 2.11 | 0.60 | 1-3 |
| I felt supported by the therapist while reading my TN aloud. | 9 | 4.44 | 0.53 | 4-5 |
| I felt exposed after reading my narrative in the group. | 9 | 3.00 | 1.32 | 2-5 |
| I felt connected to the other group members while reading my TN aloud. | 9 | 4.33 | 0.50 | 4-5 |

| I felt safe in the room while reading my TN aloud. | 9 | 4.22 | 0.44 | 4-5 |
|--|---|------|------|-----|
| I wish I had not read my TN in the group. | 9 | 2.11 | 0.60 | 1-3 |
| I felt in control while reading my TN aloud. | 9 | 3.56 | 0.88 | 2-5 |
| I felt that I could trust the other group members to keep my story confidential. | 9 | 4.22 | 0.44 | 4-5 |
| It was helpful to read my TN aloud. | 9 | 4.00 | 0.50 | 3-5 |

Table 3: TN Questionnaire Session 5.

Table 4 details participants' responses to a questionnaire administered at the end of the last session. Participants reported feeling less alone, closer to other group members, and proud of themselves for writing and reading their narrative. Participants also reported having insufficient time to process their TN. No participants endorsed regretting reading their narrative aloud nor feeling embarrassed about having shared their narratives. Participants endorsed that the exercises helped them process their NICU experience.

| Statement/Question | N | Mean | SD | Range |
|---|---|------|------|-------|
| It was helpful being able to share my TN in the group. | 7 | 4.43 | 0.54 | 4-5 |
| I had enough time to process my TN in the last session. | 7 | 2.71 | 0.76 | 2-4 |
| I regret reading my TN at the last session. | 7 | 1.57 | 0.79 | 1-3 |
| Hearing the TNs of the other group members was helpful to me. | 7 | 4.57 | 0.54 | 4-5 |
| I feel embarrassed about having shared my TN in the group. | 7 | 1.71 | 0.76 | 1-3 |
| I felt less alone after sharing my narrative. | 7 | 4.29 | 0.49 | 4-5 |
| I felt closer to the other members of the group after reading my narrative. | 7 | 4.00 | 0.58 | 3-5 |
| I feel proud of myself for writing and reading my TN. | 7 | 3.86 | 0.38 | 3-4 |
| Writing and reading my TN has helped me process my NICU experience. | 7 | 4.14 | 0.38 | 4-5 |
| Writing the TN should be included in future group therapy programs. | 7 | 4.29 | 0.76 | 3-5 |
| Reading the TN aloud should be included in future group therapy programs. | 7 | 4.43 | 0.54 | 4-5 |

Table 4: TN Questionnaire Session 6.

Qualitative Responses

Participants answered open-ended questions about their experience writing and reading aloud their TN after Sessions 4, 5 and 6. Before reading their TNs, many participants expressed fear that they would experience intense and difficult emotions. Participants described various challenges while writing their TNs, such as experiencing sadness, not having enough time to answer all the questions, and having difficulty describing all the details. Participants voiced rewarding aspects of writing their narrative, such as experiencing a sense of release, acknowledging their experiences, and realizing how far their baby had come. Participants reported a range of fears about reading their TN aloud, such as fearing that they would be judged, that they would not be able to get through it, and that they are not as strong as they thought they were. Five of the seven participants reported that they had no fears about hearing others' TNs in Session 5, while two participants noted fears of "I'm scared I'm going to cry again" and "[I fear] that they are in so much pain and I am not able to fully empathize with them because their trauma might be worse than my traumatic experience."

SWhen asked about what was most difficult about reading their TN aloud, several participants reported re-experiencing their trauma or emotions related to their trauma. Participants described finding aspects of the exercise rewarding, such as remembering things they had forgotten, releasing emotions, experiencing relief, and feeling validated. When asked what they learned from hearing others' TNs, one participant noted that each experience was unique, while six participants commented on seeing similarities and feeling less alone.

At the end of Session 6, participants responded to questions about their overall experience of the trauma exercises and the group in general. In response to the question "How do you feel now about having written and read your TN aloud?" five participants described positive experiences, involving catharsis, feeling proud of themselves, and appreciating knowing they are not alone. Two participants noted that they felt glad to have time to process the experience. Althoug one participant noted feeling embarrassed, while another commented that they did not write the entire narrative and felt that they did not write it well. Regarding whether they view their NICU experience any differently, three participants responded no, though one of them stated "No, but I was able to reflect more." Two participants noted that the experience seems less daunting and scary than before. Two participants expressed feeling less alone: "I feel I am not alone in the experience" and "I feel like it's a little easier knowing that I'm not alone. Although

our babies might not face the same challenges, we are all in the same place."

Distress Levels Throughout Trauma Narrative Exercises

Figure 1 illustrates mean distress ratings at each of the 12-time points. The highest increase in distress appears to have occurred while writing the TN. Seven of nine participants reported increased distress when writing their TN, while two participants reported that their distress level remained the same before and while writing their TN. Upon reading their TN aloud, seven of the nine participants reported an increase in distress, while two participants reported a decrease in distress. Seven participants reported that their distress levels decreased from the beginning of Session 6 to the end of Session 6 (the last session of the treatment), while one reported an increase and one reported that their distress level stayed the same.

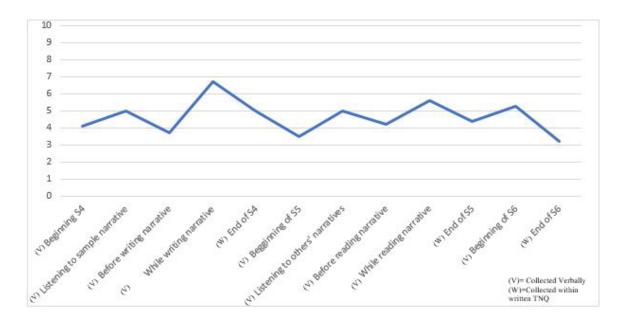


Figure 1: Mean distress across sessions 4, 5, 6.

Paired sample t-tests of specific time-point changes were run in order to assess the three hypotheses about distress level changes: (1) that mothers would experience an increase in distress while writing their trauma narrative, (2) that mothers would experience an increase in distress while reading their trauma narrative out loud, (3) that mothers would experience a decrease in distress by the end of the last session (3). Paired sample t-tests found each of these hypothesized changes to be significant:

- 1. Increase (t(9) = -3.36, p = .01) from beginning of session four (mean = 4.11, SD = 2.26) to writing the TN (mean = 6.71, SD = 2.33).
- 2. Increase (t(9) = -2.68, p = .03) from beginning of session five (mean = 3.50, SD = 1.54) to reading the TN aloud (mean = 5.56, SD = 2.96).

3. Decrease (t(9) = 3.74, p = .01) from beginning of session six (mean = 5.2, SD = 2.37) to end of session six (mean = 3.21, SD = 1.41).

The individual distress rating trajectories of two subjects are depicted in Figure 2. The trajectories demonstrate similar relative increases in distress while writing and reading aloud the trauma narrative, and reduction in distress by end of Session 6. The contrast of these trajectories illustrates how subjects rate their own distress at different levels, given the subjective and individualized nature of observing and experiencing internal distress. However, both subjects report a relative increase in distress at similar time points, for example subject A reporting increase from 2 to 5 and subject B from 7 to 10 while writing the trauma narrative.

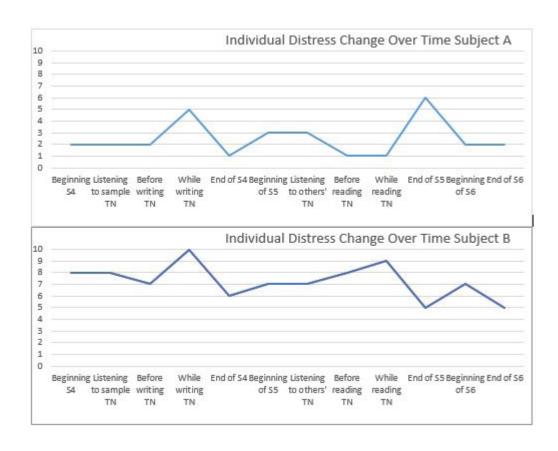


Figure 2: Individual distress changes over time for subjects A and B.

Discussion

As previously reported by Simon and colleagues [12], symptoms of PTSD in mothers of preterm infants participating in the 6-session group therapy intervention showed a significant decrease from baseline to six-month follow-up and from posttreatment to six-month follow-up. This is consistent with reviews of the efficacy of group cognitive therapy in individuals with other categories of trauma [14]. In the current study, we explored the hypotheses that although mothers would experience increased stress for both

writing and recounting the TN, levels of distress would decrease following Session 6 and that mothers overall would perceive the experience of writing and reading their TN aloud as helpful. Extensive psychoeducation related to the NICU environment and trauma symptoms, cognitive restructuring, and relaxation training were provided in Sessions 1, 2 and 3 to prepare mothers before recounting their TN in the group setting.

Writing the Trauma Narrative

Mothers reported increased levels of distress while writing their TN. Mean levels of distress peaked in the middle of Session 4 while mothers wrote their TN but decreased towards the end of the session (Figure 1). However, when questioned about the subjective experience of writing the TN, mothers reported feeling safe, in control, and supported by other group members and the therapist and no mothers expressed wishing they had not participated in the exercise. This finding is consistent with the literature supporting the efficacy of group trauma-focused CBT for PTSD which incorporates writing an account of their traumatic experience as an opportunity for patients to rebuild a sense of safety and trust [15] and which is considered especially important for individuals with PTSD [16].

One commonly raised concern about the TN exercise is that participants often experience an increase in flashbacks because they are approaching instead of avoiding their traumatic memories for the first time [17]. It has been suggested that some patients might conclude that retelling and reliving the traumatic memory while recounting their TN is in itself traumatic and that without proper preparation, such interventions may worsen trauma symptoms. This may be one reason why CISD has in some studies been found unhelpful, or in some cases, to have worsened outcomes [8,9]. Our results demonstrated that some participants did in fact endorse feeling as if they were reliving the event while writing the narrative. However, all mothers responded neutrally or affirmatively when asked if it was helpful to write the TN, and no mothers endorsed wishing they had not written the TN. By contrast, participants' responses suggest that it was possible for them to feel safe, in control, and supported in the group setting, even while experiencing flashbacks. Resick et al. [17], in the CPT manual, recommend that therapists explain that an increase in flashbacks may be normal and reflect a positive sign that patients are demonstrating engagement and decreased avoidance, and that flashbacks will likely decrease over time.

Reading the Trauma Narrative

Data from the current study indicates that mothers felt supported, safe, and in control while reading their TN aloud in the group setting. Although mothers reported an increase in subjective distress in the course of reading their trauma narratives in Session 5, levels of distress decreased over the course of the session and most participants endorsed positive experiences of reading their TN aloud (Figure 1). Mothers also reported feeling supported by and more connected to the other group members after reading their TN. Some participants endorsed feeling like they were reliving their experiences, others endorsed feeling exposed, and one reported feeling embarrassed when reading narratives aloud. However, no participants endorsed wishing they had not shared details from their narrative or regretted sharing their TN with other mothers.

These impressions were supported by responses of mothers given at the end of the 6-session treatment. Participants reported feeling less alone, closer to other group members, and proud of themselves for writing and reading their narrative. Participants endorsed that the exercises helped them process their NICU experience. It is possible that the interpersonal nature of reading aloud and viewing the group as supportive may contribute to these positive reactions. The literature notes that trauma exposure in group CBT for PTSD allows patients to connect with others with shared experiences, which may reduce isolation and stigma [15]. It is possible that the process of hearing others' narratives and experiencing others bearing witness to their own narrative assisted mothers in feeling more connected to one another. Reading the TN aloud in a group setting is hypothesized to encourage patients to work together therapeutically and to offer alternative perspectives following an imaginal exposure [15]. Patients may be more open to feedback from other group members than from clinicians, and such comments may have stronger effects when coming from someone with shared experiences [15]. It has also been observed that group members encourage each other to engage in exposure work [18]. Some participants endorsed feeling overwhelmed, exposed, and feeling as if they were reliving the experience when reading their narrative aloud.

Our findings suggest that despite experiencing some difficult emotions, participants viewed reading the narrative aloud as helpful. Most notably, all participants endorsed feeling less alone after sharing their narrative. This finding is consistent with Hobfoll & colleagues' [19] identification of a sense of connectedness as one of the five major principles in effective peri-trauma preventative interventions. We also observed that in several groups, mothers exchanged contact information and communicated with each other between sessions. This phenomenon is consistent with studies on postpartum depression that have found that social support is associated with decreased risk of developing postpartum depression symptoms [20].

Length of Treatment

Some participants reported that they did not have enough time to process their TN, which suggests that more time may be needed for participants to write and read aloud their TN. This was a concern of the investigators during the design of the study given the choice to create a brief 6-session intervention which is

significantly lower than the typical 12- to 15-session interventions that are typically used in trauma treatment. These observations were also noted in Simon and colleagues' [12] findings that trauma symptoms improved more significantly in the four and a half months following treatment, rather than during the treatment itself, whereas in longer treatments, improvements are generally seen during the course of treatment. While this finding does raise the question of whether a longer treatment manual might be more effective, it is our impression that with a popluation whose length of hospital stay is unpredictable, this would lead to greater difficulty in both recruiting and retaining subjects.

Limitations

The three primary limitations of this study are the small sample size, the sample composition, and the absence of a control group. With only nineteen participants in the previous analyses of PTSD symptoms [12] and nine participants in the current study's TN analyses, caution should be exercised in interpreting our findings.

In addition, the entire sample was married or in an unmarried, committed relationship, so further research is needed to determine if the treatment would have different effects on single mothers. The sample did not include fathers of preterm infants, who may also experience PTSD and Acute Stress Disorder (ASD) after their infant's premature birth [21]. Our sample was also highly educated. It is possible that this sample of participants may have been more amenable to the writing and reading aloud involved in the TN exercises. There was limited variability in race and ethnicity of participants. Future research should examine implicit bias in recruitment efforts and treatment delivery to support parents of preterm infants of all racial and ethnic backgrounds.

Given that PTSD symptoms sometimes improve naturally over time after a traumatic event, the lack of a control condition limits our ability to conclude whether the intervention itself resulted in participants' shifts in experiences of their trauma, or if such changes would naturally occur in the absence of intervention as well. It would be advantageous to create an RCT of group trauma-focused CBT compared to an active treatment group (such as psychoeducation and supportive group therapy) in order to determine whether symptom change and the reduction in isolation is due to the specific treatment components of trauma-focused CBT. Participant responses to the intervention may be viewed as subjective evidence for its efficacy and the previously reported PTSD symptom reduction adds objective evidence that the intervention was helpful [12], however further studies using comparison groups are needed.

Clinical Implications

This study provides numerous insights for the group therapist facilitating trauma-focused CBT for mothers of preterm

infants. Given the shared theme across responses about reduced feelings of isolation, the connections between group members appear to be crucial for treatment benefit. Thus, the group therapist should prioritize strengthening group cohesion over completing specific tasks in treatment. When introducing the TN exercises, the group therapist should educated mothers about the possibility of potential difficult reactions including flashbacks and increased distress. It may be helpful to explain that such symptoms tend to dissipate in the weeks following the TN exercises. If practicing in settings with more flexible time parameters, the group therapist may consider extending the treatment to eight to ten sessions. Spending two sessions on writing the narrative and two sessions on reading the narratives aloud may allow group members to process their emotional experiences more fully.

Conclusions

While a larger study is needed, the current research suggests that the use of TN in a group setting is a feasible and acceptable intervention with the ability to support mothers of preterm infants to feel less isolated. Rather than using a desensitization model with repeated exposure as in other trauma treatments, the TN in this format may serve to provide mothers with an opportunity to hear each other's stories and bear witness to their experiences. That almost all participants responded to open-ended questions about their group experience with similar comments about feeling less isolated supports the hypothesis that the TN experience would reduce feelings of isolation.

These findings are especially important in the context of the research literature on isolation, PTSD, the NICU experience, and COVID-19 interventions, some of which heighten isolation in the face of healthcare stresses. Researchers have hypothesized that trauma survivors with poor social support might be at increased risk of PTSD [22] because they may not have the opportunity or may not be encouraged to speak about the event [23]. Feelings of isolation are common for mothers of preterm babies [6] and may be a risk factor for developing postpartum symptoms. The seeking of and connection with social support has been consistently found to be negatively associated with the development of PTSD [24]. Thus, if mothers feel less isolated and more connected through the group experience, this may reduce their risk of developing PTSD. In this study, participants were encouraged to read their narratives to their partner or loved ones outside of these NICU sessions. In that way, creating a coherent narrative of their experience offered benefits that extended beyond the timescale and walls of these sessions.

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Conflicts of Interest

Richard Shaw receives publishing royalties from American Psychiatric Publishing. There are no other Conflicts of Interest to disclose.

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References

- Malouf R, Harrison S, Burton HA, Gale C, Stein A, et al. (2022) Prevalence of anxiety and post-traumatic stress (PTS) among the parents of babies admitted to neonatal units: A systematic review and meta-analysis. EclinicalMedicine 43: 101233.
- Bernard RS, Williams SE, Storfer□Isser A, Rhine W, Horwitz SM, et al. (2011) Brief cognitive–behavioral intervention for maternal depression and trauma in the neonatal intensive care unit: A pilot study. J Trauma Stress 24: 230-234.
- Horsch A, Tolsa JF, Gilbert L, du Chêne LJ, Müller-Nix C, et al. (2016) Improving Maternal Mental Health Following Preterm Birth Using an Expressive Writing Intervention: A Randomized Controlled Trial. Child Psychiatry & Human Development 47: 780-791.
- Jotzo M, Poets CF (2005) Helping parents cope with the trauma of premature birth: An evaluation of a trauma-preventive psychological intervention. Pediatrics 115: 915-919.
- Shaw RJ, Bernard RS, Storfer-Isser A, Rhine W, Horwitz SM (2013) Parental Coping in the Neonatal Intensive Care Unit. Journal of Clinical Psychology in Medical Settings 20: 135-142.
- Affleck G, Tennen H, Rowe J (2012) Infants in Crisis: How Parents Cope with Newborn Intensive Care and Its Aftermath. Springer Science & Business Media.
- Taylor S, Fedoroff IC, Koch WJ, Thordarson DS, Fecteau G, et al. (1999) Posttraumatic stress disorder due to motor vehicle accidents: Patterns and predictors of response to cognitive-behavior therapy. J Consult Clin Psychol 69: 541-551.
- McNally RJ, Bryant RA, Ehlers A (2003) Does Early Psychological Intervention Promote Recovery From Posttraumatic Stress? Psychological Science in the Public Interest 4: 45-79.
- Mitchell AM, Sakraida TJ, Kameg K (2003) Critical incident stress debriefing: Implications for best practice. Disaster Manag Response 1: 46-51.
- Bisson JI, Jenkins PL, Alexander J, Bannister C (1997) Randomised controlled trial of psychological debriefing for victims of acute burn trauma. Br J Psychiatry 171: 78-81.

- van Emmerik AA, Kamphuis JH, Hulsbosch AM, Emmelkamp PM (2002) Single session debriefing after psychological trauma: A metaanalysis. Lancet 360: 766-771.
- Simon S, Moreyra A, Wharton E, Dowtin LL, Borkovi TC, et al. (2020) Prevention of posttraumatic stress disorder in mothers of preterm infants using trauma-focused group therapy: Manual development and evaluation. Early Hum Dev 154: 105282.
- Moreyra A, Dowtin LL, Ocampo M, Perez E, Borkovi TC, et al. (2020) Implementing a Standardized Screening Protocol for Parental Depression, Anxiety, and PTSD Symptoms in the Neonatal Intensive Care Unit. Early Hum Dev 154: 105279.
- Morrison N (2001) Group cognitive therapy: Treatment of choice or sub-optimal option? Behavioural and Cognitive Psychotherapy 29: 311-332.
- Barrera TL, Mott JM, Hofstein RF, Teng EJ (2013) A meta-analytic review of exposure in group cognitive behavioral therapy for posttraumatic stress disorder. Clinical Psychology Review 33: 24-32.
- Foa EB, Hembree E, Rothbaum B (2007) Prolonged Exposure Therapy for PTSD: Emotional Processing of Traumatic Experiences, Therapist Guide. Oxford University Press.
- Resick PA, Monson CM, Chard KM (2016) Cognitive Processing Therapy for PTSD: A Comprehensive Manual. Guilford Publications.
- Beck JG, Coffey SF (2005) Group cognitive behavioral treatment for PTSD: Treatment of motor vehicle accident survivors. Cogn and Behav Pract 12: 267-277.
- 19. Hobfoll SE, Watson P, Bell CC, Bryant RA, Brymer MJ, et al. (2007) Five essential elements of immediate and mid-term mass trauma intervention: Empirical evidence. Psychiatry 70: 283-315.
- Dennis CL (2003) The Effect of Peer Support on Postpartum Depression: A Pilot Randomized Controlled Trial. Can J Psychiatry 48: 115-124.
- Lefkowitz DS, Baxt C, Evans JR (2010) Prevalence and Correlates of Posttraumatic Stress and Postpartum Depression in Parents of Infants in the Neonatal Intensive Care Unit (NICU). Clin Psychol Med Settings 17: 230-237.
- Ozer EJ, Best SR, Lipsey TL, Weiss DS (2003) Predictors of posttraumatic stress disorder and symptoms in adults: A metaanalysis. Psychological Bulletin 129: 52-73.
- 23. Schauer M, Schauer M, Neuner F, Elbert T (2011) Narrative Exposure Therapy: A Short-Term Treatment for Traumatic Stress Disorders. Hogrefe Publishing.
- Brewin CR, Andrews B, Valentine JD (2000) Meta-analysis of risk factors for posttraumatic stress disorder in trauma-exposed adults. J Consult Clin Psychol 68: 748-766.
- Beck AT, Epstein N, Brown G, Steer RA (1988) An inventory for measuring clinical anxiety: Psychometric properties. J Consul Clin Psychol 56: 893-897.
- Davidson JR, Hughes D, Blazer DG, George LK (1991) Post-traumatic stress disorder in the community: An epidemiological study. Psychol Med 21: 713-721.