

Traumatic Stress Symptoms in Parents of Premature Infants

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Health crises and life-threatening medical conditions can have a significant impact on patients' psychological wellbeing. Researchers have documented that traumatic-stress symptoms can occur following events such as myocardial infarction, an ICU stay, or cancer. In some cases, patients who experience these events will meet full criteria for either Acute Stress Disorder or PTSD.

Preterm delivery of infants is another health event that can lead to PTSD for parents. By definition, a birth is preterm if it occurs before 37 weeks gestational age. Low birthweight (LBW) often co-occurs with prematurity and is also related to a number of serious health complications for babies. A baby is designated low birthweight (LBW) if their birthweight is below 1500 grams (5.5 lbs.). As younger and smaller babies are being saved, there are the categories of very low birth (VLBW: <1000 grams) and extremely low birthweight (ELBW: <500 grams). Babies as young as 21 weeks gestation have survived, and were eventually discharged from the neonatal intensive care unit (NICU), but the mortality and morbidity rates for the youngest and smallest infants is still quite high.

A preterm birth can be a life-threatening event for both mother and baby. Even when not life-threatening, preterm birth precipitates a psychological crisis. Women who give birth prematurely must face the reality of an infant who may be sickly or fragile when they themselves are psychologically and physically depleted. The babies may also be born following a history of infertility, difficult pregnancy and/or an emergency delivery.

One mother who experienced this situation, Jan, described her feelings after the birth of her daughter. Her daughter was delivered 6 weeks premature, via emergency cesarean section, after Jan developed eclampsia, a life-threatening complication of pregnancy.

They took her away right after delivery. I never got to hold her, after all that [the difficult pregnancy and delivery]. They brought her back, but my arms were tied to the delivery table. I wish they had released at least one arm. It was really hard.... Leaving the hospital without the baby was really bad. I left early because I didn't want to leave at 11 am with all the other moms and babies.... I shouldn't complain because she only had a few preemie problems. Others in the nursery were so sick. But it was very stressful. It was awful to see them putting the feeding tube down her throat, hearing her gagging and crying. It makes me cry now just to think about it.

In some cases, especially with babies who are very sick, mothers may experience anticipatory grieving, and begin to mourn the loss of their infants. In this process, they may distance themselves from their babies in order to prepare themselves for their babies' eventual death. When babies recover, this process of mourning is interrupted,



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and mothers have to readjust. There are several factors that can influence parents' reactions following a preterm delivery. These include the overall severity of their babies' illness, a history of prior infant loss, and the type of intervention they receive.

The majority of research has been done with mothers. But recent studies that have included fathers have found that they are not immune to traumatic-stress reactions following a preterm delivery. These factors are described below.

Severity of Illness

Severity of illness or degree of prematurity can affect parental mental health. The range of illnesses or problems of premature infants varies tremendously. Some babies are hospitalized for only a few days, while others may be in intensive care for several weeks or months.

A study of 40 parents of babies in the NICU found that 44% of the mothers met full criteria for acute stress disorder, while none of the fathers did (Shaw et al., 2006). Acute stress disorder was also associated with alterations in the parental role, which included not being able to help, hold or care for the infant, protect the infant from pain, or share the infant with other family members.

The subjective appraisal of the seriousness of the illness was more predictive of mothers' reactions than the objective disease characteristics. Family environment and parental coping style were significantly associated with trauma symptoms. The authors recommended that care providers help with parental feelings of helplessness and inadequacy, even with severely ill infants.

Mandated bed rest during pregnancy can also make mothers feel that their babies are at high risk (Maloni et al., 2002). In a study of 63 women who were admitted to hospitals for antepartum bedrest, dysphoria was related to obstetric risk. Women whose pregnancies had the highest risk scores had the highest levels of dysphoria. Gestational age and health of the baby at birth were significantly correlated with postpartum dysphoria.

Prior Infant Loss

Mothers who have premature babies may also have a history of infertility, miscarriage or fetal loss, and this can also increase their risk for depression, anxiety, and posttraumatic-stress symptoms with subsequent pregnancies (Geller, 2004). Janssen and colleagues (1996) compared 227 women whose babies had died with 213 who gave birth to live babies. After 6 months, women whose babies had died showed greater depression, anxiety, and somatization than women who had given birth to live babies. At 1 year, the mental health symptoms had subsided, and the women who lost babies appeared comparable to those who had not lost babies. However, the authors noted that pregnancy loss is a stressful life event that can lead to a marked deterioration in a woman's mental state, particularly in the first 6 months.

Hughes, Turton, and Evans (1999) compared women who had had a previous stillbirth with a group of matched controls ($N = 82$). Women who had a stillbirth had more depression and anxiety in their third trimesters of a subsequent pregnancy, and more depression postpartum. The results were strongest for women who were most recently bereaved. Not surprisingly, depression during pregnancy was highly predictive of postpartum depression. In the year following delivery, 8% of the control group and 19% of the bereaved women were depressed.

Mothers and fathers can also have traumatic-stress symptoms during an ultrasound for a current pregnancy following a previous perinatal loss (O'Leary, 2005). They may experience the ultrasound as a harbinger for more bad news rather than as a reassuring diagnostic test. A descriptive phenomenologic study of 12 mothers and 9 fathers explored their experiences of ultrasound. All had lost babies in the previous year. Most of the parents indicated that the current ultrasound reminded them of when they had seen their babies die on the previous ultrasound. Many aspects of the experience reminded them of that event: the smells, sights, feelings and sounds of the ultrasound room. During the ultrasound, some mothers experienced flashbacks to when they lost their previous babies—even when the current baby was healthy. Both the fathers and the mothers showed equal levels of trauma symptoms following the ultrasound. Based on her research, O'Leary (2005) recommended recognizing that parents may be remembering their previous babies when undergoing testing for a current pregnancy. She also recommended preparing parents for possible flashbacks during ultrasound, and letting them hear the heartbeat first before the ultrasound, so that they realize that their current babies are very much alive. She also suggested recognizing that fathers may be as traumatized as the mothers and may also need support.

In a review of 17 studies, Badenhorst et al. (2006) also found that fathers were affected by prior loss. They experienced classic grief symptoms, but less guilt than mothers. Fathers also experienced anxiety and depression, but lower levels than mothers. They may also develop PTSD. The authors concluded that fathers may also be traumatized by stillbirth or neonatal death and may need help themselves before they can support their partners.

A study from Germany examined mothers' feelings of grief after a pregnancy termination for fetal anomalies (Kersting et al., 2005). This study compared the reactions of 83 women who had undergone a termination 2 to 7 years previously, 60 mothers who had undergone a termination 14 days prior, and 65 women who had had full-term babies. Contrary to their expectations, they found that there was no difference in traumatic-stress symptoms between the two groups who had a termination. Both groups differed significantly from the mothers who had healthy full-term babies, and were significantly higher on all three subscales of the Impact of Events Scale. The events experienced as traumatic were the invasive medical procedures, the wait for labor pains to begin, and the delivery of a dead fetus. The authors noted that mothers experienced intense grief reactions in addition to trauma symptoms. They concluded that these terminations had been emotionally traumatic

events that led to severe posttraumatic-stress responses that persisted for years.

Reproductive loss or preterm delivery can be life-threatening for mothers as well. Van Pampus and colleagues (2004) described three case studies where mothers developed trauma symptoms after their experience with HELLP syndrome. HELLP syndrome is a serious form of preeclampsia that includes hemolysis, low platelets and liver damage. HELLP syndrome is a potential cause of mother and infant mortality and morbidity. Even several years after the event, the women described themselves as highly fearful and they did not want to become pregnant again for fear of what might happen. They noted that women who experienced HELLP syndrome may suffer from significant emotional sequelae and should therefore be monitored so that they might receive intervention.

Health care providers can provide support for mothers in the wake of infant loss, and this support can ease grief and perhaps prevent trauma symptoms. In a study of women in Sweden who had given birth to live or still born babies, 314 had had a stillborn baby (Radestad et al., 1996). Among these women, 80% had caressed their babies, 90% reported that the medical staff showed respect, and almost 70% reported that the hospital had good routines to support mothers of still born children. However, there was room for improvement. Thirty-seven percent reported that they had been deeply hurt or angered by the behavior of the medical staff. When pictures of their babies were taken, 70% of mothers indicated that they were very or quite satisfied. But about 16% were not at all satisfied, and much had to do with the lack of care taken when the photo was taken (e.g., the baby was placed on the floor for the photo, or the baby was covered with blood). Twenty-one percent had no token of remembrance of their babies.

Interventions

Kangaroo Care

One technique that can be useful for mothers of premature or ill infants is Kangaroo Care. Kangaroo Care involves placing the baby, wearing only a diaper, between the mother's breasts or on one breast, under her clothing for extended skin-to-skin contact. The babies are held in a sling or pouch. Fathers can also do Kangaroo Care. The benefits for babies appear almost immediately. The babies are calmer and their body temperature stabilizes. They cry less, thereby conserving precious calories. The babies do better physically, and are discharged from the hospital earlier. Mothers also benefit. They feel more confident in caring for their babies, and are more likely to form secure attachments.

As an intervention, Kangaroo Care has a fascinating history. It's something we never would have tried in the U.S. if it had not been tried first under the extreme conditions of countries in the developing world. Kangaroo Care was started by two Columbian neonatalogists in Bogota. They were faced with a dire situation: namely, a 70% mortality rate for preterm infants. They had no isolates for these babies. Hospital temperatures were often 50° or cooler due to irregular electrical service. In order to address these issues,

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these physicians tried keeping mothers and babies together, with skin-to-skin contact. They soon learned that Kangaroo Care was good for both—and it cut the mortality rate in half.

In a study in India, Parmar and colleagues (2009) studied families of 135 babies with an average birth weight of 1460 gm and a gestational age of 30 weeks. Kangaroo Mother Care (KMC) was started in the first week of life. They found that infants in KMC had an improved oxygen saturation levels, their infants' temperature and respiration stabilized, and heart rate was lowered by 3 to 5 beats. The mothers reported that they felt closer to their babies and that KMC elevated their mood, although they were initially frightened about trying it. The mothers also reported increased confidence in handling their babies. Health care workers reported that KMC made mothers feel more confident, increased breastfeeding, and that the babies cried less and slept more.

A study from Israel showed similar results with a larger sample (Feldman, Eidelman, Sirota, & Weller, 2002). This study randomly assigned preterm infants to either the Kangaroo Care (KC) or standard care. The mothers were matched for birth weight and gestational age of their infants, severity of infant illness, and demographic characteristics. At 37 weeks gestation, mothers in the KC group had more positive affect, touch, and adaptation to their infants' cues. The infants showed more alertness and less gaze aversion. The mothers were less likely to be depressed or report that their infants were abnormal. At 3 months, mothers and fathers were more sensitive and provided a better home environment (based on their score on the HOME inventory). At 6 months, the KC mothers were more sensitive to their babies' cues, and their infants scored significantly higher on the Bayley Mental Developmental Index and the Psychomotor Developmental Index. The authors speculated that Kangaroo Care influenced infant development directly by having a positive impact on infants' perceptual-cognitive and motor development. There may have also been an indirect impact because Kangaroo Care improved maternal mood, perceptions of their infants, and how they interacted with their babies.

Social Support Interventions

A more traditional social-support intervention also improved outcomes for mothers of premature babies (Jotzo & Poets, 2005). In this study, mothers were randomly assigned to a crisis intervention offered at 5 days postpartum or they received usual care. The intervention took place in the NICU two times a week, for 5 to 15 minutes. Elements of the crisis intervention included helping mothers reconstruct the events before and after their births, teaching them relaxation techniques, explaining stress and trauma responses, providing them with support during "emotional outbursts," discussing with them personal resources and current support, and offering them possible solutions for concrete problems. At discharge, mothers in the intervention group had significantly lower trauma symptoms than mothers who received standard care. This study

demonstrates that a relatively simple intervention can help prevent trauma symptoms in mothers of hospitalized infants.

Summary

The findings described above demonstrate that preterm delivery can lead to traumatic-stress symptoms in parents. But this reaction is not universal and by no means inevitable. Parents are more vulnerable to posttraumatic-stress symptoms if their babies are seriously ill or if they've experienced prior perinatal loss, a difficult birth, or other type of prior trauma. Care providers should be alert for possible depression and trauma symptoms. Two types of interventions have proven helpful in lowering the risk of depression and trauma symptoms: keeping mothers and babies together, with skin-to-skin contact, and more traditional crisis intervention.

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