# Eating Disorders &

**Abstract**

Disordered eating is a concern for clinicians providing care to adolescent female patients, yet the concern seems to drift from the forefront as the patient matures toward motherhood. As women become pregnant, they may adopt a negative body image that persists throughout the postnatal period with pregnancy-related weight gain. For women with a history of an eating disorder (ED), these physical changes may reactivate past coping strategies such as food restriction, binge eating, or induced vomiting to maintain prepregnancy weight. There is evidence that long-term breastfeeding fosters a positive maternal–child bond, aids in postpartum weight loss, and provides the mother with an opportunity to reestablish healthy eating habits for her infant. Because clinicians providing care for pregnant and postpartum women develop trusting relationships through frequent and prolonged contact with their patients, nurses can provide screening for ED symptoms and educate their patients about the positive effects of breastfeeding as it applies to her recovery from pregnancy and ED. This article discusses how breastfeeding can positively influence complications present in pregnant mothers with EDs and provides nurses with tools to cultivate the mother's positive self-image.

**Key Words:** Breastfeeding; Eating disorders; Postpartum depression; Pregnancy

# Breastfeeding

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Disordered eating in women of childbearing age is alarmingly present in Western cultures that idealize the slender feminine body. Despite suspected underreporting, 10 million females in the United States are currently living with anorexia or bulimia nervosa (BN), and an additional 25 million people are struggling with binge eating disorder (BED) (National Eating Disorders Association, 2005). The lifetime prevalence of individual EDs in the United States ranges from 0.6% to 4.5% (Hudson, Hiripi, Pope, & Kessler, 2007). According to the Office of Women's Health (2009) in the U.S. Department of Health & Human Services, about 2% of all American adults are obese, depressed, overconsumers of food who feel out of control with their eating habits. This type of ED is referred to as BED and affects women slightly more commonly than men (Office of Women's Health, 2009). When these women become pregnant, fears about their inadequate body shape are amplified by the physical and psychological changes that occur in preparation for their growing child. These physiologic pregnancy-related changes may further alienate women from the thin, youthful images accented across American media and may cause a resurgence in eating-disordered behaviors and an onset of postpartum depression (Astrachan-Fletcher, Veldhuis, Lively, Fowler, & Marcks, 2008).

Although a 2007 Norwegian Mother and Child Cohort Study found that women with BN report a significant decrease in ED symptoms during pregnancy, women self-reported an increase in ED practices during the postpartum and lactation period (Bulik et al., 2007). One study reported that 57% of bulimic patients had displayed more severe symptoms postpartum than during their prepregnancy period (Morgan, Lacey, & Segwick, 1999). Fixation on returning to prepregnancy weight can overshadow a mother's willingness to breastfeed her infant. Breastfeeding requires time, an elevated caloric intake to produce milk, and a dedication to transition toward her new role as mother. Regardless of her specific diagnosed ED, women with a history of harmful eating practices may find the responsibility and attention to their own bodies during breastfeeding difficult to accept. Perinatal and neonatal clinicians are in a unique and trusted position to present breastfeeding as a healthy practice that aids in physical and emotional recovery from disordered eating.

Perinatal and neonatal nurses should utilize their long-term clinical relationship with patients to open a candid discussion about pregnancy, body image, and healthy habits.

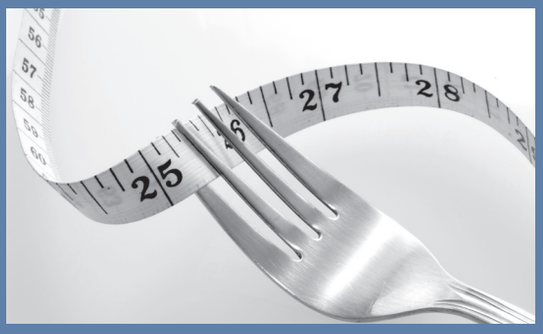
## Health Effects of Eating Disorders

There is a wide array of eating-disordered behaviors practiced among women throughout their reproductive years. Whether she is anorexic, bulimic, or an emotional eater, the disordered eating practices a woman engages in can be the source for serious health complications before, during, and following pregnancy. Clinicians should have an understanding of which possible complications these mothers-to-be might face and be prepared to intervene.

### Before Pregnancy

The physical and emotional toll of destructive eating habits begins to affect a woman's fertility years before she even considers motherhood. Lifetime prevalence of anorexia nervosa (AN) in adult women is cited to be 0.9% (Hudson et al., 2007). These patients often experience amenorrhea, osteoporosis resulting in fractures from poor calcium storage, fluid and electrolyte imbalances, cardiac arrhythmias, and even structural abnormalities of internal organs (Bansil et al., 2008; Deering, 2001). If these conditions persist chronically, they may cause further complications to both mother and child throughout pregnancy.

An anorexic woman who is amenorrheic should be aware that her lack of menstruation does not necessarily mean that she is infertile. These women should be informed that although they may not experience regular menstrual periods, ovulation can still occur (Mitchell & Bulik, 2006). Unplanned pregnancy is a less common but certainly avoidable complication of AN. Amenorrheic women who believe it is safe to have sex without the use



Moms who engage in consistent breastfeeding may alleviate many of the psychological and physical stressors amplified by history of an ED.

of contraceptives put their health further in jeopardy. Their nutritional intake may not be strong enough to sustain themselves and to carry a healthy child to term.

Underweight women with a history of EDs may have deficiencies in several vitamins and minerals due to inadequate diet. These deficiencies can have profound effects on the development of their infant and should be corrected promptly. It is well known that maternal folate deficiencies are associated with infant neural tube defects. Mothers with a history of AN have strong correlation with severe iron-deficient anemia and should supplement their diet with folate (Kumar, Rai, Basu, Dash, & Singh, 2008).

BN is associated with oligomenorrhea and less frequent and unpredictable menses in women. The lack of regular and full menstrual cycles may serve as false assurance that a woman is unable to become pregnant. It has also been noted that induced vomiting before effective absorption of oral contraceptive into the bloodstream may alter a woman's hormonal levels of estrogen and progestin. Without the appropriate balance of estrogen and progestin to inhibit the pituitary gland, a woman's hormonal cascade of luteinizing hormone and follicle-stimulating hormone is capable of inducing ovulation and to promote follicle development in the uterus. This cascade prepares the body for potential—and in this case unplanned—pregnancy (Buck, 2009).

Binge eating–disordered (BED) women generally have a higher BMI, are more likely to be obese, and have difficulty conceiving when compared with a normal-weight control group (Mitchell & Bulik, 2006). Hoek and van Hoeken (2003) found 1.2% to 4.5% of Americans battle BED. As a result of elevated BMI, BED women also suffer from comorbidities such as anxiety, depression, type 2 diabetes, gallbladder disease, hypertension, hyperlipidemia, cardiovascular disease, and certain types of cancer commonly associated with obesity in the population at large (Office on Women's Health, 2009).

### During Pregnancy

Although a discussion about the risks associated with continuing eating-disordered behavior during pregnancy is beyond the scope of this article, a few key points are presented. In general, although the rates of ED practices decrease during pregnancy (Little & Lowkes, 2000), there are still health concerns. Patients with AN have perinatal mortality rates more than six times those of healthy women (Deering, 2001). AN women also have increased risks of preterm delivery, cesarean birth, and forceps deliveries due to potential obstetric complications (Martos-Ordonez, 2005). BN women have an increased rate of lifetime miscarriages, preterm birth, hyperemesis gravidarum, and gestational diabetes (Morgan, Lacey, & Chung, 2006). The American College of Obstetricians and Gynecologists links obesity during pregnancy to an increased risk of gestational hypertension, preeclampsia, gestational diabetes, and large for gestational age infants (Mathieu, 2009). Many BED patients are often overweight or obese and may experience these health complications.

### After Pregnancy

The postpartum period for many women is marked by a preoccupation with shedding pregnancy pounds. Unhealthy obsession with weight loss has been associated with lack of intention to breastfeed (Patel, Lee, Wheatcroft, Barnes, & Stein, 2005). Moms who devote their time to dieting and exercising may not have sufficient energy available to devote to breastfeeding their infant.

A disproportionate number of infants born to anorexic and bulimic women are low birthweight and score lower than average on tests such as the Apgar test that assess the newborn's immediate transition from intrauterine to extrauterine life at birth (Bansil et al., 2008). A review article on the fetal effects of maternal ED addressed several detrimental fetal findings: increased risk of neuropsychiatric disease, low birthweight, delayed brain function, altered fetal stress response, cardiac anomalies, central nervous system defects, limb malformations, facial clefts, and renal insufficiencies (Micali & Treasure, 2009).

The postpartum period is challenging for any new mother. Eighty percent of women with EDs who suffered a relapse of behavior in the postpartum period felt they did so solely to lose weight gained during pregnancy (Astrachan-Fletcher et al., 2008). These women are not only encountering a new, more maternal body, but also balancing responsibilities of providing care to their infant with caring for themselves. First-time mothers are navigating unchartered territories when they step into their new role as parent. Their past expectations of the physical, emotional, and time demands that motherhood requires may completely mismatch their current experiences. These mismatches may be reconciled by a feeling of inadequacy and failure to lose postpartum weight while fulfilling the requirements of motherhood. Postpartum depression rates in women during this period are 50% for women with active ED symptoms, 29% for women with a history of an ED but who are not displaying symptoms, and only 10% within the general population (Astrachan-Fletcher et al., 2008).

## Recovery Through Breastfeeding

A dedication to breastfeed her infant can remind the eating-disordered woman to incorporate healthy habits into her new life. As breastfeeding or pumping becomes a part of her daily routine, she will begin to associate her body

with healthy practices such as providing nourishment for her infant. This association may serve therapeutic for women of low self-esteem, as it offers them new understanding of how binging, purging, or excessive calorie restriction will have a direct effect on their health and the quality of their breast milk.

Several studies have examined the effect of breastfeeding on weight retention after birth. Although it is difficult to compare these studies because the samples are so variable, the trend for greater weight loss in women while breastfeeding long term is consistent. Lederman's (2004) study discusses the interplay between a woman's increased caloric need during lactation and how she and her body respond to this need. Women who respond to this demand by decreasing their energy expenditure rather than increasing their nutritional intake were shown to retain more weight (Lederman, 2004). Women who chose to exercise to mobilize fat stores have been shown to adequately supply energy demands for lactation if they have sufficient body fat to burn during physical activity (Lederman, 2004). People who exercise maintain more lean tissue than strict dieters, thus increasing their body's ability to burn calories.

The hard facts point to greater weight loss in women who breastfeed exclusively for 6 months and continue to breastfeed with supplemental feedings for 12 months total (Baker et al., 2008). Baker's finding that breastfeeding exclusively for 6 months has an independent effect on reducing postpartum weight retention regardless of prepregnancy BMI is encouraging for all women including lower-weight moms. Even more convincing for overweight binge eating mothers is the finding that women with BMI between 18.5 and 34.9 can significantly reduce weight retention by continuing to breastfeed on a supplemental basis for 12 additional months (Baker et al., 2008). Committing to a longer duration of breastfeeding is critical for overweight mothers who wish to shed postpartum pounds because they tend to gain more weight during pregnancy, have more weight to lose in the postpartum period, and drop excess weight at a slower rate (Chapman, 2009).

A more specific investigation on the category of dieting and its effect on postpartum weight loss was conducted in 2009. Mohammad, Sunehag, and Haymond (2009) compared energy expenditures between a sample of breastfeeding mothers placed on high-fat and high-carbohydrate diets at separate times. These findings were consistent with previous studies of healthy, nonlactating, obese females indicating that energy expenditure was higher in mothers during a high-fat diet than during a high-carbohydrate diet (Mohammad et al., 2009). This suggests that lactating mothers may lose more weight while consuming a diet in which 30% of total calories come from carbohydrates, 55% are from fat, and 15% are drawn from protein (Mohammad et al., 2009).

Eating-disordered women are likely to experience extreme stress as they navigate their changing lifestyle, accept the responsibility motherhood, and come to terms with their maternal physiques. Oxytocin, the same maternal hormone that is responsible for milk letdown, has been shown to produce a sense of calmness and bonding between mother and baby (Riordan & Wambach, 2010). Not only is the perceived level of stress lower in lactating women, but there is evidence to support measured beneficial physiologic effects of lactation on the maternal response. Lower levels of the stress response components norepinephrine, glucose, cortisol, and adrenocorticotropic hormone have been measured in breastfeeding mothers than in nonlactating women (Riordan & Wambach, 2010). Other components released into breast milk can have a positive effect on both mother and child during this stress-induced period. Cholecystokinin (CCK) has been shown to have a therapeutically soothing effect on both mother and child during feedings. Released instantly upon suckling, CCK produces a sleepy, relaxed feeling of well-being in mother and infant (Riordan & Wambach, 2010).

A second type of hormones present in breast milk, called b-endorphins, is thought to help infants overcome the stress of labor and birth (Riordan & Wambach, 2010). These hormones may be particularly important for infants of eating-disordered mothers who tend to have higher obstetric complications and potentially longer durations of labor. The complications of birth common to these women can induce high levels of stress and are linked with an elevation of their cortisol levels (Dewey, Nommsen-Rivers, Heinig, & Cohen, 2003). In a 2002 study among Guatemalan women, elevated cortisol levels in mothers after labor have a correlation with delayed onset of lactation (Grajeda & Pérez-Escamilla, 2002).

## Clinical Implications

Nurses who care for pregnant or postpartum women are in a unique position to help eating-disordered women in a nonthreatening manner. Their consistent contact enables them to build a trusting rapport with these women and to engage patients in conversations about diet and health focused toward the optimal health of their infant. Clinicians should recognize that a majority of women with an ED will not disclose this information to their healthcare provider, so asking questions sensitively as a concerned healthcare provider for the infant would be best received. The British SCOFF Questionnaire, used by primary care providers and developed to be a fast and reliable screening tool for all EDs, has been evaluated to be 77% sensitive and 87% specific in identifying an ED (Lähteenmäki et al., 2009). The SCOFF Questionnaire was a beneficial supplement to physical exams performed by Finnish school nurses when detecting students who may not yet demonstrate objective physical findings of an ED (Hautala et al., 2009). If signs of disordered eating are detected, healthcare providers are in a powerful position to help establish their clients' good nutritional habits and healthy lifestyles from pregnancy onward.

Although the patient load and responsibilities for nurses today can be extensive, a nurse who can assess her patients' exercise habits and dietary intakes can educate these women on the healthiest approach to weight loss during their postpartum period. Protective measures occur during lactation to ensure both milk production and composition.

Table I: The 10-Step Process[a]

| The 10 Steps | Considerations for ED Women |
|---|---|
| Informed decision | Postpartum weight loss, appropriate infant weight gain, stress relief, and maternal–child bonding. |
| Establishment and maintenance of milk supply | Because of the risk of delay in lactogenesis II that these women may have, initiating pumping every 2–3 hours after breastfeeding will facilitate the establishment of milk supply. Milk supply should be closely monitored until it is established. |
| Breast milk management | Pumped milk is stored in a food-grade plastic container and labeled with date of expiration. |
| Feeding of breast milk | Education of how much milk the infant requires in a 24-hour period removes conflicts of interest within mothers who have a history of calorie restriction or binge eating. |
| Skin-to-skin care | Provides neurologic development and thermoregulation benefits to infant and increases breastfeeding duration and stress relief. |
| Non-nutritive sucking at breast | Accelerates the transition to breast and fine-tunes infant reflexes such as rooting and sucking. |
| Transition to breast | Allows the mother to feel that she is initiating healthy natural nutrition regimen for her infant. |
| Measuring milk transfer | Because these mothers are at risk for delay in lactogenesis II and their infants may be born preterm or low birthweight, it may be important to document breastfeeding success. Pre- and postweights allow the nurse and mother to know exactly how much the infant is taking from the breast. This may reduce the mother's anxiety while ensuring a positive breastfeeding experience. |
| Preparation for discharge | Recognition of infant feeding cues is key for women with a history of EDs as they may have had a history of suppressing their own physiologic hunger cues. |
| Appropriate follow-up | Healthcare providers can assess the mother's transition into the postpartum period and infant's health. |

ED = eating disorder.
[a]Adapted from Spatz (2004).

However, the types of fat within the mother's milk may change significantly based on the amount of saturated and unsaturated fats a mother consumes. Nurses should make the following recommendations to lactating mothers to ensure a milk supply that is rich in fats that are good for the infant's tissue structure, cell metabolism, and nerve impulse transmission:

- 300 mg/day intake of an w-3 fatty acid called docosahexaenoic acid to promote adequate infant brain development,
- 7% to 10% of her calories from saturated fats such as milk, meats, coconut, and palm oils, more than 10% of her total calories from monounsaturated fats, and about 10% from sources of polyunsaturated fats such as nuts and vegetable sources (Riordan & Wambach, 2010).

Malnourished mothers can supplement their diet with calcium to protect their own calcium stores (Riordan & Wambach, 2010).

Nurses who recognize the importance of breastfeeding in the mother–infant relationship will anticipate the emotional, nutritional, and psychological needs of eating-disordered women more effectively. Perinatal nurses can present breastfeeding as a positive tool to all women when coping with body changes and in viewing their own health as essential for the wellness of their infant. Women should be provided a list of local breastfeeding resources, ED support groups, lactation consultants, and dietitians. For women with financial difficulties or challenging time constraints, making an appointment to see a dietitian may be unfeasible. For these women, the United States Department of Agriculture has launched a link from their Web site that offers specific nutritional advice for women who are pregnant and breastfeeding (United States Department of Agriculture, 2009). The site, www.mypyramid.gov/mypyramidmoms/index.html, can assist women with meal planning, assess their intake for sufficient nutrients, and discuss healthy weight loss (United States Department of Agriculture, 2009).

Due to the likelihood for eating-disordered women to have higher obstetric complication rates, postlabor lactation support is critical in preserving the breastfeeding relationship and ensuring successful establishment of milk supply. Women diagnosed with an ED may be at risk for a delay in lactogenesis II because of an elevated stress level and high maternal BMI. Principles of the Baby Friendly Hospital Initiative such as breastfeeding within 1 hour of birth, rooming-in, and breastfeeding on demand are par-

ticularly important for this population. Not only do the mothers bring risk to the breastfeeding relationship, infants born to eating-disordered women have the risk of being preterm, low birthweight, or large for gestational age. Because both mother and infant bring risk, nurses should be aware of how to preserve the breastfeeding relationship. The 10-step process for vulnerable infants as described by Spatz (2004) can be utilized. Refer to Table 1 for the 10-step process with specific considerations for women with ED. Of particular importance for this population is early initiation of pumping to facilitate the establishment of milk supply. In addition, because of the risks of low milk supply, evaluating milk transfer during breastfeeding sessions with pre- and postweights will provide objective information to ensure the infant receives adequate nutrition. Nurses are integral in providing education, support, and advocacy to ensure breastfeeding success. For women with a past or current ED, nurses can influence these women initiating and maintaining healthy practices for the rest of their lives. ✣

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