

# EATING DISORDERS REVIEW®

Current Clinical Information for the Professional Treating Eating Disorders



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## UPDATE

### Low Body Weight in Anorexia Nervosa: Some Repercussions

One of the more serious complications of anorexia nervosa (AN) is delayed growth and permanent short stature. According to Dr. Mari Hotta and a team of researchers at Tokyo Medical University, the critical duration of low body weight among young women with AN seems to be one year. After a year, bone mineral loss and the risk of permanent short stature accelerate. When the researchers evaluated the clinical profiles and height records of 14 women who had developed AN before the age of 14, along with body weight and height, there was a significant difference in stature between those who had a body mass index (BMI) lower than 16 kg/m<sup>2</sup> for more than a year and those who had such a low BMI for less than a year. Those with longer-term low body weight also had greater loss of bone mineral density (0.857 gm/cm<sup>2</sup> versus 732 g/cm<sup>2</sup>). The researchers stress the importance of helping patients with AN regain weight so they don't pass the one-year mark with a low BMI. The team reported their results at the International Obesity Conference this summer.

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## Coping with Stressful Family Meals Patients, Parents & Therapist Around the Table

By Chris Noorduin, MA, and Walter Vandereycken, MD, PhD  
Eating Disorders Unit, Alexian Brothers Psychiatric Hospital, Tienen, Belgium

Those who live with an individual with an eating disorder know that mealtimes can become battlefields. In fact, we find that many parents feel helpless and repeatedly ask for practical and educational ways to cope with these situations. We have organized special family treatment groups to deal with this problem, and this article will outline these sessions in detail.

### A Revival of Family Meals as Therapy

The idea of using meals as therapeutic and learning opportunities is not new. At one time, family therapists even used lunch sessions as a setting to induce a family crisis. This approach has been largely abandoned.<sup>1</sup>

Recently the family meal has had a "therapeutic revival." In one German multifamily therapy program, for example, a lunch session is a central part of the treatment. Over lunch, families comment upon the interactions they have observed in each other's family.<sup>2</sup> In another program, British clinicians describe a family meal program as a core treatment in their inpatient management of eating disorders.<sup>3</sup> Coincidentally, without having heard of these German and British experiments, we developed a similar psycho-educational approach to stressful meals.

### An Overview of Our Program

Most patients in our inpatient eating disorders treatment unit are between 16 and

23 years of age, and the average length of stay at our 25-bed unit varies from 2 to 4 months. During treatment we try to involve parents in various ways. They can participate in thematic parent counseling groups twice a month, and/or can have separate family sessions (with varying frequency according to needs and motivation). In both group discussions and family sessions a great deal of time is consumed by "eating-related themes." The purpose of the meetings is to create a constructive dialogue among parents, daughters, and treatment staff. Eating together is an important part of the sessions.

### The Meal Program

Each group consists of four or five families (parents with their daughter, who is an inpatient, and no siblings). We meet three times, with an interval of two weeks between sessions. Since patients stay at home during weekends, we schedule these groups on Monday evenings from 6 pm until 9 pm, so that any weekend difficulties are still fresh in mind. Scheduling a meeting every two weeks also gives the families enough time to practice new skills and agreements between sessions.

A clinical psychologist trained in family therapy, who has met with all parents individually before the group sessions, conducts the group. By the time the sessions begin, he has also met the parents on the ward during the first weeks of their daughter's admission; however, he is not directly involved in their inpatient treatment.

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### First Session

All family members and the psychologist gather in a dining room, which is also used for the conjoint family meals in the second and third sessions. The psychologist explains the purpose and the practical organization of the meetings. Then he asks each family member to introduce himself or herself without dwelling on the eating disorder. Hence, each member of the group is expected to mention his or her name and age and to briefly tell about their work or school, hobbies, siblings, and so forth. Finally, they are asked to state "what characterizes them as a family."

Talking about themes not related to the eating disorder is an important part of this session. First, family members feel more comfortable talking with one another when they see the "family behind the eating disorder." Next, it offers possibilities for recognizing similarities and for making connections between families, which enhances a "group feeling," and, finally, it shows that very different families can have very similar difficulties.

Around 6:45 pm, we take a short break, while the psychologist writes the following questions on a blackboard in the adjacent "meeting room":

- *For what kind of eating disorder is this treatment intended?*
- *What difficulties have you experienced as a family before admission?*
- *What has improved since admission, and how did you achieve this?*
- *Which difficulties do you still experience as a family over the weekends?*
- *How can you solve these difficulties?*

Each family (seated as separate groups in different corners of the meeting room) is asked to find answers to the questions on the blackboard. To gain more personal contact with family members, the psychologist visits with each family for a while.

Around 7:45 pm, there is another break with tea and coffee. The patients eat, as would be usual on the ward, their "evening snack" (for instance, a piece of cake or a dish of pudding). During this break the psychologist explains that for the second and third meetings it will be the parents' responsibility to bring along some food that will be substituted for the

patients' usual "evening snack." In fact, this idea was first suggested by some parents at the beginning of the experiment, and now is a nearly ritualized part of the sessions. Parents cooperate with other parents about the practical arrangements (for instance: who will shop for the food or prepare it?). Neither the daughters nor the psychologist is involved in these arrangements. This stimulates contacts between families outside the therapeutic context, and underscores the social aspect of eating.

After the break, each family's answers are discussed in the group and the overall group is invited to suggest possible solutions to each major problem. At the end of the session each family should at least have one concrete suggestion or "task" they will try out during the next two weeks.

At 8:50 pm, the session ends with a tour around the kitchen and dining room of our ward. Examples of "normal" meals are displayed, and the daughters explain the normal weekly menu of the ward. This helps parents get a better idea of what their daughters are expected to eat at home during the weekend. The psychologist hands out a brochure with practical advice about shopping for food, cooking, and eating at home. The parents also know that each Friday morning they can reach the psychologist by phone if they have urgent questions about the coming weekend.

### Second Session

Two weeks later, the second session starts with a conjoint family meal with the table set by the daughters. During this meal we follow the common rules of our ward: No talking about food, no remarks about each other's eating behavior, etc. As a group we try to create a relaxed atmosphere (for example, a radio plays softly in the background). Around 6:45 pm we finish our meal. Some family members clear the table and do the dishes; others can have a break.

At 7:00 we begin by evaluating the past two weekends. Each family tells about their meals at home, the moments they enjoyed as a family, and any difficulties they experienced. They also report on the "task" they had agreed upon in the previous session. During this conversation the psychologist makes a link between

the meal they have just had and the family meals at home and asks them to think of similarities and differences. This is a safe and effective way for family members to talk about what they find difficult at home.

Next, each family focuses on what they consider to be the most difficult problem over the weekend. Parents and daughters are separated and discuss this issue in separate groups (the daughters go to another room). The psychologist listens to both groups and tries to understand both the parental point of view and the daughters' perspective.

At 8:00, we take a 15-minute break, during which everybody eats the "evening snack" prepared by the parents (as agreed to in the previous session). After the break the group meets once more to discuss the major difficulties and disagreements between parents and daughters). Once again everyone is invited to propose solutions and suggest new "tasks" they should try out in the following weeks.

### Third Session

The final session starts again with a joint meal, after which all families gather in the meeting room. As in the first session, each family is seated apart and asked to answer the following questions:

- Which difficulties did you experience as a family before the first meeting?
- What has improved and how did you achieve this?
- Which difficulties do you still experience as a family?
- Which task could help in coping with these difficulties?

After a short break, the answers of each family are discussed in the group till 9 pm. Families are also asked to give suggestions and comments about the three sessions. At the end, the psychologist underscores that each family can contact him for further individual appointments.

### Discussion

There is no fee to participate in these group sessions and every month we have enough candidates to start a new series. Parents are mostly grateful for being more involved in the treatment of their daughter. The sessions also give them the opportunity of "tasting" the way of life on our ward.

Most families tell us the meetings have helped them find a constructive way of talking about the eating disorder and its impact on their family life. Before the group sessions were started, some families had endless discussions about the eating disorder, while others avoided talking about it altogether. The family group sessions enabled them to find another way of communicating without getting stuck in conflict.

Working with four or five families together serves more than just economic needs. It offers great support, recognition, and encouragement for families. Some parents and family groups even get together (often for meals together!) after finishing the three sessions. We've also noticed that families can learn a lot from each other without the active intervention of a therapist.

These sessions also provide the staff with lots of information about the strengths and weaknesses of individual

families. Additionally, it offers us the chance to provide psycho-education and to help correct unrealistic expectations about treatment. Finally, after these group meetings, parents seem more willing to engage in separate family therapy sessions. It seems that we have stimulated their "psychological appetite" to get a better understanding of the eating disorder and its meaning for the whole family.

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## Binge Eating in Children: New Diagnostic Criteria Suggested

Eating disorders often present differently in children and adults, and criteria for diagnosing binge-eating problems among adults may not fit those for children. To stimulate discussion and study, two researchers have proposed a new set of research criteria for diagnosing binge eating disorders (BED) among children.

Marsha Marcus, PhD, and Melissa A. Kalarchian, PhD, of Western Psychiatric Institute and Clinic, Pittsburgh, suggest that when assessing BED in children, loss of control over eating may be more important than eating an objectively large amount of food. Also, dieting may not be consistently associated with binge eating in children (*Int J Eat Disord* 2003; 34:S47).

The proposed criteria are shown in the table, below. The researchers also report that there is a need for research to clarify relationships among depression and eating and weight problems in children and adolescents. In addition, they stress that due to the alarming increase in obesity among ethnic minority children, a better understanding of binge eating in minority populations is critically important.

### Proposed Binge Eating Disorder Research Criteria for Children

A. Recurrent episodes of binge eating. Thus far, criteria are being established to specify how often such episodes occur.

An episode of binge eating is characterized by both of the following:

1. Food-seeking in the absence of hunger (e.g., after a full meal)
2. A sense of lack of control over eating (e.g., "When I start to eat, I just can't stop")

B. Binge eating episodes are associated with one or more of the following:

1. Food-seeking in response to negative affect (e.g., sadness, boredom, restlessness)
2. Food-seeking as a reward
3. Sneaking or hiding food

C. Symptoms persist over a period of at least 3 months. \*

D. Eating is not associated with the regular use of inappropriate compensatory behaviors (e.g., purging, fasting, excessive exercise), and does not occur exclusively during the course of anorexia nervosa or bulimia nervosa).

\*At some point, determining frequency, in addition to the 3-month criterion, will be necessary.

# Taking an Integrative Approach to Preventing Eating Disorders and Obesity

Dr. Dianne Neumark-Sztainer, an epidemiologist at the University of Minnesota, suggests that taking an integrated approach to intervening to prevent obesity and eating disorders may have benefits among children and teens (*Adolescent Medicine* 2003; 14:159).

According to the author, most prevention interventions focus on either preventing eating disorders by addressing risk factors such as dieting and body dissatisfaction, or preventing obesity by addressing risk factors such as overeating, low levels of physical activity, and high levels of sedentary behavior. However, Dr. Neumark-Sztainer notes that more integrated programs that address the broader spectrum of weight-related disorders can be beneficial for professionals and patients alike. For example, if interventions can address risk and protective factors for both obesity and eating disorders, less time will be needed than if separate interventions are done. Costs for staff time, staff training, and intervention materials may be decreased through the implementation of an integrated approach. Conflicting messages may also be avoided.

## High levels of weight-related concerns and behaviors in teens

Dr. Neumark-Sztainer's proposal for greater collaboration among professionals in the eating disorders and obesity treatment fields would improve results has been reinforced by numerous studies. For example, in a recent study of weight-related concerns and behaviors among 4746 teens in Minnesota, her research team found a high prevalence of weight-related disorders in middle school and high school adolescents, especially girls (*Pediatr Adolesc Med* 2002; 156). Body dissatisfaction was reported by 46% of the girls and 26% of the boys; in addition, 70% of the girls and 42% of the boys wanted to weigh less than their current weight, even if when their weight was normal. Forty-five percent of the girls and 21% of the boys were currently dieting to lose weight.

An even more alarming statistic was that 57% of the girls had used unhealthy methods to control their weight, includ-

ing skipping meals, fasting, and smoking more cigarettes. Twelve percent of the girls used extreme methods to control weight, such as self-induced vomiting, diet pills, and laxatives. A third of the boys reported using unhealthy ways to lose weight, and 5% used extreme methods to do so. When the researchers weighed and measured the students, one third of the girls and boys were overweight, with body mass indexes above the 85<sup>th</sup> percentile.

According to Dr. Neumark-Sztainer, a first step in establishing an integrated approach involves increasing communication and collaboration across the eating disorder and obesity fields, in an effort to find "a common language." Ten suggestions are listed in the table below.

## Ways to Work Toward the Prevention of Weight-Related Disorders

1. Talk with professionals who work in different fields (i.e., the obesity field if you work primarily in the eating disorder field), who have different training from yours, and who have different perspectives about eating disorder and obesity prevention.
2. Listen to others and be open to modifying your own perspective on how best to work toward the prevention of weight-related disorders.
3. Read relevant literature outside your discipline.
4. After opening up lines of communication across disciplines and perspectives, foster collaborative relationships in program development, grant preparation, and manuscript writing.
5. Conduct qualitative and quantitative research with teens, parents, and health-care providers to explore potential shared risk factors for different weight-related disorders.
6. To develop appropriate messages and interventions, address the broad spectrum of weight-related disorders. This is relevant to one on one clinical interactions and more formal group interactions.
7. When evaluating programs, assess changes in different weight-related disorders to make certain that the program has not inadvertently led to an increase in conditions that aren't the primary targets of the intervention—for example, in programs that are targeting obesity, also consider changes in body image and dieting behaviors.
8. During secondary treatment and prevention for specific weight-related disorders (for example,

obesity), consider the broader spectrum of weight-related behaviors and conditions, to avoid iatrogenic effects.

9. Work with parents of teens to help the family establish healthy eating and activity patterns and to avoid excessive preoccupation with weight.

10. In interventions, use practical examples when addressing media messages and media exposure (e.g., suggest decreasing exposure to ads within schools), increasing opportunities for physical activity, and increasing the number of healthy food choices where teens eat—home, school, and fast-food restaurants.

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## Fighting the Night Eating Syndrome

Relaxation techniques may help adults with night eating syndrome, according to the results of a recent study at the Medical University of South Carolina, Charleston (*Int J Obesity* 2003;27:970).

The night eating syndrome, first described by Dr. Albert Stunkard and his colleagues, is characterized by three main criteria: (1) having no appetite for breakfast, (2) eating 50% or more of one's daily food intake after 6 pm, and (3) having trouble getting to sleep or staying asleep. It affects about 1.5% of the general U.S. population, but about 9% of those in weight loss programs.

Since stress has been linked to night eating, Dr. L. A. Pawlow and co-workers used a stress reduction intervention (Abbreviated Progressive Muscle Relaxation Therapy, or APMR) among a group of 20 adults randomly assigned to relaxation training or to a control group, where the group sat quietly for the same amount of time. Both groups met daily for one week. Anxiety, stress, relaxation, and salivary cortisol levels were measured on days 1 and 8. The participants also filled out food diaries and rated their hunger.

## Muscle relaxation techniques helped

Twenty minutes of muscle relaxation once a day significantly reduced the stress, anxiety, and level of cortisol secretion immediately after the relaxation period. After the subjects practiced the

stress reducing techniques for a week, they had lower levels of stress, anxiety, anger, and depression. Their hunger ratings also showed that they became hungrier in the morning and less hungry in the evenings. There also was a trend toward eating more food at breakfast and less at night.

## Dieting Among Teens

According to Harvard researchers, for many adolescents, dieting in an attempt to control their weight is associated with weight gain (*Pediatrics* 2003;112:900). Although the authors feel that supervised weight control may be helpful for obese children and teens, results of their recent 3-year study showed that a children and young adults who dieted gained more weight than those who never dieted.

### The study

The authors' prospective study of 8203 girls and 6769 boys 9 to 14 years of age to assess the effects of dieting on weight. The subjects completed at least 2 annual questionnaires between 1996 and 1999. The questionnaires were designed specially for children and teens. Age- and gender-specific body mass index (BMI) scores were used as the outcome measure.

### Greater gain reported among those trying to control weight

At the beginning of the study, 25% of the girls and 14% of the boys were infrequent dieters, while 5% of the girls and 2% of the boys reported that they dieted frequently. During the next two years, the number of those dieting increased in both groups. Binge eating was more common among the girls but for both girls and boys it was associated with attempts to control weight.

During the 3 years of follow-up, dieters gained more weight than nondieters. Among the girls, the frequency of dieting was positively associated with increases in age- and gender-specific BMI scores. Among the boys, both frequent and infrequent dieters had higher BMI scores than nondieters. Also, boys who were binge eaters gained a significantly greater amount of weight over the 3 years than nondieters.

## Feeding Anorexia: Gender and Power at a Treatment Center

(Helen Gremillion; Durham, North Carolina, Duke University Press, 277 pages; \$21.95)

In this thoughtful, provocative book, field anthropologist Helen Gremillion presents the results, analysis and perspectives culminating from her 14-month intensive ethnographic involvement with a "state of the art" inpatient program for treating eating disorders. Based on her participation in numerous ward activities, group, family and individual sessions and over 100 interviews with patients, parents and staff, Gremillion deconstructs many of the invisible assumptions that mainstream theoreticians and clinicians hold regarding eating disorders. She also challenges many prevailing schemes, and offers fresh, sometimes novel ideas.

To start, the author came at this project from a background of feminist theory, women's studies, gender issues and medical discourse analysis in which careful narrative analysis dissects language and conversation to uncover hidden codes, values and meaning systems – shifting ordinary clinical frames of reference and testing the ideas of "objectivity" in clinical work – analyzing meanings according to Foucault or (never stated) Wittgensteinian perspectives. Not surprisingly, since her work is clearly not "value-free" (whose is?), she finds much of contemporary belief and practice

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to be limited and wanting, if not downright wrong-minded. Highly intellectual (and sometimes intellectualized), intelligent and feeling compassionately for the patients, Gremillion surfs the inner meanings, interpersonal fields linking patients and families, patients and professionals, and professionals and families, and analyzes how these individuals, groups and treatment models are embedded in a contemporary biomedical culture. From these observations she severely questions prevailing treatment paradigms, and her questions are well worth reflection.

But, while I applaud these contested issues and invite all serious students to examine and ponder her arguments, Gremillion's work lacks adequate appreciation of or integration with significant biological issues of pathogenesis or treatment that contemporary research suggests matter in these disorders, regardless of conflicting realities at the levels of individual and interpersonal psyches and their cultural worlds. Similarly, the implications for treatment that one might draw from Gremillion's interesting analyses are at best untested hunches. Discerning research and study might eventually prove the extent to which her surmises yield clinical outcomes any better than the contemporary approaches she so passionately challenges.

—J.Y.

## Psychomotor Function in Underweight AN Patients

Numerous studies have indicated that underweight patients with anorexia nervosa (AN) have slower reaction times (impaired attention) than normal control patients. This delayed reaction is thought to be due to disturbances in cognitive function.

When Dr. G. Pieters and colleagues at the University College of St.-Jozef, Kortenberg, Belgium, gave drawing and copying assignments to 32 female inpatients aged 14 to 25, and 32 healthy patients matched for age, sex, and educational level, the patients consistently completed the tasks more quickly than the control group (*J Psychiatr Res* 2003;37:501).

The inpatients finished a drawing assignment significantly faster and showed shorter reaction times during the copying tasks in comparison to the control group. Movement times did not differ significantly between the two groups, but in the most complex copying task, a significant difference was reported in reaction time between the inpatients and control groups. Patients were slower than controls in the reinspection task. The AN patients also made more errors than the controls during both tasks.

The authors' findings contrast with reports in previous studies, where underweight AN patients have shown disturbed cognitive function compared to healthy matched control patients. Dr. Pieters and colleagues hypothesize that the differences are related to cognitive factors rather than to motor impairment.

## Are Eating Disorders Culture-Bound?

Eating disorders are more frequent in industrialized countries and more common among women than men, mirroring society's pressure on women to be thin. Two recent studies have added new information on the role culture may or may not play in the development of certain eating disorders.

### Culture and genetics

Drs. Pamela K. Keel, of Harvard University, and Kelly L. Klump, of Michigan State University, recently published an extensive search of the medical literature (*Psychological Bulletin* 2003;129:747) that began by evaluating whether the incidence of anorexia nervosa (AN) and bulimia nervosa (BN) has increased over time. According to the authors, AN has been observed in every non-western region of the world. In addition, epidemiological evidence also suggests that the prevalence may be similar to that reported in Western nations. Thus, AN doesn't appear to be a culture-bound syndrome, according to the authors. They add that although cultural factors such as the increasing idealization of thinness may influence the rate of AN, such factors don't seem sufficient or necessary. Also, throughout history, cases of sustained self-starvation, sometimes leading to recovery and sometimes leading to death, have been reported among young adolescent girls.

In contrast, numerous studies suggest that bulimic behaviors are more culture-bound, and these behaviors have been difficult to define. In addition, definitions of bulimic behaviors have varied over time, and cases originally defined as BN have been challenged by later investigators. The case of Ellen West, where some researchers challenge the original diagnosis of BN as representing a case of AN, is one example.

### A study in Fiji

Concerns about weight and shape reach far beyond western communities. In what may be the first study of binge eating disorder, or BED, in a small-scale, indigenous or developing society, a Harvard group has evaluated binge eating and BED in a Fijian community.

A. E. Becker and her co-workers at

Harvard Medical School investigated the prevalence of binge eating among 50 ethnic Fijian women in a rural community (*Int J Eat Disord* 2003;34:423). The women completed a self-report measure on dieting and their attitudes toward their body shape and change, a Nadroga language questionnaire on body image, and the Questionnaire on Eating and Weight Patterns-Revised (QEWP-R). Height and weight were also measured. Patterns of dieting, high body mass index (BMI), and attitudes toward eating and body image were then compared between women with and without a history of binge eating.

### Incidence of binge eating

Ten percent of the participants reported binge eating at least weekly during the past 6 months and 4% reported symptoms consistent with BED. Those who were binge eaters also had a BMI above 35, a history of dieting, and a high concern with body shape. Binge eating was not associated with several markers of acculturation, but it was associated with a key, nontraditional Fijian attitude toward the body. Binge eating occurred in a social context with traditions concerning weight and diet that were quite different from Western populations. The authors also hypothesize that nontraditional Fijian attitudes toward weight and body shape may affect the incidence of binge eating in this population.

## Bulimia Nervosa and Childbirth After Treatment

Bulimia nervosa (BN) can have long-ranging adverse effects upon reproductive function. To clarify this, Dr. Frances A. Carter and colleagues followed a group of 150 women, including 125 women who became pregnant and had babies following treatment for BN (*Int J Eat Disord* 2003; 34:337).

Dr. Carter and associates hypothesized that women who were functioning well after treatment for BN would be more likely to have a baby over the 5-year period follow-up period than women

who continued to be symptomatic after treatment. As predicted, women who had a baby during the 5-year follow-up period had reported significantly fewer symptoms after treatment.

There were significant differences were reported for the entire primary and several of the secondary and tertiary severity measures of BN after treatment. Women who had a baby during the follow-up period were more likely to have had BN for a longer time, and to be older (26 to 35 years old) than the women who did not become pregnant. They were also more likely to be married or in a loving relationship and living with that person. Finally, they were less likely to report loss of sexual interest or pleasure after treatment for BN.

Women who did not become pregnant during the follow-up study had several characteristics in common. They were more likely not to have had a baby if they were younger or older than 26 to 35 years of age and not living with a spouse or partner. Other factors that worked against becoming pregnant included continued binge eating and purging, body dissatisfaction, and loss of sexual interest or pleasure after treatment.

Body mass index (BMI) did not seem to affect successful pregnancy, even though previous case studies have shown that BMI is relevant to reproductive functioning among women with disordered eating (*J Psychosomatic Res* 1998; 44:491).

### Did pregnancy have any negative effects?

In a previous report of the same group of women, the authors examined whether having a baby during the follow-up period was detrimental in any way to the women. During the year before and the year after childbirth, having a child was not associated specifically with an increase in bulimic symptoms or major depression.

Thus, the two studies suggest that women who are functioning poorly after being treated for BN are less likely to have a child during follow-up, but that having a baby after treatment does not negatively impact recovery. The authors suggest that women with BN should be encouraged and supported to take full advantage of treatment before attempting to become pregnant.

# Bulimia Nervosa and Pain Perception After Recovery

Bulimia nervosa (BN) can produce many varied symptoms. Some, like reduced sensitivity to pain, are still not well understood. According to an international team of researchers, reduced pain perception in BN isn't related solely to disordered eating behavior and can persist even after recovery (*Int J Eat Disord* 34:331, 2003).

To assess pain thresholds among patients with BN, Drs. Daniel Stein and Walter H. Kaye and colleagues studied 11 recovered female BN patients and 15 healthy matched volunteers. All BN patients had been recovered for at least a year, but had no history of anorexia nervosa. The healthy volunteers were age-matched women whose weight remained between 90% and 115% of average body weight since menarche.

## Measuring pain thresholds

Pain thresholds were determined with two tests. The first test used a thermal pain stimulator (TPS), a 75-watt light bulb, held 7 cm from the participant's wrist. The pain threshold was defined as the total time, measured with a stopwatch from turning on the bulb until the person reported feeling pain. Pain tolerance was the total time measured from the time when pain was reported until the participant withdrew her wrist from the light.

A second method used to measure pain threshold was the submaximal effort tourniquet test, in which a tight bandage is placed around the upper arm and a handgrip dynamometer is used to test time and grips. Subjects were asked to report the first feelings of pain, and the interval between that and the point when pain became intolerable was recorded.

## Results: longer-lasting pain in those with BN

A significantly greater percentage of former BN patients had TPS pain thresholds that lasted longer than 8 minutes, compared with the controls. (Eight minutes had been established as the time limit for stopping the experiment.) As for the tourniquet test, the mean pain

thresholds were 3.10 minutes for the BN patients and 1.15 minutes for the controls.

According to the authors, this is the first study that has shown that elevated pain threshold persists after recovery among BN patients. One explanation might be that reduced sensitivity to pain after recovery is actually a trait associated with the illness, although it is also possible that BN causes a reduction in pain thresholds. In one recent study, pain was thought to have a putative role in pain in maintaining BN. That is, binge-eating and purging may be a way patients can temporarily normalize an elevated pain threshold (Faris et al, 1998).

Other recent studies have pointed to the possibility that altered central serotonergic activity may continue after recovery from BN (Kaye, Greeno, et al, 1998). Decreased pain sensitivity after recovery may also be linked to alterations in serotonin activity—for example, drugs that act on serotonin systems have been shown to affect pain sensitivity (Schreiber and Stein, 1996).

This was small study. Furthermore, the very nature of pain perception can change according to the methods used to test it. However, the authors note that their findings may merit further investigation.

## Family Involvement in Weight Control

Getting family members involved in weight loss efforts has been one approach suggested to help obese individuals lose weight and maintain the loss. Results of a recent study suggest that effective weight loss treatment may depend upon matching therapy to the individual age group being treated (*Int J Obesity* 2003;27:987).

Researchers at the University of Cambridge in the United Kingdom reviewed numerous studies of randomized trials with at least a one-year follow-up, to see how successful the interventions were. The authors noted that despite the worldwide increase in the prevalence of obe-

sity, they could find only 16 randomized studies of family involvement in weight control, weight maintenance, and weight-loss interventions. Most of these studies were relatively small (mean: 52 participants).

## What researchers found

Involving family members in weight control, weight maintenance, and weight loss programs may improve their effectiveness. In studies of spouses, for example, there is generally more support for couples being treated together—one study suggested that this effect may be enhanced by setting goals related to specific behaviors (such as specific eating behaviors) than to goals related to weight on the scale.

Children were much more successful at losing weight when their parents were involved. The more techniques that were used to modify behavior, the greater success children had at losing weight and keeping it off. As for adults, the involvement of a spouse improved weight loss attempts.

Adolescents were an entirely different case. Perhaps because of striving for independence, most adolescents were more successful at losing weight and maintaining the loss when they were treated alone, without parental involvement.

## Fracture Risk High Among Those with AN

When a severely underweight patient is prone to recurring fractures, particularly low-impact fractures, clinicians should suspect and investigate the possibility of an undiagnosed eating disorder, according to endocrinologists at Aarhus University Hospital in Denmark.

Dr. V. Vestergaard and colleagues note that among AN patients, primarily girls, bone mineral density is decreased and fracture risk increased (*Orthop Nurs* 2003;22:325). In contrast, those with bulimia nervosa have marginally decreased bone mineral loss, and fracture risk is only slightly increased. Those with other types of eating disorders, such as an eating disorder not otherwise specified, may also have decreased bone mineral density and increased fracture risk, according to Dr. Vestergaard.

## QUESTIONS & ANSWERS

### Low Potassium and AN

**Q**I've heard that when treating young patients with anorexia nervosa, clinicians must be careful to avoid phosphorus deficiencies. Can you tell me what this is about?

**A**You're right to be concerned about these issues. The revised American Psychiatric Association's *Practice Guidelines for the Treatment of Patients with Eating Disorders* draws specific attention to the dangers of hypophosphatemia during refeeding of patients with anorexia nervosa. During refeeding, especially in conjunction with increased rates of feeding and increased intake of carbohydrates, the body's requirements for and utilization of phosphorus increases substantially, since phosphorus is needed for increased adenosine triphosphate (ATP) related metabolic processes in cells. These requirements may result in rapid shifts of phosphorus from serum into cells, leading to deficiencies in serum, which may be accompanied by cardiac arrhythmias (sometimes sudden death), delirium and other disturbances. In large case series on adolescent inpatient units, almost 6% of patients developed moderate and about 15% mild hypophosphatemia, most notable in patients who are severely malnourished, with serum values reaching a low point during the first week of refeeding. Authorities suggest daily monitoring of serum phosphorus during the first week of refeeding with supplementation as indicated (Ornstein et al, *J Adolescent Health* 2003; 32: 83).

—J.Y.

#### Nibbles by Hunter



"Da boss thinks we should go into waist management."

## Body Image and Eating Disorders Among Non-elite Athletes

Elite athletes are no strangers to eating disorders, but what about nonprofessional gymnasts, ballet dancers, and body-builders? According to the results of an Italian study, inappropriate eating attitudes and behaviors seem to be prevalent in certain sports (*Psychopathology* 2003;36:247).

### An Italian Study

Dr. C. Ravaldi and colleagues at Florence University Medical School, Florence, Italy, evaluated 113 non-elite ballet dancers, 54 female gymnasium users, 44 male noncompetitive body-builders, 105 female controls and 30 male controls. The subjects completed a battery of tests, including the Body Uneasiness Test, the State-Trait Anxiety Inventory, the Beck Depression Inventory, and were interviewed with the Eating Disorder Examination (EDE-12).

### Highest Rates among Ballet Dancers

Prevalence rates were highest among ballet dancers (anorexia nervosa, 1.8%, bulimia nervosa, 2.7%, and eating disorders not otherwise specified, 22.1%). Those who frequented gymnasiums followed closely, with anorexia nervosa, 2.6%, and EDNOS, 18%). EDE total scores were highest among female dancers, gymnasium users, female controls, body-builders, and male controls. EDE scores were highly related to Body Uneasiness Test scores, especially in the non-elite ballet dancers and in noncompetitive body builders.

The authors concluded that people who participate in sports that emphasize thinness or muscularity, such as ballet and body-building, may have greater than normal body unease and inappropriate eating attitudes and behaviors.

## IN THE NEXT ISSUE

### Patient Advocacy: What's Ahead?

An update on programs and grassroots efforts to increase awareness of eating disorders and improve insurance coverage.

### PLUS

- **Weight Loss Programs on the Internet—Do They Work?**
- **Cognitive Behavior Therapy After Treatment of Anorexia Nervosa**
- **Family Environment and Expressed Emotion Among Patients with Bulimia Nervosa**
- **Detecting Subclinical Eating Disorders**

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