Anxiety After Miscarriage: A Review of the Empirical Literature and Implications for Clinical Practice

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ABSTRACT: Background: *Most practitioners now view a miscarriage as a significant psychosocial stressor that results in a high level of dysphoria and grief. Anxiety, although also commonly present, is less frequently considered and less frequently addressed. A review of the empirical literature was conducted to determine if anxiety after a miscarriage is elevated, and if risk is increased for particular types of anxiety syndromes. An attempt was also made to identify the types of interventions that have been found to be helpful in alleviating anxiety.* **Methods**: *An electronic search of the Medline and Psych Info databases were conducted using the keywords "miscarriage," "perinatal loss," "pregnancy loss," "anxiety," "trauma," and "stress." The searches were not intentionally circumscribed by date. Further searches were then carried out using references. Studies were subsequently included only if most women in a study sample experienced the pregnancy loss before 20 weeks' gestation.* **Results**: *The literature was relatively limited. With respect to level of anxiety after a miscarriage, 4 studies were located that employed a matched comparison group design, and 3 that employed a follow-up design. Three studies that used a matched comparison design were located with respect to an increased risk for particular anxiety syndromes. A significant percentage of women experience elevated levels of anxiety after a miscarriage up until about 6 months post-miscarriage, and they are at increased risk for obsessive-compulsive and post-traumatic stress disorder.* **Conclusions**: *Practitioners, as part of routine care after a miscarriage, should screen for signs of anxiety as well as depression. When signs of anxiety are present, opportunities for catharsis, understanding, and legitimation are likely to be helpful, as is reassurance that the stress is likely to appreciably lessen over the next 6 months. (BIRTH 31:2 June 2004)*

Miscarriages occur in 12 to 24 percent of clinically recognized pregnancies (1,2). Defined as the unintended termination of a pregnancy before the third month of gestation (3), miscarriages often result in high levels of emotional distress. Since a miscarriage has been viewed typically as a loss event that results in dysphoria and grief (4), depression is seen as the primary psychological risk (5,6). Given the often sudden and unexpected nature of the experience, however, miscarriages are also frequently anxiety provoking (7,8), particularly when severe pain, an emergency hospitalization, and surgery are involved (6).

Only a limited literature exists relating anxiety to pregnancy loss. Within this sparse literature, miscarriages are often not considered uniquely, but are usually discussed as part of the broader category of perinatal loss (9–11). This paper presents, first, a review of the empirical literature relating anxiety and miscarriage exclusively, and second, an outline of assessment and treatment suggestions for practitioners.

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Review of the Literature

An electronic search of Medline and Psych Info databases was conducted in January and February 2003, using the key words "miscarriage," "perinatal loss,"

"pregnancy loss," "anxiety," "trauma," and "stress." Further searches were then conducted based on the references cited in the studies located. Given the focus on early loss, out of the 20 studies that were identified, only the 10 in which participants experienced a pregnancy loss during the first 20 weeks of gestation were included. The search was not intentionally limited by date, or by language, if an English abstract was available. Studies were not excluded based on their methodological quality other than to ensure that those included used a quantifiable set of measures and a systematic, replicable design. Studies that addressed the relationship between miscarriage and level of anxiety are examined first, followed by a review of studies that addressed the relationship between particular syndromes of anxiety and miscarriage.

Level of Anxiety and Miscarriage

The 7 studies examining the relationship between level of anxiety and miscarriage (Table 1) employed different study designs and different self-report psychiatric rating scales. The results produced, however, are consistent. Women who miscarry experience elevated anxiety starting immediately after the miscarriage. The anxiety tends to remain centered on pregnancy-related issues, and is often characterized by the presence of a relatively high level of somatic complaints. The level of anxiety gradually declines over a period of 6 months, and fully remits by about 1 year. Whereas the anxiety experienced after a miscarriage is likely to cause painful feelings of distress, the presence of this relatively high level of anxiety, in and of itself, is not an indication that the individual is experiencing a mental disorder. For a formal diagnosis of mental disorder to be warranted, evidence is needed to show that the woman, as a result of being anxious, is failing to manage important, everyday tasks adequately, and is experiencing particular signs and symptoms of anxiety that conform to the criteria of a specific anxiety disorder (17).

Anxiety Syndromes and Miscarriage

The risk for particular types of anxiety syndromes after a miscarriage has been examined in several studies. The most comprehensive was carried out by Geller et al, who compared 229 women who miscarried with a matched cohort of 230 women drawn from the community (8). Based on a standardized and structured diagnostic interview, women who miscarried evidenced a significantly elevated risk for an initial or recurrent episode of obsessive-compulsive disorder, a substantial but not statistically significant elevated risk for a non-comorbid, panic disorder, and no increase in risk for phobic disorders relative to a community sample. Thus, consistent with the studies reviewed earlier that examined level of anxiety and miscarriage, among women who miscarry, 15.7 percent experienced one of the three anxiety disorders assessed (i.e., obsessive-compulsive disorder, panic disorder, phobic disorder) compared with 10.9 percent of the community sample, resulting in a relative risk of 1.5 for having any one of the three disorders. With respect to obsessive-compulsive disorder, 3.5 percent experienced the disorder compared with 0.4 percent of the community sample, resulting in a relative risk of 8.0.

The incidence of posttraumatic stress disorder has also been examined. In a prospective longitudinal study, 1,370 pregnant women were recruited early in their pregnancy (18). Most of the 113 women who subsequently experienced a pregnancy loss did so within the first 20 weeks' gestation, with the mean gestational age at the time of the loss being 11.4 weeks. A Posttraumatic Symptom Scale administered at 1 and 4 months after pregnancy loss indicated a prevalence of the disorder of 25 and 7 percent, respectively. The level of severity of symptoms found at 1 month was similar to that found in other traumatized populations.

With respect to the specific symptoms of trauma endorsed, 77 percent of women described intrusive recollections, distress when exposed to reminders of the miscarriage, and flashbacks, and 68 percent described strong feelings of helplessness. These results are consistent with the analysis by Defrain et al of 172 mothers' writings about their miscarriage experience, with disturbing flashbacks and nightmares also said to be common (19). Walker and Davidson similarly found a relatively higher level of posttraumatic stress disorder symptoms after an early pregnancy loss, but contrary to expectations, did not find any lessening of distress when women had warning signs that a miscarriage may be impending (20). Thus, no differences in levels of distress were found when 40 women who had perceived early indications that a pregnancy loss might be imminent were compared with 40 women who lacked this "early warning."

A miscarriage, therefore, seems to increase the risk for two particular types of anxiety disorders—an obsessive-compulsive disorder, particularly for individuals with a prior history of this disorder, and a posttraumatic stress disorder. The two disorders share the characteristic of involving repetitive thoughts. Especially for individuals with a premorbid history of obsessive-compulsive disorder, the

Table 1. Studies Relating Level of Anxiety to Miscarriage

Study	*Design*	*Nature/Size of Sample*	*Main Measure(s) Used*	*Results*
Beutel et al (1995) (12)	Matched group	94 women who miscarried 80 women age-matched in first 20 weeks of pregnancy 125 community controls	State-Trait Anxiety Scale	Women who miscarried experienced elevated anxiety compared with matched groups. Anxiety levels comparable at 6 mo.
Cecil & Leslie (1993) (14)	Follow-up	50 women who miscarried	State-Trait Anxiety Scale	State anxiety initially elevated and gradually declined over 6 mo. Trait and generalized anxiety remained low.
Franche & McKail (1992) (9)	Matched group	32 women who had early pregnancy loss 31 pregnant women without history of pregnancy loss in 10th to 24th wk	State-Trait Anxiety Scale Beck Depression Inventory Pregnancy Outcome Questionnaire	Women who had early pregnancy loss experienced elevated anxiety relative to comparison group.
James & Kristianson (1995) (16)	Follow-up	72 women who miscarried	State portion of State-Trait Anxiety Scale Perceived Stress Scale Miscarriage Reaction Inventory	Moderately elevated levels of stress and anxiety at 1 mo after loss.
Janssen et al (1996) (5)	Prospective	2,140 women in first trimester initially screened 227 women who experienced pregnancy loss (204; [91%]) in first 20 wk 213 women who gave birth to a living child	SCL-90 symptom checklist	Women who experienced pregnancy loss displayed higher levels of anxiety up to 6 mo after loss and higher levels of somatic complaints. By 1 yr, level of anxiety between groups was comparable.
Prettyman et al (1993) (15)	Follow-up	65 women who miscarried	Hospital Anxiety and Depression Scale	Anxiety initially elevated to clinically important levels and gradually declined by 12th wk.
Thapar & Thapar (1992) (13)	Matched group	60 women consecutively admitted for miscarriage 62 women attending an antenatal clinic at same hospital	General Health Questionnaire Hospital Anxiety and Depression Scale	Women who miscarried experienced higher levels of anxiety relative to comparison group at 24 hr and 6 wk, and relatively higher levels of somatic complaints.

tendency to obsess, or experience intrusive thoughts that cannot be controlled, is aggravated by the increased likelihood of the reexperiencing type of symptoms of trauma (i.e., flashbacks, nightmares), which represent the person's attempt to "take-in" the stressful elements of their pregnancy loss. Counterintuitively, early indications that a miscarriage may be impending do not seem to lessen the traumatic nature of the experience appreciably, and when signs of a posttraumatic stress disorder are evident, they are likely to persist for several months.

Implications for Clinical Practice

Given the likelihood of elevated anxiety levels after a miscarriage, practitioners need to screen for symptoms of anxiety as well as for grief and depression after the event. As noted, if anxiety is present, it tends to be primarily centered on the pregnancy loss and tends not to be free-floating. When symptoms are intense, they are likely to present as recurrent obsessions or compulsions, particularly in individuals with a history of obsessive-compulsive disorder (8), or as signs and symptoms associated with traumatic reactions. The woman's subjective appraisal of how she is coping strongly affects the degree of stress she experiences (21). An anxiety screening therefore would start with an inquiry about the woman's self-evaluation of the adequacy of her coping. Since a lack of support from a partner is strongly associated with elevated levels of anxiety after a miscarriage (22), the practitioner would next inquire about the type and amount of support available.

The remainder of the screening, based on the literature reviewed, is an attempt to determine if signs of general anxiety, obsessive-compulsive disorder, and/or a traumatic stress disorder are present. To screen for general anxiety, the woman is asked if she feels: keyed up or tense, irritable, fatigued, unable to concentrate or sleep, and/or has muscle tension. To screen for obsessions and compulsions, she is asked if she has had recurrent and persistent thoughts or images that felt intrusive and distressing, particularly in regard to the miscarriage, and/or is engaging in repetitive behaviors, such as hand washing or checking. Finally, to screen for traumatic symptoms, the woman is asked if she is experiencing recurrent and distressing recollections and/or dreams about the miscarriage in which she feels intensely fearful, helpless, or horrified; if she feels generally numb or detached since the miscarriage, and if she feels intensely distressed when exposed to cues that remind her of the event (17). If the screening indicates that the woman is highly symptomatic, is failing to cope adequately with tasks of everyday life, or both, a referral to a mental health practitioner should be considered.

In addition to the screening of anxiety symptoms, in the meeting with caregivers after a miscarriage, women should be provided with an opportunity to ventilate about their subjective experience concerning the miscarriage. At this time they can detail the thoughts and feelings they have experienced during and after the loss (23). In doing so, a woman is more likely to be able to regulate her distress (24), and develop a meaning as to why the loss occurred. The latter has been found to facilitate a sense of control (25), decrease self-blaming and blaming of doctors (16), and decrease intrusive thoughts about the loss (26).

A timely follow-up meeting has been found to reduce stress. In a study of 124 women who experienced a pregnancy loss, a follow-up session resulted in a significant decrease in their level of anxiety, independent of coping style or success in determining the cause of the miscarriage (27). The decrease in anxiety may be due to the opportunity to acquire knowledge to better anticipate what is usually felt as time passes and a sense of reassurance that what is currently being experienced is normal (30).

Psychological debriefing has also been considered to be a potential intervention for miscarriage, given the elevated risk of traumatic reactions (28). Defined as a form of crisis intervention, debriefing typically involves the woman disclosing the stressful elements of her experiences, followed by the practitioner validating, and, when possible, normalizing her reactions (29). Thus, Lee and Slade provided 39 women with psychological debriefing 2 weeks after they had experienced a miscarriage (6). Although the women perceived the intervention as helpful, on formal evaluation the intervention failed to influence emotional adaptation significantly. This negative finding is consistent with a recent Cochrane Review, which examined the effectiveness of debriefing as an intervention to manage psychological distress and prevent posttraumatic stress disorder (31). Not only was there no support for the benefit of debriefing in reducing anxiety or the risk of posttraumatic stress disorder, a significant increase in the risk of posttraumatic stress disorder was found for those who received debriefing. Psychological debriefing therefore does not appear to be a useful intervention to lessen distress associated with miscarriage.

Discussion and Conclusions

A miscarriage is typically viewed as a loss event that creates a risk for grief and depression. The risk for elevated levels of anxiety is often neglected, even

though the event is usually unanticipated and highly stressful. The empirical literature consistently demonstrates that women who miscarry are at risk for elevated levels of anxiety after a miscarriage, and in particular, at elevated risk for an obsessive-compulsive disorder and a posttraumatic disorder. Thus, a screening for anxiety needs to be routinely incorporated as part of a follow-up visit subsequent to a miscarriage. If anxiety is evident, the stressful nature of the miscarriage needs to be acknowledged, and when appropriate, normalized. In addition, reassurance needs to be provided that the anxiety is likely to remain focused on the pregnancy loss and will significantly diminish within 6 months.

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