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Integrating Dialectical Behavior Therapy Into Exposure Therapy for Complex Posttraumatic Stress Disorder

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Posttraumatic stress disorder (PTSD) is a common comorbidity in eating disorders patients. Patients who present with both PTSD and an eating disorder are often considered challenging to treat, and are frequently considered poor candidates for exposure therapy. Yet we have found it is sometimes easier to treat PTSD symptoms first via exposure than to treat the eating disorder in the presence of full-blown PTSD. Thus, identifying strategies to improve patient tolerance and to broaden the range of patients deemed appropriate for exposure therapy is a crucial next step for those of us who advocate the use of exposure for PTSD.¹

Although considerable evidence supports the effectiveness of exposure therapy for PTSD, recent discussions with colleagues indicate that many therapists are “giving up” on this treatment. In particular, clinicians argue that exposure does not meet the needs of highly comorbid PTSD patients, some of whom also have eating disorders.

Exposure therapy involves exposing patients to anxiety-provoking stimuli for prolonged periods to reduce associated fears. Repeated trials are typically used to enhance between-session habituation. In the case of exposure for PTSD, patients are exposed to memories of traumatic events (i.e.,

imaginal exposure) and to stimuli that remind the patient of the trauma (i.e., *in vivo* exposure).

Dialectical Behavior Therapy

In an attempt to identify strategies to facilitate exposure, we turned to the literature on borderline personality disorder (BPD). Individuals with complex PTSD are similar to those with BPD in that they are often considered to be very difficult to treat. One reason for this is the global nature of their emotional distress. In addition to chronic anxiety, persons with PTSD experience significant sadness/depression, shame, guilt, and anger. Many have chaotic lives and are involved with legal battles, abusive relationships, or may be unemployed.

Dialectical behavior therapy was designed by Linehan to address the impulsive behaviors, life chaos, and emotional deregulation associated with BPD and thus is useful for treating these same problems in individuals with PTSD. The increasing use of DBT in the treatment of eating disorders by many clinicians suggests possible utility in this area as well.

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Update

Suicide Risk Elevated for Those with Eating Disorders

Women with eating disorders are at least 50 times more likely to commit suicide and also have a higher risk of attempting suicide than do women of the same age and race, according to Debra L. Franko, Ph.D. and colleagues at Massachusetts General Hospital. For nearly 9 years the researchers followed 51 women with anorexia nervosa (AN), restricting subtype; 85 women with anorexia nervosa, binge-purge subtype; and 110 women with bulimia nervosa. The women were interviewed at 6- to 12-month intervals, and all who reported having depressive symptoms were asked about suicide attempts since the previous interview. During the study 4 women died by suicide; 23% reported at least one suicide attempt; and more than half (32) made several attempts. The diagnosis, duration of illness and binge frequency at intake did not distinguish those who attempted suicide from those who did not. The researchers found that higher frequency of purging or a history of alcohol or substance abuse or personality disorder did predict the time to the first suicide attempt among those with AN. Poorer psychosocial functioning was a significant predictor of suicide attempts for both anorexic and bulimic groups.

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'Modified DBT'

Patients with complex PTSD have a spectrum of problems dealing with emotions, ranging from full-blown BPD to difficulties specifically related to individual trauma histories. When patients exhibit chronic and severe suicidal behavior and a lack of basic skills for self-regulation, we refer them to comprehensive DBT programs. Most of the patients who enter our program, however, exhibit more circumscribed difficulties in these areas. While these patients are frequently considered "exposure-intolerant" by other clinicians, we have found that they are often able to complete exposure treatment with more limited "doses" of DBT. We refer to this more limited dosing as "Modified DBT."

DBT Biosocial Theory

The biosocial theory states that difficulties associated with BPD are produced when a person with temperamental vulnerability is raised in an invalidating environment.² Linehan designed the biosocial theory to improve therapists' ability to maintain a positive attitude towards their patients. Linehan's research suggests that maintaining a noncritical stance towards BPD patients is highly important,³ and we believe the same is true for patients with PTSD. Although working with trauma survivors is emotionally draining for therapists, we have found that using the biosocial theory improves our ability to like our patients.

Individuals with complex PTSD frequently experience significant invalidation during their lives and, as a result, often find the invalidating environment concept helpful. Discussion of invalidation may focus around others' reactions at the time of the trauma (e.g., telling the patient to put the experience behind him or her); others' reactions to PTSD symptoms; or events not directly related to the trauma that adversely influenced him or her during childhood. In addition,

explaining that self-invalidation can perpetuate distress improves understanding and in some cases helps to correct dysfunctional beliefs. Patients often say, 'I shouldn't feel this way' or 'I should be over this.' Yet, we have been surprised at how often these patients spontaneously begin to alter their beliefs once such beliefs are identified as examples of self-invalidation.

Dialectic of Acceptance/Change

Recently much has been written about the need to balance acceptance and change-based strategies.⁵ Linehan, however, was among the first to recognize the wisdom of balancing behavior therapy's historic focus on change with explicit attention to acceptance. The dialectic of acceptance and change is critical for both PTSD and eating disorders and exists on two levels, that of the patient and that of the therapist.

For the complex PTSD patient, balancing the dialectic entails admitting that there are things about oneself and one's life that cannot be changed. No matter how much patients may wish things were different, they cannot undo past traumas, mistakes, or failures by themselves or others. Patients must also address this dialectic in relation to their emotions. Patients enter therapy wanting to escape their painful emotions, a goal that presents a paradox for therapy since the amelioration of emotional suffering requires acknowledging their negative emotions so one may respond effectively.

The therapist must also maintain a balance between acceptance and change. Behavior therapy is a change-oriented treatment. With it, we help patients to change their maladaptive behaviors, dysfunctional thoughts and, by the first two methods, their negative emotions. Even acceptance is reached via change. For example, acceptance of weight in bulimia nervosa is often achieved via cognitive restructuring (CR), a change procedure.

As Linehan notes, approaches

that focus on change are clearly necessary, and a therapist who unconditionally accepts the patient without focusing on change is likely to do little good because new behavior and skills are neither taught nor learned. Acceptance techniques such as repeated and explicit validation, however, are also critical since PTSD patients often feel misunderstood when they are asked to make changes that seem impossible. When

therapy overemphasizes the need for change relative to acceptance, patients may re-experience the invalidation that occurred at the time of the trauma. This is particularly true for

survivors of abuse, who often experienced invalidation from legal and social systems as well as from family and friends. Making therapy “invalidation-free” is crucial to achieving a safe setting in which to address traumatic experiences.

Reducing invalidation in exposure therapy can be quite difficult. For example, a very articulate group of patients once informed us that simply by teaching exposure we were invalidating their primary coping strategy. In essence, the whole notion of exposure implied to these patients that their use of avoidance to cope was somehow wrong. We now explicitly encourage patients to discuss the benefits of avoidance, which validates its use as a coping strategy, before beginning to examine the negative consequences associated with avoidance. Feedback from patients about this change in focus has been uniformly positive and we find that patients are more committed to engaging in exposure therapy as a result.

Exposure and Mindfulness

After conducting exposure with many “unsuitable” patients, we have become aware of the extent to which exposure is not merely a technique but also a skill that a patient must acquire. In complex PTSD patients, trauma-related stimuli often trigger a range of emotions, such as anger, guilt, or shame. For exposure to be successful in facilitating habituation of

complete exposure therapy, it is important to point out potential problems that may arise from its use. First, it is clear that many PTSD patients can complete exposure therapy without the addition of DBT. Second, while current treatment manuals don't fully address the needs of clinicians, there is an ever-present danger that merging interventions may “water-down” efficacious treatments.

Similarly, use of modified DBT may decrease the therapist's attention to the core components of exposure-based treatment, thus resulting in inadequately administered or incomplete exposure.

The Future

While DBT has been

scrutinized as an intervention for parasuicidal and impulsive behaviors, its routine use to enhance exposure therapy has not been empirically studied. We believe that integrating DBT-based therapy leads to improved tolerance of exposure therapy for PTSD. Systematic clinical investigations, however, are needed to demonstrate this effect and to examining the underlying mechanisms of this approach.

Suggested Reading

1. Becker CB and Zayfert C. Integrating DBT-based techniques and concepts to facilitate exposure treatment for PTSD. *Cognitive Behavioral Practice* 2001; 8:107.
2. Foa, EB and Rothbaum, BO. *Treating the trauma of rape: A cognitive-behavioral therapy for PTSD*. New York: Guilford Press, 1998.
3. Sherain EN, Linehan MM. Dialectical behavior therapy for borderline theoretical and empirical foundations. (*Acta Psychiatr Scand* 1994; 89:61)
4. Linehan MM. *Cognitive Behavioral Treatment of Borderline Personality Disorder*. New York: The Guilford Press, 1993.

DBT at a Glance

Although DBT is a cognitive behavioral treatment (CBT), it differs from standard CBT in a number of ways, including its emphasis on validation, mindfulness, and acceptance and change. In its textbook form, DBT is delivered as a comprehensive program of individual therapy and group skills training. Treatment is ideally administered by a team and is conceptualized as having four stages.

Stage I DBT focuses on reducing parasuicidal behavior and increasing patients' ability to regulate their emotions.

Stage II DBT targets symptoms of PTSD and is similar to other exposure-based treatments for PTSD.

Stages III and IV target self-respect and development of meaning in one's life.

anxiety responses, however, the patient must learn to selectively focus attention on the anxiety associated with the stimuli. Selective focusing of attention requires patients to scan the range of their affective responses and then selectively attend to sensations of anxiety to the exclusion of other emotions. As several patients have noted, this is not a skill that they necessarily bring to treatment.

Mindfulness enables patients to observe and label their emotional reactions to traumatic memories. Thus, they learn to identify the sensations associated with anxiety (versus shame, guilt, anger) and selectively attend to them. A number of our patients have reported that once they learn to focus on their anxiety, they can “shelve” other emotional reactions in order to complete the exposure task at hand.

Dangers/Pitfalls

Although modified DBT is a useful tool for helping patients

Childhood Obesity: Finding a More Cost-Effective Treatment Approach

Group treatment may be more cost-effective than a combination of group and individual therapy for treating childhood obesity, according to researchers at State University of New York at Buffalo (*Int J Obesity* 2001;25:1843).

When 31 families with obese 8- to 12-year-old children were randomized to group therapy or mixed group and individual therapy, the cost of mixed group and individual therapy was 2.8 times higher per family than was group treatment (\$1390.70 versus \$495.51). The percentage of change in body mass index after the study was similar in the two groups.

Group sessions

The group sessions, for parent and child, included 8 weekly meetings, 4 biweekly sessions, and 1 monthly session. The participants received parent and child manuals, with modules on diet, activity, behavioral change, parenting, and coping with common problems faced by obese children, including peer teasing and body image concerns.

Mixed treatment

The mixed treatment group had 15- to 20-minute individual sessions with a therapist and 40 minutes of group therapy. The individual therapy sessions were designed to help the parents and children identify the behaviors that influenced their weight changes, to evaluate whether program goals were being met, to determine the accuracy of food and habit records, and to give feedback and help solve problems that hindered behavioral changes.

Both groups were introduced to the Traffic Light Diet, a program where foods are rated as green, yellow, or red, depending upon their caloric and nutrient content. "Green foods," such as fruits and vegetables, are low in calories. "Yellow foods," such as yogurt and

2% milk, contain moderate amounts of calories. "Red foods," for example, potato chips and candy, are high in calories but have little nutrient value.

Children and parents were instructed to consume between 1000 and 1200 kcal per day, and to reduce their intake of "red" foods to less than 15 per week. Both groups also received information about physical activity, and were given exercise goals that began at 30 minutes per week and increased until they reached 180 minutes per week at moderate intensity. Participants weighed themselves daily at home and graphed their weight. They also kept a "habit" book in which they recorded foods and caloric intake, number of red foods and time spent in physical activity.

Why did less treatment work as well?

Although both group and individual treatments for obesity involved education about energy balance and behavior change as well as treatment to help patients make those changes, the difference in results may have been due to the unique effects of group therapy. According to the authors, group sessions may provide social support and problem-solving, areas that also can be influenced by individual therapy. Members of a group provide information to each other, such as tips on nutrition, exercise, lifestyle changes, or examples of how they coped with a difficult situation.

The authors did comment that the study group was mildly to moderately obese and further research is needed to see if their findings would apply to children who are more obese, and thus who might need individualized treatment. Another advantage of family-based treatment is that it can help modify some aspects of the family environment that may be contributing to the development of obesity.

Gender Differences Are Identified in BED Patients

Unlike other eating disorders, such as anorexia nervosa and bulimia nervosa, which are significantly more common among women, a sizeable number of binge eating disorder (BED) patients are men. One estimate is that women are about 1.5 times more likely to develop BED than are men (*Int J Eat Disord* 1993;13:137).

Some gender differences have been identified. For example, among men, binge eating may be linked to negative emotions, such as depression and anger, while in women binge eating may be tied to diet failures. In addition, women may be more prone than their male counterparts to try extreme dieting or to compensate for their weight by purging or extreme exercise.

Dr. Declan T. Barry and other researchers at Yale University School of Medicine enrolled 182 adults (147 women and 35 males) in a controlled outpatient trial (*Int J Eat Disord* 2002; 31:63.). All subjects met DSM-IV research criteria for BED. A combination of questionnaires and clinical interviews was used during the study, including the Structured Clinical Interview for DSM-IV Axis I disorders, the Eating Disorder Examination-Questionnaire version, and the Body Shape Questionnaire.

Men: more likely to be obese and hungrier

Men and women were similar on several developmental variables, including age when first overweight, age at first diet, age at onset of regular binge eating, and number of 20-lb weight cycles. Similarly, men and women did not differ significantly on frequency of binge eating, eating concerns or weight or shape concerns.

As for differences, men did have significantly higher current BMIs than did women, and were more likely than women to be rated as obese (86% vs. 71%, respectively). They also had significantly higher degrees of hunger. Men also reported a higher frequency of past drug abuse problems. However, the women had significantly higher rates of body image dissatisfaction (measured on the Eating Disorder Examination-Questionnaire) and greater cognitive restraint (as reported on the Three-Factor Eating Questionnaire; Stunkard and Messick, 1985).

BOOK REVIEW

Handbook of Obesity Treatment

(Edited by Thomas A. Wadden and Albert J. Stunkard New York, Guilford Press, 2002; 624 pp.; \$65.00)

What a welcome textbook! This big fat book (very appropriate for obesity) provides the single best collection of up-to-date expert writings on all aspects of obesity that I've seen in quite a while.

Basically, here's the plan: 27 chapters in six parts cover prevalence, consequences, and etiology; health consequences of weight reduction; assessment of the obese adult; treatment of adult obesity; additional approaches and resources; and treatment and prevention of childhood obesity.

The authors are world-class clinicians and include many whose pioneering research and contributions to major editorial boards have informed and shaped the field for decades. The chapters are clearly written, filled with charts and

figures, and are well referenced. The range of sciences from genetics through epidemiology is well covered, and the assessment and treatment sections are superb.

What's new and current? Well, for one, the chapters on body weight regulation and genetics have lucid summaries of new research concerning genetic influences upon weight regulation (with more than 200 genes thus far identified that contribute to this physiology), including excellent discussions of agouti peptide, leptin, NPY, and melanocortin and many of their associates. From the public health perspective, excellent discussions of the "toxic environment" and New World syndrome are informative.

The chapter on "Behavioral Assessment of the Obese Patient" by Wadden and Phelan includes a copy of a 17-page "Weight and Lifestyle Inventory" (WALI) you will want to copy and use as an assessment tool for your new patients. This tool by itself is well worth the price of the book. Readers of *Eating Disorders Review* will especially want to thoroughly

read Stunkard's chapter on "Binge Eating Disorder and Night-Eating Syndrome," Wadden et al on "Psychosocial Consequences of Obesity and Weight Loss," and most of the 13 treatment chapters that span the field.

Here you'll find excellent information on exercise, behavioral interventions, drug treatments, surgery, maintenance of weight loss, commercial and self-help programs, treatment for minorities, obesity and body image disturbance, cognitive-behavioral treatment of obesity, obesity and self-esteem, and thoughtful appraisals of non-dieting approaches. The self-esteem chapter includes explicit directions and practical suggestions for larger individuals, and advice to parents ("dos" and "don'ts") that those counseling such individuals will want to review.

This is a book I'll return to again and again to prepare lectures and slides, and from which I will continually learn. It's a wonderful cafeteria that offers a lot to assimilate and digest, and is well worth the price.

—J.Y.

Fast Food: Now About One-Third of Teens' Meals Away From Home

We live in a fast-food world. In 1970, 25% of the money Americans spent on food went to meals eaten away from home. By 2010, it is estimated that 53% of each food dollar will be spent on food eaten away from home (National Restaurant Association, *Restaurant Industry Pocket Facts Book*; www.restaurant.org/store/C1660.html, 2000). Much of this money is spent on eating out. Fast-food outlets are especially popular among teens, who visit one an average of twice a week; fast-food restaurants now supply about one-third of the meals teens eat away from home.

Learning how teens eat out

To learn more about the impact of fast food on teens, Dr. S. A. French and epidemiologists at the University of Minnesota studied 4746 adolescent students from grades 7-12 at 31 secondary schools in a large metropolitan city (*Int J Obesity* 2001;25:1823). The ethnic makeup of the study was 48.5% Whites, 19.9% Blacks, 19.2% Asian

Americans, 5.8% Hispanics, 3.5% American Indians, and 3.9% mixed or other ethnic groups.

Total energy and fat intake was higher in meals eaten out

The most striking finding of this study was a strong association between fast-food meals and nutrient intake. Teens who ate out at fast-food restaurants had a total energy intake 37% (females) to 40% (males) higher than teens who did not eat at fast-food restaurants during the past week. The percentage of energy from fat was 9% higher among males and 13% higher among females who reported making 3 or more visits to a fast-food restaurant during the past week than among teens who didn't eat out at fast-food restaurants.

As might be expected, visits to fast-food restaurants were also tied to a significantly lower intake of fruit, vegetables, grains, and servings of milk, and to a significantly higher intake of soft drinks, cheeseburgers, pizza, and french fries.

The study yielded some additional interesting findings. For example, female adolescents in single-parent homes were more likely to visit fast-food restaurants than were girls from homes with two parents. Teens who worked 10 or more hours per week and males who were active in sports were also more likely to frequent fast-food restaurants.

In summary, fast foods were associated with poorer nutrition and poorer food choices among teens. According to Dr. French and colleagues, interventions to change this pattern or to improve the specific food selections made at fast-food restaurants may need to address the perceived convenience and importance of healthy eating among teens and their parents. For their part, fast-food restaurants could improve nutrition by providing labeling on fast-food packages, restricting portion sizes for higher-fat food choices, and promoting more healthful food choices by reducing their cost.

Establishing an Inpatient Refeeding Protocol

The refeeding syndrome, severe hypophosphatemia and associated metabolic complications, is well documented in patients with anorexia nervosa. Such patients have depleted stores of potassium, magnesium, and calcium, changes in glucose metabolism, dramatic fluid shifts, and thiamin deficiency. These rapid metabolic changes can create life-threatening conditions such as cardiac arrhythmias and heart failure.

It is interesting to note that almost all reports of hypophosphatemia have occurred after the use of parenteral nutrition. (Parenteral nutrition involves feeding through a source other than the alimentary tract, such as using an intravenous line.) Although I have seen this complication occur during oral renourishment, there are no published cases to date. In 1996, however, Dr. C. Laird Birmingham and colleagues at St. Paul's Hospital (SPH) published what is believed to be the first case in which hypophosphatemia occurred during enteral (oral and tube feeding) nutrition support. During the renourishment process, a 22-year-old woman with anorexia nervosa developed heart failure secondary to hypophosphatemia brought on by aggressive nasogastric tube feeding (NGTF).

For Dr. Birmingham and the SPH inpatient eating disorders treatment team, the case of the 22-year-old woman was a wake-up call. To reduce the risk of refeeding syndrome, they developed a formalized refeeding protocol with specific recommendations for prophylactic phosphorus supplementation.

Regardless of the route of nutrient delivery (oral, enteral, or parenteral), chronically malnourished patients require close medical monitoring during refeeding. Table 1 shows the most current protocol used at St. Paul's Hospital,

Vancouver, when refeeding patients orally or by NGTF. Table 2 describes the recommended steps for monitoring patients during inpatient admission. It is important to emphasize that the following treatment recommendations are based solely on the opinion of clinicians at St. Paul's Hospital.

Nutrition Goals of Refeeding

First, nutritional deficiencies are corrected. If the patient's serum magnesium, electrolytes, and phosphorus are normal, begin routine supplementation according to standard admission orders. Continue to monitor blood tests every 2 to 3 days. Routine supplementation of phosphorus and potassium is essential to reduce the risk of refeeding syndrome *even if the initial blood tests are normal.*

If the blood tests are abnormal, deficiencies are corrected with the use of oral supplements or an intravenous (IV) line. The severity of the deficiency determines the most appropriate mode of supplement delivery. If the serum blood work is significantly below normal, consult with the team physician to determine whether IV repletion is necessary. Low serum magnesium

always requires IV supplementation because intestinal absorption of oral magnesium is not efficient enough to correct blood levels quickly.

If an IV preparation is necessary, normal saline, rather than dextrose solution, is recommended because it reduces the patient's insulin response and potentially lowers the

TABLE 1. STANDARD INPATIENT ADMISSION ORDERS

Blood Tests

CBC, electrolytes, urea, creatinine, magnesium, zinc, calcium, phosphorus, ferritin, RBC folate, vitamin B₁₂, liver function tests

Routine Supplementation

- Potassium chloride, 24 mEq TID orally
- Sodium phosphate solution, 5 ml TID orally
- Zinc gluconate, 105 mg/day orally
- Thiamin, 100 mg/day for 5-7 days orally
- 1-2 tablets complete multivitamin with minerals

Diagnostic Tests

- Order EKG; repeat in 14 days
- Urinalysis, routine and microscopic

Vital Signs

- BID

Anthropometrics

- Height
- Weight
- BMI
- % usual body weight
- % estimated ideal body weight

Others (if indicated)

- Normal saline recommended for IV rehydration during initial phase of refeeding
- Gastric motility agent (e.g., domperidone maleate [Motilium.®]*, 10 mg with each meal) recommended for slow gastric emptying rate
- Docusate (Colace.®), 200 mg BID orally recommended for bowel regulation

*—available in Canada

TABLE 2. RECOMMENDED MONITORING DURING ADMISSION

Blood Tests

If admission electrolytes, magnesium and phosphorus levels are abnormal, measure daily until the serum values return to normal. If serum values are normal, measure every 2 days (e.g., Monday, Wednesday, Friday). Other blood tests should be ordered as needed.

Anthropometrics

Weigh patients once a week only, using the same scale

Supplementation

For entire duration of hospital stay, as needed

Vital Signs

BID for a minimum of the first two weeks of admission

risk of refeeding complications. Repeat blood tests on a daily basis until the serum values for magnesium, potassium, and phosphorus have normalized. Nutrient repletion may take several days and aggressive refeeding should be avoided during this time.

Next, weight loss is stabilized and weight restoration begun.

The inpatient dietitian meets with the patient on admission to create an individualized meal plan. A maximum intake of 800 kcal/day is recommended for patients with abnormal serum values. Once blood test results normalize, the patient's energy intake can be gradually increased.

Patients with normal blood work can begin refeeding with a meal plan that meets their estimated basal energy requirements for metabolic stabilization. This value is determined by using the Harris-Benedict Equation and is almost always between 1200 to 1600 kcal/day. For the weight in this equation, use ideal body weight or the patient's weight at a BMI of 20. The Harris-Benedict Equation calculates only the patient's basal energy requirements (i.e., the amount of energy expended by the body to maintain vital processes such as respiration and circulation)

The goal is a 1- to 2-kg weight increase each week. In collaboration with the patient, the dietitian increases the meal plan weekly by 500 to 700 kcal/day each week to achieve this weight gain goal. Meal plan adjustments are made until the desired energy intake is established. Caloric needs for weight gain vary widely and may range from 2000 kcal/day to more than 4000 kcal/day. For patients admitted with a body mass index (BMI) of 20 or greater, work to establish an energy intake that promotes weight maintenance and a healthy eating pattern.

During the first 24 hours of the patient's hospital stay, the inpatient treatment team assesses the patient's ability to eat and use liquid supplement to meet 100% of their meal plan. Patients not able to meet their nutritional needs

through oral intake require nasogastric tube feeding (NGTF).

NGTF is initiated if necessary. A 1 kcal/ml formula is recommended when initiating NGTF. The safest rate to start the tube feeding depends on the severity of the patient's malnutrition. For patients who are above 75% of median ideal body weight (BMI=22.5), start NGTF at 50 ml/hr for 24 hours/day. Monitor serum glucose, magnesium, phosphorus and potassium every 2 to 3 days.

For patients who weigh less than 75% of median ideal body weight, initiate tube feeding at 25 ml/hr for 24 hr/day. Serum glucose, magnesium, phosphorus and potassium are monitored daily for the first 3 to 5 days. If blood work remains stable during this time monitoring can be reduced to three times a week (e.g., Monday, Wednesday, and Friday).

Increase the NGTF rate to 50 ml/hour after serum values have remained stable for a 36- to 48-hour period.

If serum values drop below normal at any time, supplementation is increased, to correct the deficiencies, but the NGTF rate is not increased until the serum values are stable again. After a 48- to 72-hr period, if the blood work has remained stable, increase the NGTF rate to 75 ml/hr for 24 hours/day. Continue to monitor blood work every 2 to 3 days.

After another 48 to 72 hours, tube feeds can be increased to 100 ml/hr and progress to the final rate can be made by increasing the rate every 48 to 72 hr. The goal NGTF rate can be calculated using the Harris-Benedict Equation (1.2-1.3 as the stress factor and adding an extra 500 -1000 kcal/day for weight gain). Continue to monitor the blood work at least 2 to 3 times weekly. If higher NGTF rates are not well tolerated by the patient, a more energy-dense formula (e.g., 1.5 to 2 kcal/ml) can reduce the volume of supplement needed.

The tube feeds are tapered once the patient is motivated to increase his or her oral intake. The NGTF formula is decreased by an amount

equivalent to the caloric value of the patient's oral intake and continue until the tube feeds are no longer required. Finally, monitor serum values 2 to 3 times a week.

Suggested Reading

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- Solomon S, Kirby D. The Refeeding Syndrome: A review. *JPEN* 1990; 14:90.
- **Linda M. Watts, MA RD, and Donald J. Barker, RD**

Parental Influences on Obesity and Subclinical Bulimia Nervosa

The connections between the quality of the parent-child relationship and disordered eating patterns in the child have been a topic of interest for a long time. For example, overweight children have a two- to fourfold risk of becoming obese as adults, and women with bulimia nervosa report much more conflict, hostility, and anger in their families than do control women (*Am J Psychiatry* 1985; 142:1321). Two recent studies have revealed some consequences of parental effects.

Obese children: eating increased when mother was present

In the first study, Dr. Reinhold G. Laessle and colleagues at the University of Trier, Germany, recruited 80 obese and normal-weight children 8 to 12 years of age (36 girls, 44 boys) and evaluated their eating styles with and without their mothers being present in the laboratory (*Int J Eat Disord* 2001;30:447).

They found that the eating behavior of obese children differed significantly from that of normal-weight children only when the mother was present in the laboratory. In the presence of their mothers, overweight children ate faster, took larger bites, and accelerated their rate of eating toward

PARENTAL INFLUENCE continued on page 8

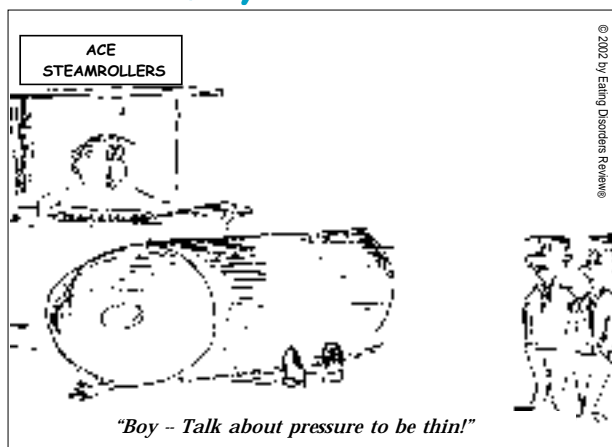
Questions & Answers

DBT and Eating Disorders

Q: I've heard a lot about Dialectical Behavior Therapy (DBT). Does it have any application to eating disorders? (*L.S., Boston*)

A: Dialectical behavior therapy, a psychotherapeutic treatment that teaches adaptive skills to enhance emotional regulation capabilities, was designed by Marsha Linehan at the University of Washington and has been shown to be effective for treating patients with borderline personality disorders who exhibit parasuicidal behaviors (see the article on p. 1). Because it's been empirically proven, others have been interested to see whether this therapy might help for other clinical conditions, especially where patients have chaotic temperaments and problems. Several treatment programs have experimented with this approach for eating disorders patients. Wonderlich and associates at the University of North Dakota are incorporating features of DBT in a research program for patients with multi-impulsive bulimia nervosa and on the basis of preliminary observations suggest that it's quite helpful. Recently, a modified form of DBT, 2-hour group sessions for 20 weeks, was found to be effective for treating women with binge eating disorder, 89% of whom stopped binge eating by the end of treatment (*J Consulting and Clin Psychology* 2002; 69: 1061). Although at six-month follow-up

Nibbles, by Hunter



abstinence rates were down to 56%, this is still a promising approach. Those interested in learning more are advised to read Linehan's work and treatment manuals.

—JY

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the end of the meal. The scientists theorized that the accelerated eating might be the result of former reinforcing processes during family meals, when the mother may have urged the child to eat faster and to take larger bites to clean the plates faster. Another possibility is that the presence of their mother may have increased stress and anxiety among the obese children, which led to faster eating and bigger bites as a coping mechanism.

Marital discord and subclinical bulimia nervosa

In a second study, a twin registry was used to investigate the relationship between parental relationships and subclinical bulimia nervosa. The Virginia Twin Registry is a population-based longitudinal study of Caucasian female twins, and includes a systematic review of all birth records in the Commonwealth of Virginia since 1918.

The researchers used reports of twin lifetime psychopathology obtained from 2,163 individuals, including both members of 1,033 pairs of twins. Both parents provided information about the quality of the parental relationship and parental lifetime psychopathology (*Int J Eat Disord* 2001; 30:389). A diagnosis of BN was made with the Structured Clinical Interview for DSM-III-R (SCID). And a second interview added questions about the severity of bulimic symptoms.

As might be expected, the poorer the marital relationship, the greater the chance

that the offspring would have subclinical bulimia nervosa. An unhappy marriage also predicted the presence of generalized anxiety disorder and alcohol dependence. These results support the notion that when the parental relationship is filled with conflict and hostility, it can at least partially act as a risk factor for subclinical bulimia nervosa.

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