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Athletes and Eating Disorders:

Some Ramifications of the NCAA Study

An Interview with Dr. Pauline Powers

During the National Collegiate Athletic Association (NCAA) Study on Athletes and Eating Disorders, 1,145 student athletes from 11 Division 1 schools were surveyed to determine the prevalence of eating disorders.[1] EDR *Board member Dr. Pauline Powers, Professor of Psychiatry at the College of Medicine, University of South Florida, Tampa, and a coauthor of the study, talked with us about some of the ramifications of the study.*

EDR: Dr. Powers, can you give us a little background about the NCAA study?

Dr. Powers: The eating disorders field has long recognized a higher prevalence of eating disorders among athletes, particularly among elite athletes. Dr. Craig Johnson, Director of the Eating Disorders Program at Laureate Psychiatric Clinic and Hospital, Tulsa, was a driving force in the development of the collaborative study with the NCAA. He has a deep, longstanding interest in sports and eating disorders, and worked with Randy Dick, Director of the Sports Science Division at the NCAA, to design and carry out the study. Much work had to be done in the initial phase because there was resistance to the idea of examining the connection between athletics and eating disorders. Some schools were fearful that the problem was present and did not want to acknowledge it, but the other part was concern that the study would in some way interfere with the athletes' careers and interest in sports. As a result of these concerns, anonymity of the schools and athletes was assured. Investigators went on site to administer the questionnaires and the coaches were out of the room while the questionnaires were being filled out. All information obtained from individuals was pooled. I think that was why the collaborative study could be done—there was no way that the athlete or school could be identified.

EDR: The criteria for diagnosing eating disorders seemed very strict.

Dr. Powers: They were. The DSM-IV criteria are both a blessing and curse—a blessing because this is better for research, but also a curse because clinically a lot of people who have really severe eating disorders don't meet the DSM-IV criteria. In fact, about half of patients who come to specialty clinics don't meet the DSM-IV criteria. They are diagnosed with eating disorders not otherwise specified (EDNOS), even

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Update

Body Dissatisfaction: Not Just for the Young

Disordered eating is not the exclusive territory of the young. According to Diane Lewis and Fary Cachelin, PhD, of California State University, Los Angeles, rates of body dissatisfaction, drive for thinness, and feelings of ineffectiveness among 153 women over 50 years of age were comparable to those reported among college women. The women were predominately Caucasian, and the mean overall BMI was 24.25. As reported at the Academy for Eating Disorders meeting in San Diego, the researchers divided the women into two groups, 50 to 65 and 65 and older. All women completed the EDI and an anonymous self-evaluation comparing their current shape with 9 body silhouettes ranging from very thin to very heavy. Concern over thinness and appearance did not diminish with greater age. For women 50-65, overall body dissatisfaction decreased with increasing income, while among women older than 65, body dissatisfaction rose as income increased. The authors suggest considering a diagnosis of disordered eating in all women, regardless of age.

ALSO IN THIS ISSUE

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though they obviously have an eating disorder.

Gender Differences

EDR: Your study uncovered a number of important differences between male and female athletes.

Dr. Powers: Yes, there were several. One of the findings upset me greatly, in fact so much so that I had to stop my data analysis and leave the house for a while. On every single item on the Rosenberg Self-Esteem Scales, women as a group had lower self-esteem than men did.

For every item on the Rosenberg Self-Esteem Scales, as a group, women had evidence of lower self-esteem than men.

On another scale, binge eating, 81% of women reported that they felt out of control during an episode of overeating. In contrast, only 45% of men felt they were out of control during an overeating episode. In general, the male athletes were less likely to consider an episode of overeating a problem.

Other very important issues were body fat, amenorrhea, and body mass index (BMI). The female athletes wanted to have a body fat of 13% (mean), even though the normal range is from 17% to 25%. On average, their body fat was too low (mean: 15.4%). This finding was very important because a significant number of female athletes are at risk for osteoporosis. The men, who had a mean body fat content of 10.5%, also wanted to have lower body fat—a mean of 8.6%. However, although on the low side, their body fat was in the normal range, 10% to 15%. On a discouraging note, when Craig Johnson and I were involved with the Olympics and tried to demonstrate that female athletes need a certain amount of body fat, the committee evaluating the female athlete triad (osteoporosis, abnormal eating patterns, and amenorrhea) simply did not believe us.

EDR: Is the resistance due to emphasis on performance over health?

Dr. Powers: Yes. Craig Johnson calls this 'appearance-related and performance-related drive to thinness.' Here the athletes get a double dose: Not only are they trying to get thin because our society says you should appear thin, but the athletes also think being thinner, no matter what, improves performance. And there is good evidence that this is not the case

EDR: What about BMI in the study?

Dr. Powers: When you take the body mass index, which is so popular right now, and compare it for the female athletes with and without amenorrhea, there was no statistically significant difference. But there was a difference in body fat between those with and without amenorrhea. Amenorrheic women had significantly lower body fat levels than women with menses. We keep overlooking the problem with BMI. It is just a mathematically derived figure that doesn't reflect actual body composition.

EDR: BMI is the standard index, isn't it? It is easy to calculate.

Dr. Powers: It is easy to calculate, and people just believe it without evidence. BMI is a popular index of body fatness and I think it is great for epidemiologic studies; for example, it is helpful to know how many people are actually obese or underweight in our culture. But, for an individual, or for specific problems like this one, BMI is not helpful. It doesn't specifically assess body composition.

EDR: In this study, the BMIs seemed low.

Dr. Powers: A large number of the women athletes—173—had BMIs between 15 and 20. At the other extreme, 3 males had BMIs between 40 and 45, and 2 females and 26 males had BMIs between 35 and 40.

EDR: A Scandinavian study also involved eating disorders and

athletes—how did it differ from the NCAA study?

Dr. Powers: Sundgot-Borgen both screened elite athletes and interviewed those at risk.[2] Such a two-stage design is ideal. However, the disadvantage of such a design in our case was that many people may not have wanted to participate, and it might have been much harder to get the NCAA to agree to the study.

The Future

EDR: Can anything be done to help prevent eating disorders among athletes?

Dr. Powers: In terms of prevention, I still think we should keep working with coaches, with the Olympics Committee, with whomever we can get to listen, and keep trying to get the message across that lowering body fat content is not necessarily a goal if someone already has normal body fat. We should also be thinking about it from the athlete's perspective; that is, what really improves performance? Three elements are known to improve performance: muscle mass, genetics, and motivation. Within certain ranges, body fat isn't the key issue, although some people think it is. For individuals, we need to think about the long-term implications of participating in athletics. In some sports, somehow we have gotten the idea that overexercising is good. It might or might not be good.

Athletes think being thinner, no matter what, improves performance. There is good evidence that this is not the case.

EDR: Is the message about healthy athletics getting through?

Dr. Powers: I tried to convince the Olympics Committee of the importance of athletes and the role models they represent to our teenagers. However, I don't think this issue resonated with the Committee at the time. Other groups have been trying to stress good bone health—this whole concept of the female athlete triad has been an attempt to get this particular idea across. It has had some effect, as in gymnastics, where they recognize that bone loss is a problem and have tried to make some interventions. Some gymnasts weigh more than they did in the past, but more prevention efforts are needed.

Also on the plus side, many articles and books have been written about how to help athletes with eating disorders. Ron A. Thompson and Roberta Trattner Sherman have done much work in this area, and have published a very helpful book on how to help athletes continue in their sports, and how to get the coach to intervene in a way that is helpful and not a condemnation of the athlete.[3]

EDR: Dr. Powers, you see athletes in your practice—have you seen any positive changes?

Dr. Powers: Today parents are much more attentive to the long-term risks of disordered eating. When I explain the risks, particularly the risk of osteoporosis, they really don't want that to happen. I think that physicians need to work harder on educating parents and patients about the long-term risks. For the most part, people will listen. For someone who has an established eating disorder, that is different. However, in general, people who are hovering on the edge of an eating disorder are very impressed by the fact that they might be at risk for osteoporosis.

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1. Johnson C, Powers, PS, Dick, R. Athletes and Eating Disorders: The National Collegiate Athletic Association Study. *Int J Eat Disord* 1999; 6:179.
2. Sundgot-Borgen J. Risk and trigger factors for the development of eating disorders in female elite athletes. *Med Sci Sports Exerc* 1994;26(4):414.
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Anorexia Nervosa: Body Fat May Be Redistributed With Weight Recovery

A patient with anorexia nervosa undergoes many physical changes as she or he regains weight. One of these changes may be regional redistribution of body fat, according to results of a recent study (*Int J Eat Disord* 1999;26:275).

According to Toshiya Iketani, MD, PhD, and colleagues at Osaka City University, a pattern of central obesity emerged as women with anorexia nervosa regained weight. Dr. Iketani and colleagues studied a number of physical markers, including total bone mineral content, total lean body mass, and total fat mass among 21 women with DSM-III-R anorexia nervosa and 10 age-matched healthy controls. Body composition was measured with dual photon absorptiometry.

To determine whether weight recovery and resumption of menses affected the changes in body composition, the investigators compared the body composition of patients with low (<70% standard body weight, or SBW), subnormal (70-80% SBW), and normal (>85% SBW) body weight with or without resumption of menses. They also compared physical activity among patients who worked full or part-time or who went to school, those who stayed at home or who were hospitalized, and the controls. No differences in total lean body mass could be correlated with the level of activity. This might have been due to the fact that none of their subjects engaged in intense exercise.

A situation akin to menopause

The authors noted that several other investigators have reported that declining levels of sex steroids after menopause may be involved in changes of fat distribution from the gluteal region to the abdominal region (Reubinoff et al., 1995). The authors hypothesize that amenorrhea, which causes a decrease in sex steroids, may contribute to changes in fat distribution among patients with anorexia nervosa after weight restoration.

Compulsory Treatment for Anorexia Nervosa: Results of a 12-year Study

Most patients with anorexia nervosa (AN) try to avoid treatment, although the majority will accept some form of therapy, including psychotherapy or family therapy. A small number will have to be hospitalized against their wishes when their health and safety are in danger.

Childhood abuse, multiple admissions, were common characteristics.

Rosalind Ramsay, MRCPsych, and her colleagues at Maudsley Hospital, Great Britain, wanted to learn more about the effects of compulsory treatment upon AN patients, particularly the short-term benefits and the long-term effects on mortality (*Brit J Psychiatry* 1999; 175:147). As a result, they conducted a 12-year study of 81 patients who received compulsory treatment and 81 patients who voluntarily sought treatment in the eating disorders unit of their hospital. Almost all patients had been diagnosed with AN, and only a few had an atypical eating disorder or bulimia nervosa.

Characteristics of the compulsory treatment group

A relatively high proportion of all patients treated on the unit, 16%, had compulsory treatment. Of those admitted to compulsory treatment, 30 were already inpatients when compulsory treatment was initiated. Most were detained when they were no longer willing to stay in the hospital or refused to gain enough weight to complete their treatment. The two most common reasons for detaining the patients were for their health and safety. Twenty-three patients appealed their detainment, but only 1 was released by the medical review tribunal against the wishes of the admitting doctor.

Patients detained against their wishes had several characteristics in common. One characteristic was a history of childhood sexual or physical abuse. This was much more common among detained patients than among the voluntary group (24.1% vs. 10.1%). The group who were detained also had a significantly higher number of prior admissions for AN than did the voluntary group. There was also a higher incidence of self-harm among those who were detained versus those who sought voluntary treatment (59.3% vs. 33.3%).

Outcome

In the short term, the detained patients responded well to treatment, gaining a mean of 12.1 kg by the time of discharge; this was similar to the 11-kg weight gain among those who voluntarily sought treatment. It took longer for the detained patients to reach a satisfactory weight gain (113 days compared to 88 days for the voluntary group); nasogastric feeding was not used for any patient.

The gloomy news was a high mortality rate among patients with involuntary detention—10 of 79 patients (12.3%)—when cases were reviewed an average of 5.7 years after treatment. In contrast, only 2 of 78 patients in the voluntary treatment group had died at the 5.7-year mark. Among those who received compulsory treatment, 54% of deaths were due to complications of the eating disorder (bronchopneumonia or cardiac arrest, for example); suicide accounted for 27%, and other causes for 19% of deaths. The authors noted that the 2.17% death rate per year in their study was 3 to 4 times the mortality rate seen in similar groups of patients with eating disorders who received compulsory treatment in Denmark, Sweden, London and the U.S. They theorize that the increased rate might be due to selection factors, including patients' avoidance of treatment and the more intractable nature of the patients' illness.

Long-term follow-up is beneficial

The authors note that although the decision to undertake compulsory treatment is never easy, patients with intractable AN may recover after 10 years or more. Also, patients and their families are often grateful for the intervention after recovery. The authors recommend regular and long-term observation and follow-up of all patients who have had compulsory treatment for AN.

Coaching Style Can Affect Vulnerability to an Eating Disorder

An athletic coach plays an enormous role in the life of a young athlete. In addition to acting as instructor, he or she becomes a disciplinarian, social worker, mentor, psychologist, and at times a substitute parent to the aspiring athlete

Two North Carolina psychologists recently devised a unique experiment to examine the effects of positive and negative coaching on the risk of developing an eating disorder. Drs. Anna C. Biesecker and Denise M. Martz randomly assigned 110 students from general psychology classes to one of two coaching vignettes (*Eating Disorders* 1999;7;244). In the negative vignette, the coach was performance-centered and focused exclusively on weight in a threatening manner. In the positive vignette, the coach was also focused on weight, but used a person-centered and caring approach.

All students were led through a 5-minute guided imagery session, where they were instructed to imagine that they were swimmers on a team and standing by the pool getting ready for swim team practice. Then the researcher played a prerecorded audiotape on which a male voice read the positive or negative vignette.

Students then completed a series of questionnaires (Cognitive Behavioral Dieting scale, Goldfarb Fear of Fat Scale, Physical Appearance State and Trait Anxiety Scale, and the Profile of Mood States).

An unexpected result

Although the researchers had hypothesized that women would be more affected than men by the negative vignette, this did not occur. The negative vignette did have a greater impact than the positive vignette on body image disturbance, weight preoccupation, and dieting. Students who listened to the negative vignette had a greater fear of fat than participants in the positive coaching vignette. Individuals in the negative vignette group also exhibited more depression than individuals who heard the positive vignette.

The study had several limitations: Students were not athletes, but only pretending to be; only a male coach was used; and the experimental manipulation may have led to only short-term impact on body image anxiety, diet intentions, fear of fat, and depressive symptoms.

An emphasis on health, not performance

Despite this, the authors reported that, overall, participants in the negative session had more body image and weight dissatisfaction than those in the positive sessions. Thus, the main outcome of the study was that coaches can influence their athletes by their approaches to discussion of weight and weight-related issues. Therefore, when coaches talk about weight, it may be more beneficial to emphasize the athlete's health rather than performance. In addition, the authors comment that athletes are subjected not only to the normal body image and weight pressures of non-athletes, but in addition face greater pressures from the athletic community. Thus, both male and female coaches need to be sensitive to these circumstances and to have utmost concern for the athlete as a person rather than a "performance possession."

French Study Targets Bulimia Nervosa and Autoimmunity

Our immune system has functions far beyond setting up a defensive field against potentially harmful intruders. Connections with the central nervous system, especially the actions of autoantibodies that react with dopamine and serotonin, are of particular interest. These two neurotransmitters play important roles in appetite control, sexual and social behaviors, and response to stress, all concerns in bulimia nervosa.

A team of French researchers has shown significant differences between IgG and IgM autoantibodies among 31 female outpatients with bulimia nervosa (DSM-III-R criteria) and 10 control subjects matched by age, sex, and demographic-psychosocial features (*Psychiatry Res* 1999; 87:77). The activity of natural autoantibodies reacting with dopamine, dopamine ß-hydroxylase, and serotonin was determined with an enzyme-linked immunosorbent assay (ELISA) for typical immunoglobulins, and was expressed in optical density.

IgG autoantibody levels were lower among the bulimic patients. IgG-type autoantibodies, particularly IgG anti-serotonin and IgG anti-dopamine, were all lower in the bulimic group than in the control group (Fig. 1). IgM anti-dopamine levels also tended to be lower in bulimic patients than in controls. No significant differences were found between the bulimic patients and the control patients in levels of autoantibodies of the IgM type.

The authors' hypothesis

Dopamine and serotonin are specific components of brain cells. The authors hypothesize that these antigens, acting with autoantibodies, could be antigenic cerebral targets reacting with "anti-brain" antibodies and could thus in some way regulate cerebral neurotransmission *(Biolog Psychiatry* 1981;16:1123) in bulimic patients.

Decreased concentrations of autoantibodies against serotonin might be involved with the lack of satiety so common in bulimia nervosa patients. Also, decreased levels of autoantibodies against dopamine and dopamine ß-hydroxylase might also be involved in their exaggerated hunger.

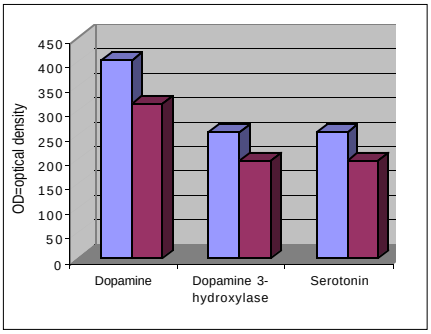


Fig. 1. IgG autoantibodies were all lower in bulimic patients than in controls.

A Trio That Drives Bulimic Symptoms

Perfectionism is a watchword of eating disorders, as individuals with bulimia nervosa and anorexia nervosa strive to reach impossibly "perfect" standards of thinness.

Women with high self-esteem who are perfectionistic and consider themselves overweight will not develop bulimic symptoms, according to Anna M. Bardone, MD and colleagues at the Department of Psychology, University of Wisconsin. In contrast, highly perfectionistic women who have low self-esteem are more likely to show bulimic symptoms.

Dr. Bardone and colleagues tested 342 women undergraduates at two points: the spring of their senior year of high school and during their first year of college. Perfectionism was measured with the Perfectionism subscale of the Eating Disorders Inventory. They also classified their current body weight into categories ranging from very underweight to very overweight, and correlated these with levels of self-esteem and bulimic symptoms (if any).

According to the authors, reducing perfectionism, perceived overweight, and/or increasing self-esteem, should reduce bulimic symptoms because the interaction of these 3 factors contributes significantly to the risk. Dr. Bardone presented the study results at the AED meeting in San Diego.

Imipramine & BED

Swiss researchers have shown that low doses of imipramine and diet counseling with psychological support can help obese binge eaters lose weight and improve depression scores for up to 6 months after the medication is halted.

In a double-blind, placebo-controlled, randomized study, 15 obese binge eaters were assigned to receive imipramine, 25 mg three times per day. This group was then compared with 16 obese binge eaters who received placebo for 8 weeks (*Int J Eat Disord* 1999; 26:231).Both groups were similar in age, and had similar waist-to-hip ratios, systolic and diastolic blood pressures, binge eating episodes, scores on the Self-Depression Rating Scale (SDS) and Hamilton Depression Scale (HAM-D), and laboratory values such as sodium, creatinine, and triglyceride levels.

Six months medication-free

After the first 8 weeks, the randomization code was broken, and imipramine or placebo was discontinued. Then, all subjects entered a 6-month medication-free follow-up period while diet counseling and psychological support continued. Patients had 30 minutes of individual diet counseling on a biweekly basis. Then, dietitians and a physician assessed the patients' binge-eating behavior, estimated the frequency of binge-eating episodes, and asked patients if they had a sense of loss of control and dysphoric mood. A slightly abridged version of the HAM-D was completed by one of the authors; a person blinded to the interviewer's rating then rated all the split-screen video interviews.

Twenty-nine of the 31 patients completed the study. One man in the placebo group complained of hunger, sweating, and palpitations, and general malaise during the first 10 days of treatment, and subsequently dropped out of the study. One woman in the imipramine group dropped out due to skin eruptions and her aversion to taking tablets.

Weight loss

The placebo-treated patients' weight remained essentially stable, with a slight weight gain overall (a mean gain of 0.2 kg), while the subjects on imipramine lost a mean of 2.2 kg. Patients who had been on imipramine continued to lose weight (a mean of 5.0 kg) with continuing diet counseling and psychological support during the 6-month follow-up period.

Patients in both groups had a lower frequency of binge eating during the 8-week double-blind treatment phase; this pattern continued in the imipramine group but those in the placebo group returned to their earlier binge eating frequency after the treatment phase was over. While both groups showed significant improvement on depressive symptoms on the HAM-D at the 8th week, only those treated with imipramine still had significant improvement in this score by week 32. Scores on the Self Depression Rating Scale were significantly reduced at weeks 8 and 32, compared to baseline scores. Whether these effects endure beyond 6 months deserves future study.

Binge Eating & Substance Abuse

In the first attempt to systematically study gender differences in the relationship between binge eating and substance use among students, binge eating was linked with increased depressive symptoms in males and lowered self-esteem in females (*Int J Eat Disord* 1999; 26:245). Females were also more likely than males to attempt to compensate for their eating binges in inappropriate ways.

Study design

In 1997, 3,990 public and Catholic school students in Ontario, Canada, were surveyed on alcohol and other drug use with two questionnaires. Half the students were randomly assigned to a questionnaire that contained questions on dieting and bulimic behaviors, while the others completed a standard questionnaire that covered a broad range of areas related to substance abuse.

A total of 2,016 students (1,084 females and 934 males) 10 to 20 years of age completed the survey containing questions on dieting and bulimic behavior. The questionnaire also included questions about frequency of alcohol and drug use in the past year, and problem drinking and drug use, as well as attitudes and beliefs about substance use, eating habits and depression and self-esteem.

Binge eating

Binge eating was significantly more common among females than males (46% versus 30%). The major difference occurred among females classified as the bingeing-compensating (BC) group. These students binged on food, then compensated with vomiting, laxatives, strict dieting or fasting, for example. Females outnumbered males by 3:1 in this group. Half of female BC students reported 3 or more bingeing episodes during the prior 12 months, and 14% reported 15 episodes or more. The compensating bingers were also significantly older.

Weight and dieting

Male students were more likely to report that they "were about the right weight." Those who were dieting were more likely to describe themselves as "too thin" rather than "too fat." The opposite was true of female students. Exercise was the most common method used by males and females to attempt to lose weight or to avoid gaining weight. Other methods included skipping meals, vomiting, and diet pills. Binge eaters, especially those in the BC group, were more likely to use all types of substances, particularly marijuana and drugs other than tobacco and alcohol.

Two screening questionnaires were used to report alcohol and other drug use. One in four males in the BC group scored 2 or more on the CAGE questionnaire and 1 in 2 reported problems as measured by the DAST (Drug Abuse Screening Test; Skinner, 1982) questionnaire. (CAGE is an anachronym that comes from 4 questions on the CAGE questionnaire: Have you felt a need to Cut down on your drinking? Have you ever felt Annoyed by criticism of your drinking? Have you ever had Guilty feelings about drinking? Do you ever take a morning Eye-opener? Mayfield, McLeod, and Hall, 1974).

Eating Disorders & Personality Among Active Women

Is a physically active woman at greater risk of developing an eating disorder and, if so, does personality enter into the equation? According to results of a study of 591 Norwegian high-school women, certain personality characteristics placed some at a higher risk for being diagnosed with an eating disorder, but this did not seem to be related to physical activity (*Scand J Med Sci Sports* 1999; 9(5):304).

Dr. L. B. Augestad and colleagues at the Norwegian University of Science and Technology, Dragvoll, Norway, conducted their study using the Karolinska Scales of Personality and a questionnaire that examined eating disorders and physical activity. All diagnoses were based upon DSM-IV criteria for bulimia nervosa (BN), anorexia nervosa (AN), and eating disorder not otherwise specified (EDNOS).

There was no connection between eating disorders and the level of competition or the time spent in an activity.

ED more common among non-athletes

The researchers found that the prevalence of AN was 1.5%, BN 2.0%, and EDNOS 12%. The prevalence of eating disorders was highest among physically active non-athletes who were members of fitness clubs. However, no relationship could be made between the prevalence of eating disorders and the level of sport competition or time spent on physical activity. Women with eating disorders scored higher in anxiety, hostility, and detachment, and lower in socialization than women without eating disorders. Thus, individuals with certain personality characteristics were more likely to be classified with an eating disorder. This did not seem to be related to whether they were physically active or not.

The authors hypothesize that participating in physical activity can have positive psychological effects, but this does not necessarily apply to women with AN or BN, and that eating disorders may have a biological/genetic basis.

BOOK REVIEW

Medical Nutrition and Disease, Second Edition (Gail Morrison, M.D., and Lisa Hark Ph.D., R.D.; Malden, MA; Blackwell Science, 1999; 394 pp; $34.95.)

Problem-based learning (PBL), in which specific study questions are posed in relation to clinical cases, has been used increasingly in the health sciences and other professional education. PBL combines the best elements of Socratic teaching and narrative, and many individuals find that they are more engaged and learn better when the important principles and facts are wrapped around concrete stories. This book applies PBL to the study of nutrition.

Oriented primarily to undergraduate and graduate students in nutrition, nursing and medicine, this well-organized and clearly written textbook is authored by top-rank RD and MD academicians from around the nation. The sections on nutritional assessment in medical practice and on vitamin and mineral therapy are nicely presented and very helpful. Those working with eating and weight disorders will benefit particularly from the sections on infants, children, and adolescents (which includes the case of an anorexic adolescent athlete) and obesity. Each chapter has clearly defined objectives, and well-designed tables are liberally sprinkled through the book. Since the book has a broader purpose, it also contains strong sections on nutritional topics, addressing special issues of older patients, cardiovascular, gastrointestinal, endocrine and renal disease, as well as enteral and parenteral nutritional support. The appendix includes answers to the review questions and a small glossary.

—J.Y.

Far-Reaching Effects of Sexual Abuse

Prior sexual abuse can have powerful effects upon weight and body dissatisfaction, self-image, and sexual activity, according to the results of a recent study reported at the Eating Disorders Research Society Meeting held in San Diego November 19-20.

Ann Kearney-Cooke, Ph.D. and Diann M. Ackard, Ph.D. recently evaluated the differences between females who had been sexually abused and those who had not been abused on body image self-image, self-consciousness and relationships with others. Their study was based upon a sample of 1,664 females (832 sexually abused and 832 not sexually abused) who responded to a survey in *Shape* magazine. The women were strictly matched on age and body mass index (BMI).

Greater body dissatisfaction and relationship problems

Females who had been sexually abused reported more body dissatisfaction, more self-consciousness, and less satisfaction with themselves in their relationships. They also were less comfortable having sex with the lights on and were more uncomfortable undressing in front of their sexual partner when compared with females who had not been sexually abused. Some of the detrimental effects of sexual abuse included dissatisfaction with and lack of control over the body, low self-esteem, increased self-consciousness, and poor sex life and relations with men.

Women who had been abused also were more likely to have eating disorders and more confusion about sexual identity. They were also less likely to use contraception regularly than those without a history of sexual abuse.

Questions & Answers

Smoking and Bulimia Nervosa

Q: One of my bulimic patients who had previously stopped smoking started smoking again when her bulimia symptoms improved. Is that common? What can be done to help her stop? (*A.A., Los Angeles*)

A: Women with bulimia nervosa are more likely to be smokers than comparison community controls or women with affective or anxiety disorders (*Int J Eat Disorders* 23:433-437, 1998). Similarly, once they stop smoking, women with histories of bulimia nervosa are more likely than others to resume smoking, and, since smoking cessation is often accompanied by weight gain, to attribute their smoking to concerns about weight. These findings point out how important it is for patients with bulimia nervosa who are or who have been smokers to be prepared for the possible impact of changes in eating and weight on their urges to smoke. Smoking cessation programs which may including nicotine patches may be helpful. Although bupropion has been shown to help reduce cigarette cravings, this medication is contraindicated in women with bulimia nervosa because of an associated increase in seizures found in earlier studies when women with bulimia were treated with bupropion.

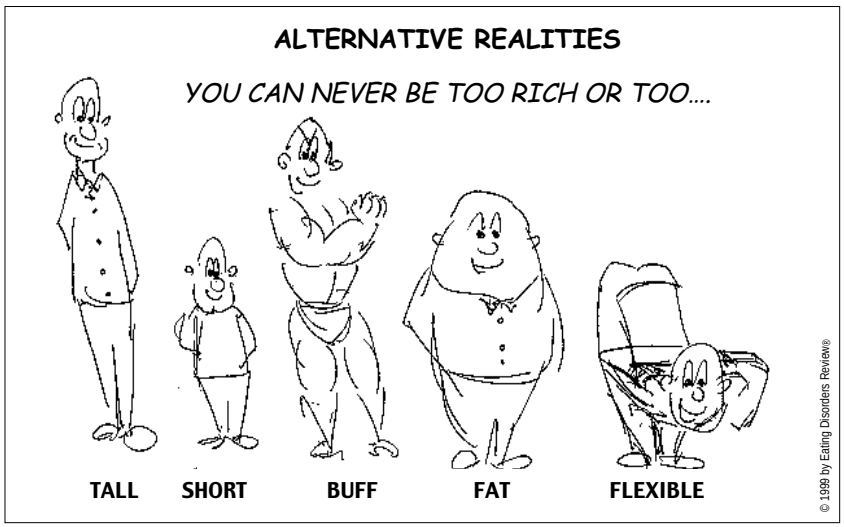
Appetite and Illness

Q. One of my patients always loses her appetite when she develops any sort of infectious illness, such as an upper respiratory infection. She says that her appetite simply vanishes. Is this a form of anorexia nervosa? *(L.Z., Dallas)*

A. Many different physiologic states can induce a true "anorexia" (i.e., loss of appetite) but have nothing to do with anorexia nervosa. It is well known that acute or chronic infection and inflammatory conditions, from common colds to influenza and even AIDS, and other conditions such as neoplasms, can cause anorexia. It is thought that biological processes responsible for this phenomena include the stimulation and synthesis of cytokines, compounds associated with immune responses, that include the interleukins IL-1 and IL-8 and tumor necrosis factor-alpha (TNF). All three of these compounds have been shown to induce anorexia by direct actions in the central nervous system. (*Am J Physiology* 1996; 270: R1394). However, they are not known to be factors in causing anorexia nervosa itself.

-J.Y.

Nibbles, by Hunter



"Hunter" chaired a panel at the 1999 meeting of the Eating Disorders Research Society.

In the Next Issue

Eating Disorders at the Millennium

As we enter a new century, what progress has been made and what lies ahead for patients with anorexia nervosa, bulimia nervosa, and binge eating disorder? Drs. Arnold Andersen, James Mitchell, Marsha Marcus, and Melissa Kalarchian give us an update.

- Morbid Obesity, Victimization, and Eating Disorders
- Smoking and Bulimia
- Assessing Readiness for Change in Anorexia Nervosa
- How Pregnancy Affects Bulimia

and much more….

Calendar

9TH INTERNATIONAL CONFERENCE ON ED
May 4-7, 2000 • New York Hilton
For information contact:
The Academy of Eating Disorders
(703) 556-9222

EATING DISORDERS REVIEW

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