

# Engaging Healthcare Providers to Help Mothers with Eating Disorders Create Healthy Eating Environments for Their Children

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Eating disorders (EDs), such as anorexia, bulimia, and binge-eating disorder, involve extreme emotions, attitudes, and behaviors surrounding weight, food, and body image, all of which can lead to destructive health consequences. While EDs have innumerable effects on affected individuals, less is known about the consequences for the offspring of childbearing women with past or current EDs. Children of mothers with EDs are at increased risk of various problems during gestation and childhood, including higher rates of miscarriage, cesarean-section deliveries, and stillbirth; greater likelihood of preterm delivery, small- or large-for-gestational-age, low or high birth weight, and growth disturbances; and lower likelihood of being breastfed. These children are also more likely to develop dysfunctional eating habits, behaviors, and attitudes throughout adolescence. Possible effects of maternal EDs on

parenting include withholding food from children, using food to reward or punish, a preoccupation with weight interfering with the mother's responsiveness to her child, failure to express positive attitudes toward eating, and higher tension during mealtimes. These risks are influenced by a variety of factors and the consequences for children are difficult to predict. Complicating matters, the foundations of an ED are established long before diagnosis. The familial setting provides a unique opportunity for integrated and concurrent primary and tertiary ED-prevention strategies for both child and mother. It is imperative for healthcare providers to consider the potential value of educational programs and support for mothers with EDs, as early intervention could interrupt the cycle of risk associated with eating disorders and their effects on the developing child.

## INTRODUCTION

Eating disorders such as anorexia nervosa, bulimia nervosa, and binge-eating disorder involve extreme emotions, attitudes, and behaviors surrounding weight, food, and body image that can lead to destructive health consequences. Anorexia is characterized by determined dieting and often compulsive exercise, resulting in a sustained low body weight. Bulimia is characterized by cyclic episodes of binge eating followed by compensatory purging behaviors, which can include vomiting and the use of laxatives and diuretics to prevent weight gain. Binge-eating disorder (BED) is characterized by recurrent binge eating without the regular use of compensatory behaviors. Despite variations in demographics, clinical course, and treatment of the different EDs, there is evidence that they have a common "core psychopathology," namely, the overvaluation of shape and weight (Wilfley et al., 2007). These EDs are a significant cause of morbidity and mortality.

In the United States, lifetime prevalence estimates of diagnosed anorexia, bulimia, and BED as defined by the *Diagnostic and Statistical Manual of Mental Disorders*, 4th ed. (DSM-IV), are 0.9%, 1.5%, and 3.5% among women, and 0.3%, 0.5%, and 2.0% among men, respectively (Hudson et al., 2007). While EDs are most common among female adolescents, they can manifest at any age and without regard to sex, weight, socioeconomic status, or ethnicity. The etiology is multifactorial and includes biological, psychological, and environmental factors such as genetic influences, personality traits of compulsiveness and perfectionism, anxiety and depression, family history, and peer, familial, and cultural pressures with

respect to personal appearance. These all contribute to an entrenched overvaluation of slimness, distorted perceptions of body weight, and phobic avoidance of many foods (Yager and Andersen, 2005). The medical complications of EDs are vast and affect almost every organ system, with gastrointestinal, electrolyte, endocrine, cognitive, reproductive, and cardiac ramifications. They are also highly correlated with other DSM-IV psychopathologies, including mood, anxiety, impulse-control, and substance-use disorders (Hudson et al., 2007). In addition, EDs have the highest premature fatality rate of any mental illness (Sullivan, 1995); for example, people with anorexia have a sixfold increase in mortality compared to the general population (Papadopoulos et al., 2009). Despite these serious consequences, many people suffering from EDs do not receive treatment (Hoek and Van Hoeken, 2003).

While EDs have innumerable effects on affected individuals, less is known about the consequences for the offspring of childbearing women with past or current EDs. The incidence of childhood-onset EDs is growing and can be identified in children as young as six years; additionally, it has been recognized that the foundations of an ED are established long before actual ED behaviors or diagnoses appear (Barnett et al., 2005). What is apparent from the available evidence is that children of mothers with any ED diagnosis are at increased risk of various problems, including growth disturbances and unhealthy eating habits or behaviors. This risk depends on a variety of factors, and the difficulties for the children are far from invariable. In a large-scale review of the literature, Patel and colleagues (Patel et al., 2002) high-

lighted five broad categories of putative mechanisms underlying the transmission of ED disturbances from parents to children. These include (1) genetic influences, (2) the direct effect of parental eating psychopathology impinging on parenting (e.g., parents withholding food from their children as they do from themselves), (3) the indirect influence of EDs through the disturbance of general parental functioning, such as preoccupation with food, body shape, and weight, which may impair concentration and thereby interfere with the parents' sensitive responsiveness to their children, (4) parents acting as poor role models for children in relation to eating behaviors and attitudes, either through dieting or through their own eating behaviors, and (5) the association of parental EDs with discordant marital and family relationships, which have been shown to adversely affect child development.

This familial constellation of EDs and their downstream effects provides a unique opportunity for integrated and concurrent primary and tertiary ED-prevention strategies for both child and mother. In accordance with a number of recent studies (Patel et al., 2002; Russell et al., 1998; Stein et al., 2006), it is imperative to consider the potential value of educational programs and support for mothers with eating disorders. It was recently opined that "indeed such early intervention could serve as a means by which we could interrupt the 'cycle of risk' associated with eating disorders" and its effects on the developing child (Reba-Harrelson et al., 2010).

### OUTCOMES FOR CHILDREN OF MOTHERS WITH EATING DISORDERS

**Effects of Mothers' ED on Pregnancy and Early Childhood**  
EDs can have substantial adverse effects on pregnancy and parturition, including method and timing of delivery, weight and size of the newborn, and rates of breastfeeding. For example, higher rates of miscarriage have been noted in women with anorexia or bulimia, and higher rates of cesarean-section deliveries have been noted in women with anorexia or BED. Infants of mothers with anorexia or bulimia have increased incidences of low Apgar scores, breech presentation, cleft lip and palate, and stillbirth (Bulik et al., 2009). Building on the existing literature, a large prospective follow-up study found that women with anorexia or bulimia are at increased risk of delivering a low-birth-weight or a small-for-gestational-age infant, as well as of preterm delivery (Sollid et al., 2004). They hypothesize that several factors might be responsible for impaired fetal growth, including weight-controlling behavior and compromised flow of essential nutrients in the maternal blood to the fetus; immunodeficiency from undernourishment that could lead to an increased risk of maternal infectious diseases and preterm delivery; and the excessive use of laxatives, diuretics, and appetite suppressants in some women that may have a teratogenic effect. Mothers with BED

have been shown to have high-birth-weight babies and large-for-gestational-age infants (Bulik et al., 2009).

There also is evidence that maternal anorexia and maternal bulimia decrease the likelihood that mothers will breastfeed their infants. Long-term breastfeeding fosters a positive maternal-child bond, aids in postpartum weight loss, and provides the mother with an opportunity to establish healthy eating habits for her infant, among other benefits (Carwell and Spatz, 2011). Yet fixation on returning to her prepregnancy weight can overshadow a mother's willingness to breastfeed her infant. This tendency can continue into early childhood, as many mothers with EDs underfeed their children out of an exaggerated concern for their children's weight (Russell et al., 1998). There is also evidence that mothers with EDs may feel too embarrassed or self-conscious to breastfeed their children, which is likely related to ED psychopathology of heightened self-awareness of the body (Waugh and Bulik, 1999).

### Effects of Mothers' ED on Parenting and Children's Eating Behaviors

EDs often run in families and the pathophysiology of EDs is multifactorial, so a home environment influenced by a mother's ED can have a significant impact on the eating behaviors of children and adolescents. For example, the degree of mealtime disorganization and the level of maternal strong control and disharmony both mediate the association between maternal ED and child-feeding disturbances (Cooper et al., 2004). Although the causal relationships and associations are unclear and the distinction between ED subtypes is often not assessed, there is evidence to suggest that mothers with any ED diagnosis are more likely to use food for non-nutritional purposes (e.g., to reward, or to express love), to demonstrate an exaggerated concern about their children's weight, and to fail to encourage positive attitudes toward food and mealtimes, which is important in encouraging a wide and varied diet (Agras et al., 1999; Waugh and Bulik, 1999).

A prospective longitudinal study of ten-year-old children of mothers with various EDs found associations among the duration of the maternal ED, the degree of maternal-child conflict at mealtime at five years old, and the child's development of ED psychopathology (Stein et al., 2006). It appears that the longer children are exposed to dysfunctional maternal eating habits and attitudes, the more likely they are to develop dysfunctional eating habits and attitudes themselves. The study also suggests that mealtimes become a major source of contention, effectively overstating to the child the importance of the quantity of food and the manner in which it is eaten.

Research exploring familial transmission of general concerns about weight, shape, and eating has found that intergenerational links in assumptions about eating and negative self-beliefs play a role in the manifesta-

tion of EDs. Observed correlations between daughters' and mothers' concerns have been interpreted as evidence of maternal modeling. Direct comments by mothers about their daughters' weight or diet, like parental modeling, affects the daughters' beliefs and behavior. However, the role of the mother-daughter relationship may extend beyond simple modeling; that relationship may represent a complex interaction between two autonomous individuals that can either protect from or facilitate excessive concerns about weight (Ogden and Steward, 2000). Findings suggest that the complex role of parent-child dynamics may need to be considered if treatment for parental and adolescent EDs is to be successful (Cooper et al., 2001).

The potential for these interpersonal issues to affect children does not necessarily go unnoticed by the mothers. In a qualitative analysis of mothers with various ED diagnoses and preschool children, major themes identified regarding their parental concerns include: fear of passing on eating attitudes; discomfort with preparing food and providing regular meal patterns; managing their own food intake, particularly during pregnancy; the ability for self-care; struggles with self-identity and general parental expectations; the need for control; and the emotional and psychological impact on the parent-child relationship (Bryant-Waugh et al., 2007). This finding is important to mothers who are considering motivations and partnerships in the process of developing ED-prevention strategies for their offspring.

## ENGAGING HEALTHCARE PROVIDERS

### Gaps in Knowledge

EDs are not frequently detected in primary-care settings because often the physical and psychological symptoms seem unrelated. For patients suffering from bulimia, who are usually either within normal weight ranges or overweight, detection becomes even more difficult. While primary healthcare providers are in the best position to screen for individuals struggling with EDs, little is known about how the providers are trained in this capacity (Linville et al., 2010). The few researchers who have examined this phenomenon found that physicians felt unprepared to screen or intervene adequately, for reasons including lack of physician skills and knowledge, limited resources, or lack of time to deal with the needs of an ED patient (Clarke and Polimeni-Walker, 2004). In one recent study, almost 80% of frontline medical providers reported that they had patients with eating disorders whom they were unsure how to treat, and over half reported either moderately or strongly supporting universal screening for EDs in all patients, regardless of presenting issue. Providers also desired increased ED training and continuing medical education (Linville et al., 2010).

Much research has been done to formulate diagnostic guidelines for identifying persons with EDs. The Academy

of Eating Disorders has made available a clinical-measures toolkit for healthcare providers that contains guides for ED diagnosis, body image, general level of functioning, and ED psychopathology, including anxiety and depression (Academy of Eating Disorders, 2011). However, there are no existing guidelines for providers about engaging their adult patients with EDs on the subject of how the disease is affecting their pregnancy or their children. This remains an opportunity regularly missed by providers. A survey of psychiatrists revealed that they had little knowledge concerning the children whose mothers they treated for EDs and the effects of the maternal disorder on the children's eating, growth, and psychological adjustment; in fact, the majority did not assess or treat the family or children (Berg and Hodes, 1997). The authors' impression is that even though psychiatrists are willing to consider the children of patients with EDs, this willingness needs to be accompanied by training and heightened awareness of the risks to these children.

As noted, there are many negative outcomes of maternal EDs that can affect a child's growth and development, eating behaviors, and attitudes about food. Engaging these mothers provides a crucial and unique opportunity for simultaneous primary, secondary, and tertiary prevention of EDs. For any level of ED prevention to occur, providers need to be prepared to engage their patients in discussion of the pertinent issues, and implement screening and interventions.

### Screening

Providers must make screening for EDs, and informing pregnant or mothering patients of the possible effects on their children, part of the routine patient interview. A number of questionnaires are currently available to aid providers in the diagnostic process (Academy of Eating Disorders, 2011), but routine screening for EDs elicited during a patient's medical history should be the goal. Screening tools include the Eating Attitudes Test (EAT-26) and the five-item British SCOFF questionnaire. The SCOFF questionnaire (Morgan et al., 1999) was developed for primary-care physicians to be a fast and reliable screening tool and has been evaluated to be 77.8% sensitive and 87.6% specific in identifying an ED (Lähteenmäki et al., 2009). Other tools attempt to address specific screening problems that concern the ED population, such as lack of disclosure. The Self-Loathing Subscale (SLSS) has been shown to have high internal consistency, concurrent validity, and convergent validity; since the SLSS is based on questions about exercise and is not easily identifiable as a screening tool for EDs, the scale may be particularly useful in identifying possible pathologies in individuals who may try to suppress or deny obvious symptoms of EDs (Aruguete et al., 2007). Alternatively, clinicians should recognize that the majority of women with EDs will not readily disclose this information to their healthcare providers, so asking questions sensitively as a concerned provider for the infant or child might be better received than strategies

## ► MEDICAL REVIEWS

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TABLE 1. HELPING MOMS WITH EATING DISORDERS (EDS) CREATE HEALTHY EATING ENVIRONMENTS FOR KIDS				
Life Stage	ED Indicator	Risks for Child	What to Ask Mom	What to Do
<b>All Life Stages of Child</b>	- Mothers' preoccupation with food, weight, and body image	- Increased risk for disturbed eating behaviors/attitudes - Increased risk for ED development	- How do you think your eating behaviors or attitudes have affected your child, if at all? - What are your concerns? - Would you like help?	- Screen for EDs - Educate/counsel - Refer for treatment or therapy - Recognize indications for hospitalization
<i>Information for specific stages detailed below</i>				
<b>Antenatal (In utero)</b>	- Poor weight gain - Use of laxatives, diuretics, or appetite suppressants	- Preterm birth - Low birth weight - Low Apgar score - Cesarean section - Stillbirth	- What is your diet on a typical day? - Do you have trouble gaining weight? - Are you worried about gaining weight? - Are you currently struggling with EDs or using methods to lose weight?	- Monitor weight at each visit - Educate about expected weight gain - Listen for red-flag dialogue - Inform of risks for baby - Suggest food diary with goals - Refer to nutritionist/dietician
<b>Infancy (0-12 months)</b>	- No/infrequent breastfeeding - Inadequate provision of formula	- Denied benefits of breastfeeding: immunoprotection, bonding, nutrition - Growth delays	- How do you feed your baby? - How much are you feeding your baby? How often? - Are you able to breastfeed?	- Counsel on benefits of breastfeeding - Teach or refer to instructor - Monitor child growth charts
<b>Early Childhood (1-3 years)</b>	- Withholding food - Underfeeding of child	- Child feeding disturbances - Growth delays	- What does your child eat every day? - Do you have difficulties feeding your child? Is your child often hungry?	- Suggest food diary for mom/kid - Monitor child growth charts - Encourage partner participation
<b>Late Childhood &amp; Adolescence</b>	- Poor role model for eating behavior - Disorganized meals	- Dysfunctional eating behaviors and/or attitudes	- Are mealtimes hard for your family? - What is mealtime like in the house? - Is your child a fussy or picky eater?	- Display positive eating behaviors and attitudes - Encourage regular mealtime routines
Possible Providers: Family Doctor, Pediatrician, Ob/Gyn, Midwife, Psychiatrist/Psychologist, Social Worker, School Nurse, Nutritionist, Dentist				

such as use of the SLSS (Carwell and Spatz, 2011).

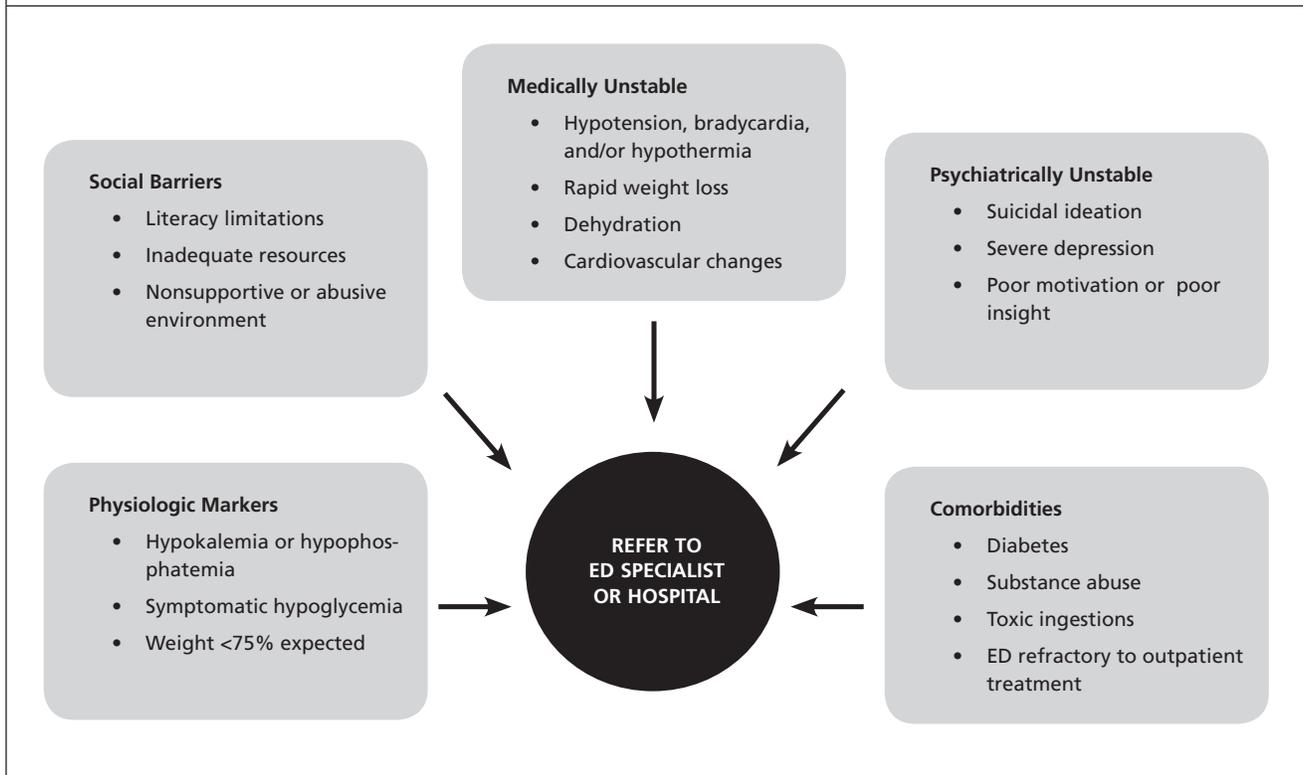
Substantial evidence suggests that changing the routine behavior of providers is possible, but this change generally requires comprehensive approaches at different levels (doctor, team practice, hospital, wider environment), tailored to specific settings and target groups (Grol and Grimshaw, 2003). For providers, educational materials or didactic continuing medical education sessions might not be effective in changing practices unless the education is interactive and continuous, and includes such issues as discussion of evidence, local consensus, peer feedback on performance, making personal and group learning plans, and the like. Other key players and contexts include the patient, the patient's partner or advocate, the organization of care processes, resources, leadership, and the political environment. In a setting of rigorous evaluation, explicit guidelines for various purposes (including specific clinical conditions, preventive care, and support services) do improve clinical practice and quality of care (Grimshaw and Russell, 1993).

### Interventions

Once healthcare providers are ready to screen patients for EDs with particular concern for the possible effects on their children, they need to be equipped with toolboxes for treatment and prevention. Interventions for mothers with EDs can include health awareness, health education, behavioral counseling or individual therapy, and group interventions, all of which may be embraced at many levels of healthcare provision. It is important to note that, although they are valuable, education and behavior-change models do not always translate into measurable health outcomes; thus, providers must remain conscious of health targets and evaluate the impact of their efforts.

A successful example of behavioral-change intervention in mothers' behavior resulting in improved child health involves smoking cessation during pregnancy; smoking is the foremost cause of preventable perinatal mortality. A randomized control trial by Wright and colleagues (Wright et al., 1996) used a provider-led intervention

FIGURE 1. WHEN TO REFER PATIENTS WITH EATING DISORDERS (EDS) FOR HIGHER-LEVEL CARE



consisting of smoker identification, chart prompts, a scripted intervention with multiple options, and a self-directed smoking-cessation manual. Providers at ten prenatal care sites across North Carolina attempted to negotiate a quit date with each smoker and, if unsuccessful, gave alternative assignments, such as brand switching, cigarette reduction, or discussions with family members. Patients who set quit dates were sent letters of support. The study established effective, biologically verified outcomes that were applicable across diverse clinical sites, with particular effectiveness among populations with a high prevalence of smoking. The smoking-cessation behavioral-change model might be adapted as a successful intervention for ED prevention in children of mothers with these disorders, with particular attention paid to how maternal behavioral changes can lead to improved child-health outcomes.

One example of a secondary prevention strategy for EDs is the National Eating Disorders Screening Program (NEDSP), conducted on more than 400 college campuses in 1996. The NEDSP was an educational and two-stage screening program designed to detect potentially clinically significant disordered eating attitudes and behaviors and offer referrals for further evaluation when warranted. A randomly selected subset of this sample was used to analyze the program's impact (Becker et al., 2003). The results suggest that educational and screening programs may be an effective mechanism for second-

ary prevention of EDs by identifying and encouraging treatment for those with clinically significant symptoms. They also suggest that awareness both of the risks of disordered eating and of available treatment options may not be sufficient to motivate individuals to adhere to recommendations to seek treatment. Clinicians should, therefore, be vigilant in tracking nonadherence to treatment recommendations and proactive in facilitating treatment.

For behavior-change counseling of mothers with EDs, there are a number of recognized educational targets. (Table 1) Based on their review of the literature, Waugh and Bulik (1999) recommend that mothers with EDs "receive adequate prenatal care to assist with adequate nutritional intake and weight gain, special supportive intervention to deal with both continued nutritional adequacy as well as the self-consciousness that may inhibit breastfeeding, and assistance with establishing a healthy eating environment for their children so they can grow up with positive attitudes towards eating and food." Since restricting food can lead to maladaptive eating, but overeating has contributed to a pandemic of childhood obesity, parents could be counseled to start early in helping children to learn healthy eating habits. This could include promoting fruits and vegetables at an early age and avoiding unhealthy snacks in the home so there is less opportunity for food restriction (International Conference on Eating Disorders, 2004).

In addition to health education and behavior-change counseling, there are a number of ways to engage patients to prevent the transmission of negative eating behaviors to children. In general, group therapy can modify mother-child interactions and may reduce the risk of transmitting an ED. Support from a therapeutic group can allow space for reflection; it can provide mothers the opportunity to become aware of dysfunctional behavior and the reasons behind it, as well as to improve their own EDs and implement changes in their responses to their children's needs (Barnett et al., 2005). One study developed a parenting skills-and-support intervention for mothers with EDs who were caring for children under the age of five (Bryant-Waugh et al., 2007). Its group-intervention model incorporated general parenting skills as well as focused topics specific to the patient group. It also offered a setting separate from the general population, taking into account the tendency toward lower self-esteem and anxiety among ED patients. An evaluation of the intervention revealed that the majority of mothers valued it and felt it had a positive impact on their parenting skills and confidence. It suggested a reduction in parenting concerns and improved depression scores following group participation. An intervention designed to address the identified issues could have important beneficial effects on child development and provide a valuable means of support to this targeted patient group.

It is vital to train healthcare providers screening for EDs on how to recognize the need for referral to higher-level care during the screening, intervention, and treatment processes. The National Eating Disorders Association has published a guide for primary-care physicians that outlines questions to assess ED severity, provides recommended laboratory tests, and lists criteria for triaging the level of care (Maine, 2005). Although many of the medical and psychological complications of anorexia and bulimia are treatable (Mehler, 2003; Yager and Andersen, 2005), complicated comorbidities of EDs should be managed by an experienced, multidisciplinary team consisting of physicians, psychiatrists or psychologists, and registered dietitians. Patients with severe consequences of malnutrition or who are medically or psychiatrically unstable should be hospitalized (Figure 1). Indications for hospitalization include unstable vital signs, dehydration, electrolyte abnormalities, rapid weight loss, or psychological instability such as poor motivation or insight, severe coexisting psychiatric disease, suicidal ideation, or an antitherapeutic or abusive home environment (Yager and Andersen, 2005). If possible, referral to a facility that specializes in the care of patients with EDs can yield better outcomes, likely secondary to effective protocols for nutritional rehabili-

tation, nursing support, and emotional care (Wolfe and Gimby, 2003). An appropriate and comprehensive level of care will improve outcomes not only for the patient, but for her children as well.

### **Intervention Guidelines**

Interventions aimed at preventing negative eating behaviors in the children of mothers with EDs should take into account the children's ages and should be targeted appropriately throughout the course of their lives. For example, pregnancy is an important and unique time for targeting interventions, as early intervention will decrease adverse consequences in children and there is increased potential for behavior change during pregnancy (as demonstrated by the smoking-cessation campaigns). Further, programming targets for mothers of adolescents should take into account: (1) early adolescence as a period of special vulnerability for girls; (2) parenting strategies that build intimacy, promote parents' knowledge of their children's daily experiences, and effectively resolve conflicts; and (3) the unique roles of both mothers and fathers in the development of adolescents' weight concerns (May et al., 2006). Interventions should also be culturally sensitive, as parental concerns and their seeking of medical help regarding weight gain, body shape, and growth are influenced by cultural factors. In Europe and North America, female beauty is associated with slimness, whereas in some societies in South Asia, the Caribbean, and certain African nations, a fuller body shape suggestive of fecundity is the ideal (Hodes et al., 1996). The cultural and ethnic background of a family should be considered when evaluating the intricate relationship between parental influences on a child's body image and eating habits. Finally, an examination of intervention strategies that engage fathers in ED prevention might be a topic for further research.

Interventions can be adopted and implemented by an array of healthcare professionals. Workers from many medical disciplines, including family practitioners, pediatricians, obstetrician-gynecologists, psychiatrists, and various nonphysicians who do primary care and preventive counseling (such as RNs, PAs, midwives, and social workers), come into contact with pregnant women or mothers with EDs and their children. Not only should professionals in each specialty be equipped with the necessary background information and strategies to screen and engage their patients, but they should also cooperate with one another to make the interventions most effective. A multifaceted approach is usually the best route to a successful intervention (Grol and Grimshaw, 2003). Implementation will take teamwork and persistence, but it is crucial for the sake of the millions of patients suffering with EDs—and for their children.

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**Conflict of Interest Disclosures:** The author has completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. No conflicts were noted.

**Acknowledgments:** The author wishes to acknowledge S. Bryn Austin, PhD, and Kendrin Sonneville, RD, ScD, for their guidance and assistance.