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Title: Effectiveness of a Counseling Intervention after a Traumatic Childbirth: A Randomized Controlled Trial

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Jenny Gamble RN, RM, PhD

Debra Creedy RN, PhD

Wendy Moyle RN, PhD

Joan Webster RN, RM, BA

Margaret McAllister RN, EDD

Paul Dickson BPsych(Hons)

Abstract:

Adverse childbirth experiences can evoke fear and overwhelming anxiety for some women and precipitate posttraumatic stress disorder. The objective of this study was to assess a midwife-led brief counseling intervention for postpartum women at risk of developing psychological trauma symptoms. **Method:** Of 348 women screened for trauma symptoms, 103 met inclusion criteria and were randomized into an intervention (n = 50) or a control (n = 53) group. The intervention group received face-to-face counseling within 72 hours of birth and again via telephone at 4 to 6 weeks postpartum. Main outcome measures were posttraumatic stress symptoms, depression, self-blame, and confidence about a future pregnancy. **Results:** At 3-month follow-up, intervention group women reported decreased trauma symptoms, low relative risk of depression, low relative risk of stress, and low feelings of self-blame. Confidence about a future pregnancy was higher for these women than for control group women. Three intervention group women compared with 9 control group women met the diagnostic criteria for posttraumatic stress disorder at 3 months postpartum, but this result was not statistically significant. **Discussion:** A high prevalence of postpartum depression and trauma symptoms occurred after childbirth. Although most women improved over time, the intervention markedly affected participants' trajectory toward recovery compared with women who did not receive counseling. **Conclusions:** A brief, midwife-led counseling intervention for women who report a distressing birth experience was effective in reducing symptoms of trauma, depression, stress, and feelings of self-blame. The intervention is within the scope of midwifery practice, caused no harm to participants, was perceived as helpful, and enhanced women's confidence about a future pregnancy.

Adverse childbirth experiences related to unexpected medical intervention, severe pain, or threat of death may evoke fear and overwhelming anxiety for some women and precipitate posttraumatic stress disorder (1–5). Trauma symptoms may include flashbacks, nightmares, numbness, irritability, sleep disturbances, anger, being easily startled, hypervigilance (especially about the baby), avoidance of all reminders of the traumatic event, panic attacks, physiological responses such as sweating, and palpitations when exposed to things that remind the woman of the traumatic birth (6).

Significant co-morbidity of depression and posttraumatic stress can occur, and both conditions share some similar symptoms (7,8). Furthermore, the consequences of postpartum emotional distress can be far reaching. Children of women who suffer mood disorders can have long-term disturbances to their emotional, behavioral, and cognitive development (9–11).

Only two studies have tested a counseling intervention specifically to reduce trauma responses after childbirth. One intervention, implemented by an obstetrician with psychotherapy qualifications, improved women's cognitive appraisal of the birth and reduced general mental distress and posttraumatic stress reactions (12). Although effective, the counseling intervention requires considerable specialist training. In the second study, a randomized controlled trial using standardized debriefing within 72 hours of giving birth was well received by participants and had no adverse effects, but it was ineffective in preventing postnatal psychological disorders such as depression and anxiety (13). Debriefing interventions were also used in another two studies (14,15) to relieve symptoms of postpartum depression but produced conflicting results.

Previous postpartum counseling intervention studies have been criticized in terms of selected outcome measures, inclusion criteria, and appropriateness of counseling and debriefing approaches (16,17). Timing of interventions and number of sessions have received scant

attention. It is possible that single debriefing sessions within the first few days after a traumatic birth are insufficient or possibly harmful (13,15,18). The integration of the trauma experience at a cognitive and emotional level also may be impossible for many postpartum women in a short time frame (19). Additional counseling sessions or more time may be required.

Despite inconsistent findings, women remain positive about opportunities to talk about difficult childbirth experiences with a supportive health professional (13,15,20). Furthermore, women have reported that debriefing facilitated their postpartum adjustment and recovery (13,15). In light of inconsistent results to date, our study aimed to evaluate a midwife-led brief counseling intervention for postpartum women at risk of developing psychological trauma symptoms.

Methods

Recruitment and Allocation

Participants were recruited from antenatal clinics of three maternity teaching hospitals in Brisbane, Australia, between April 2001 and February 2002. Participants were over 18 years of age, in the last trimester of pregnancy, expected to give birth to a live infant, and able to complete questionnaires and interviews in English. Women experiencing stillbirth or neonatal death were excluded. Consecutive women meeting the inclusion criteria were invited to participate and written consent was obtained.

Three hundred and forty-eight women were interviewed within 72 hours of birth to determine if they had experienced a distressing or traumatic birth. Criterion A of DSM-IV-TR (21) for posttraumatic stress disorder was used to screen women. This criterion seeks information about perceived exposure to a traumatic event and initial emotional response. Women were

asked if during labor or birth they had been fearful for their life or their baby's life, or feared serious injury or permanent damage. Women ($n = 103$) who responded positively to these questions, and therefore met criterion A of DSM-IV, were randomized using sealed, opaque envelopes containing computer-generated, random allocations, into the intervention ($n = 50$) or control group ($n = 53$). The research midwife providing the intervention was not blinded to women's allocation.

Data Collection

Women were recruited during their last trimester of pregnancy, and completed a questionnaire that included demographic information and details of their reproductive history, Edinburgh Postnatal Depression Scale (EPDS)([22](#)), Depression Anxiety and Stress Scale-21 (DASS-21)([23](#)), and Maternity Social Support Scale (MSSS)([24](#)). The EPDS and MSSS were repeated at 4 to 6 weeks postpartum, and all standardized measures (including DASS-21) were repeated at 3 months postpartum.

The Edinburgh Postnatal Depression Scale (EPDS) is a simple self-report questionnaire with 10 items designed to screen for depression. The range of possible scores is from 0–30 with higher scores indicating more negative feelings. Scores above 14 antenatally and 12 postnatally indicate depression ([22,25](#)).

The Depression Anxiety and Stress Scale-21 (DASS-21) is a set of three self-report scales, designed to measure depression, anxiety, and stress, and to emphasize states rather than traits ([23](#)). Participants respond by rating the degree to which each symptom was experienced over the last week on a 0–3 Likert scale.

The Maternity Social Support Scale (MSSS) is a brief tool that measures social support and factors consistently associated with postnatal depression when family and personal psychiatric history are excluded ([24](#)). The 6 items relate to family support, friendship, help from spouse/partner, experiencing conflict with spouse/partner, feeling controlled by spouse/partner, and feeling unloved by spouse/partner. Each item is measured on a 5-point Likert scale.

At 4 to 6 weeks and 3 months postpartum, participants completed the Mini-International Neuropsychiatric Interview–Post-Traumatic Stress Disorder (MINI-PTSD), a structured diagnostic interview for DSM-IV and ICD-10 psychiatric disorders. It elicits information on perceptions of the traumatic event, reexperiencing, avoidance, symptoms of increased arousal, and disturbance of everyday function. For the present study, wording on the MINI-PTSD was modified to reflect birth as the possible traumatic event. Validation and reliability studies have compared this tool to the Structured Clinical Interview (SCID-P) for DSM-III-R and the Composite International Diagnostic Interview (CIDI) for DSM-III-R. The kappa value was 0.78, sensitivity 0.85, specificity 0.96, positive predictive value 0.82, and negative predictive value 0.97. Interrater and test-retest reliability was high ([26](#)).

Procedure

Fifty women received the counseling intervention from the same research midwife within 72 hours of birth on the postnatal ward and again by telephone at 4 to 6 weeks postpartum. Counseling duration ranged from 40 to 60 minutes. The counseling intervention was based on a theoretical perspective ([27,28](#)), focus group discussions with childbearing women and midwives, and reviews of the literature ([16,17](#)). Counseling processes incorporated elements

of critical stress debriefing (29) and issues pertinent to the childbearing context. The intervention does not require sophisticated psychotherapeutic skills. An overview of the counseling model is presented in [Table 1](#). The research midwife was integrally involved in the development of the counseling protocol and received regular supervision. The control group received standard postnatal care.

A second research midwife, blinded to group allocation, conducted the 3-month follow-up telephone interview. The standardized measures were repeated, and 4 additional questions investigated women's feelings of self-blame, confidence about a future pregnancy, satisfaction, and preferred timing of the intervention among women in the intervention group.

Data Analysis

Differences between the groups on all categorical variable measures (MINI-PTSD, EPDS, DASS-21) were analyzed using Pearson's correlation and chi-square tests with risk ratios also included for all group comparisons. Group comparisons on scales that retained more interval-based properties (posttraumatic stress disorder symptoms) were analyzed using independent samples *t* tests.

Results

Of 412 women approached to participate, 12 refused or did not meet inclusion criteria. A CONSORT flow diagram ([Fig. 1](#)) depicts the 4 phases of the trial (enrollment, allocation, follow-up at 4–6 weeks, 3 months postpartum)(30). Of the women allocated to the intervention or control groups, only one woman in the intervention group could not be contacted at 4 to 6 weeks. She was successfully contacted at 3 months postpartum.

Sample Characteristics

Of 348 women screened following birth, 103 met criterion A of DSM-IV and were randomized into control or intervention groups. Most women were Caucasian and European, and had achieved all or part of their secondary education. The mean age of women was 28 years (range 18 to 46 yr, SD = 6.04 yr). Participants in both groups showed no statistically significant difference with respect to demographic characteristics; obstetric history; rate of obstetric intervention in the current pregnancy; antenatal EPDS, DASS-21, and MSSS scores; and in use of postpartum health or counseling services after hospital discharge. [Table 2](#) compares groups for demographic factors and parity and selected obstetric interventions.

Effect of Counseling Intervention

Posttraumatic Stress Disorder and Trauma Symptoms

No statistical difference occurred between the number of women meeting criteria for a diagnosis of posttraumatic stress disorder in the intervention and those in the control group at either 4 to 6 weeks postpartum ($\chi^2[1] = 0.236, p = 0.392$) or 3 months postpartum. However, there was a trend toward improvement in the intervention group at 3 months ($\chi^2[1] = 3.014, p = 0.075$). An independent samples *t* test of posttraumatic stress disorder total symptom scores revealed no differences between groups at 4 to 6 week follow-up, but a significant difference at 3 months postpartum ($t[101] = 2.144, p = 0.035$), suggesting that the intervention had a positive effect in reducing trauma symptoms over the longer term.

Depression, Anxiety, and Stress

At 4 to 6 weeks postpartum, 34 women (33%) had a total EPDS score of more than 12 (range 13–29). This prevalence is much higher than the postnatal depression rates of the general birthing population (between 10–16%) reported in other studies ([31–33](#)). Sixteen women in the intervention group and 18 women in the control group had EPDS scores greater than 12, indicating probable depression. At 3 months postpartum, 4 women in the intervention group

and 17 women in the control group scored greater than 12 on the EPDS. This difference was significant ($\chi^2[1] = 9.188, p = 0.002$).

Three women in the intervention group compared with 14 in the control group reported DASS-21 depression scores higher than 13 ($\chi^2[1] = 7.549, p = 0.005$). There was no statistical association between intervention and control groups for DASS-21 anxiety using a cutoff of more than 9 at 3 months. Fewer women in the intervention group reported DASS-21 stress scores greater than 19 when compared with the control group ($\chi^2[1] = 4.478, p = 0.029$) at this time ([Table 3](#)).

Cronbach's alpha reliability coefficients for the EPDS and DASS-21 were generally acceptable ([Table 4](#))(34). DASS-21 anxiety was marginally below 0.7 when used antenatally but was 0.843 when used at 3 months postpartum.

Self Blame, and Confidence About a Future Pregnancy

The counseling intervention had a positive effect on constructs related to self-blame and confidence. Intervention group women reported reduced levels of self-blame about the birth ($t[101] = -12.424, p < 0.001$; CI 95%, -1.57 to -1.14) and greater confidence about a future pregnancy than control group women ($t[101] = -9.096, p < 0.001$; CI 95% -2.49 to -1.59)([Table 5](#)).

Participants' Perceptions of the Intervention

Intervention group women rated usefulness of the counseling intervention in reconciling birth trauma. On a scale of 1 = "not useful" to 10 = "extremely useful," 43 women (86%) rated the intervention highly (rating 8, 9, or 10 out of 10). No respondent rated the intervention lower than 7 out of 10. Five women (10%) reported a traumatic birth but did not report difficulty in reconciling their experiences.

Feedback on timing of the intervention was sought from women in the intervention group. During development of the intervention, views of women about possible timing of an intervention were examined and will be published elsewhere. Most women (90%, $n = 45/50$) reported that the initial opportunity to talk about the birth should be within a few days of it. Of the remaining participants, 2 reported that contact during pregnancy would be useful, and 3 that it was more valuable to talk after events surrounding the birth had time to "sink in." These women favored 4 weeks postpartum as the ideal time for initial opportunities to talk about the birth.

Discussion

Childbirth is a significant and potentially traumatic event in the lives of women. Our study identified a high level of postpartum distress, with 29.6% of women experiencing a traumatic birth and meeting criterion A of DSM-IV for posttraumatic stress disorder. Of the 103 women randomized into the control or intervention groups, 33 women met the diagnostic criteria for acute posttraumatic stress disorder and 34 women had scores indicating probable depression at 4–6 weeks postpartum. At 3 months postpartum, 12 women met the diagnostic criteria for chronic posttraumatic stress disorder with birth as the identified traumatic event. The brief counseling intervention reduced trauma symptoms, depressive symptoms, stress, and feelings of self-blame. Confidence about a future pregnancy increased. Although no significant difference occurred in the number of women with posttraumatic stress disorder at 3 months postpartum or in anxiety scores, fewer women in the intervention group compared with the control group met posttraumatic stress disorder criteria or had anxiety levels above mild.

Findings from previous research investigating the effect of counseling on birth-related trauma symptoms have been mixed. Ryding et al reported a reduction in posttraumatic stress disorder symptoms and improved cognitive appraisal of the delivery by women after 3 or 4 counseling sessions ([12](#)). However, those women suffering the most distress did not

demonstrate a statistically significant improvement. A single debriefing session within 72 hours of birth showed that women in the intervention group fared no better, or worse, than those in the control group in terms of posttraumatic stress symptoms (13).

Similarly, the effect of brief postpartum counseling on symptoms of depression has varied. Research in the United Kingdom showed that women receiving a single counseling session before leaving hospital reported improved depression scores at 3 weeks (14). In contrast, an Australian study found that women participating in a single debriefing session had diminished functioning on one SF-36 subscale, role functioning—emotional, compared with women in the control group (15). Depression scores between the two groups were similar. Previous reviews of these studies concluded that a single counseling or debriefing session within the first few days of birth was likely to be ineffective in reducing symptoms of trauma or depression (16,17). The broader literature investigating counseling interventions for nonchildbirth-related trauma also suggests that single debriefing sessions seem to be ineffective or might contribute to a worsening of symptoms (18).

The positive results of our study may be attributed to several factors. DSM-IV criterion A was used to screen for inclusion into the control or intervention groups rather than an arbitrary indicator of a possibly traumatic birth experience, such as a cesarean section. This approach to screening acknowledges that it is women's perceptions of events, not simply nature of the event itself, which contributes to the development of trauma symptoms. The counseling session was offered within 72 hours of birth and again at 4 to 6 weeks postpartum instead of a single session soon after birth. Adherence to a standard time frame also enabled the incidence of acute and chronic trauma symptoms in childbearing women to be determined according to DSM-IV criteria. A midwife who was knowledgeable about childbirth and trained in the counseling approach conducted the sessions. Outcome measures specific to psychological sequelae (trauma symptoms, depression, anxiety, stress) were used. The use of standardized instruments allowed for replication and comparisons to be drawn with the general population

of birthing women. Finally, content of the intervention specifically reviewed management of labor. This review of the actions of others, particularly professionals involved in, and possibly contributing to, traumatic aspects of the event, differs from standardized debriefing or other counseling interventions reported to date.

This intervention highlighted the role of midwives in providing postpartum emotional care, and emphasized processes that are well within the scope of midwifery practice. Affording time to talk in a meaningful way to women, offering information about the birth, and assisting in the integration of an important life event will contribute to better maternity care. Unlike other successful interventions, the present model did not require substantial training and constituted a brief intervention that could be integrated with existing service frameworks.

Consistent with previous research, women were positive about the value of counseling to reconcile their birth experiences ([13,15](#)). Women identified the need for emotional support after a distressing birth experience. The present counseling model explored women's personal response to events and ways to reframe it. Counseling processes also examined factors that may have contributed to perceptions of poor care. Linking emotional responses with perceived causes of distress is one strategy to alleviate self-blame and promote resilience. It also enhances a sense of control and may prevent recurring distress in a subsequent pregnancy.

The present study had several possible limitations. The researchers' and participants' expectations could have unwittingly affected results. Double-blind procedures can minimize this effect ([35](#)), but were not possible in our study because of the nature of the intervention. Likewise, participation in research can alter behavior and bias results. The application of psychological measures at similar intervals for both control and intervention groups would possibly mitigate this effect, since participants in the control group also had contact with the researcher.

The results cannot be generalized to all cultures. Using the telephone as a means of postnatal contact may compound differences among different ethnic groups, and using it for data collection and one phase of the intervention excluded women with low English competency. Difficulties in communicating effectively with women for whom English is their second language may place them at increased risk of trauma. This group warrants specific future attention.

It is possible that study women who reported posttraumatic stress disorder symptoms or meeting its diagnostic criteria had a history of the disorder that was subsequently transferred to childbirth. Future studies should consider screening for posttraumatic stress symptoms before birth.

Implications for Research

The high prevalence of psychological morbidity after childbirth raises concerns about continuing neglect of emotional aspects of care. Comparisons between the medical and midwifery-led models of care might yield useful insights.

Studies examining the symptom structure of posttraumatic stress reactions after childbirth would assist in further development of effective interventions and highlight differences and similarities between women's responses to traumatic childbirth experiences and other sources of trauma. The nature of the trauma, its duration and severity, losses involved, and interplay between physical damage/pain and betrayal by those expected to provide protection and care should be explored. Such investigations would enable a better understanding of specific factors in the nature of childbirth-related trauma that most affect women's intrapartum and postpartum emotional health.

Future studies could examine the long-term effectiveness of the intervention, and confirm that women do not experience adverse consequences as a result of counseling. Longitudinal studies would also provide insight into issues of delayed posttraumatic stress in motherhood

and effects on the mother–infant relationship. The study needs to be replicated with other midwives trained in using this counseling intervention to ensure that the intervention itself is effective rather than person–specific characteristics of the research midwife who counseled women in our study. Further analysis of the data will be conducted to examine factors associated with the development of trauma symptoms and other outcomes. More work is required on when to initiate the counseling intervention, number and timing of sessions, and whether the caregiver should be a midwife known to the woman or someone not previously involved in her care.

Implications for Practice

The high levels of emotional distress experienced by some women suggest that postnatal services should be expanded to provide women with the emotional support they need in the early postnatal weeks. Counseling training should be offered to maternity caregivers, especially midwives, to improve their confidence and ability to provide emotional support for childbearing women. This should include identifying those women needing referral to specialist counseling services. The role of a supportive health professional can have a critical impact on women's emotional health. Midwives are uniquely placed to fulfil this role, but more work is needed to develop their counseling knowledge and skills.

Conclusion

The intervention was effective in reducing symptoms of trauma, depression, stress, and feelings of self–blame. It was perceived as helpful and enhanced women's confidence about a future pregnancy. The intervention's content, processes, and timing were key factors influencing effectiveness but require further research. Importantly, the study found no indication of harm ascertained by standardized measures of psychological health. This finding should allay fears among clinicians that providing women with an opportunity to talk about their birth experience will not create problems or necessarily contribute to distress. This is particularly relevant in light of the adverse finding reported by Small et al ([15](#)) and the

broader literature on debriefing after nonchildbirth-related trauma. Maternity services need to provide counseling training for caregivers, screen women at risk of developing trauma symptoms after a distressing birth experience, and provide early intervention.

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