

## ANOREXIA NERVOSA, BULIMIA NERVOSA, and BINGE EATING DISORDER

### ANOREXIA NERVOSA

#### 1. History

First recognition of anorexia nervosa usually attributed to Richard Morton (1689) who described "nervous consumption." Clearly described as the syndrome we know today about 100 years ago, independently by Laseque ("l'anorexie hysterique") and Gull ("anorexia nervosa").

#### 2. Diagnostic Criteria in DSM-IV

- A. Refusal to maintain body weight at or above a minimally normal weight for age and height (e.g., weight loss leading to maintenance of body weight less than 85% of that expected; or failure to make expected weight gain during period of growth, leading to body weight less than 85% of that expected).
- B. Intense fear of gaining weight or becoming fat, even though underweight.
- C. Disturbance in the way in which one's body weight or shape is experienced, undue influence of body shape or weight on self-evaluation, or denial of the seriousness of current low body weight.
- D. In post-menarchal females, amenorrhea, i.e., the absence of at least three consecutive menstrual cycles. (A woman is considered to have amenorrhea if her periods occur only following hormone, e.g., estrogen, administration).

Specify type:

**Restricting type:** During the current episode of Anorexia Nervosa, the person has not regularly engaged in binge-eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, or enemas).

**Binge eating/purging type:** During the current episode of Anorexia Nervosa, the person has regularly engaged in binge-eating or purging behavior (i.e., self-induced vomiting or the misuse of laxatives, diuretics, or enemas).

#### 3. Clinical characteristics<sup>1</sup>

- A. About 90% women. Overwhelming majority of cases begin between ages 12 and 30.

## B. Associated psychological and behavioral features

1. Obsessional preoccupation with food (e.g., calorie counting, recipe collecting).
2. Unusual food-related behavior (e.g., cutting food into small pieces, food hoarding, procrastination over food, bizarre food combinations).
3. Bulimia
  - a) Episodes of uncontrollable binge eating during which the patient consumes large quantities of food in a short period of time, realizes this is abnormal, and feels guilty and ashamed thereafter.
  - b) Probably occurs in 1/3 to 1/2 of patients with anorexia nervosa.
  - c) Several thousand calories may be consumed in one sitting, usually followed by self-induced vomiting or laxative abuse.
  - d) Associated with other evidence of poor impulse control, e.g., suicide attempts, drug use.
4. Diet pill/laxative/diuretic abuse.
5. Social isolation (e.g. withdrawal from friends and family).
6. Increased physical activity, both to burn up calories and as a point of emotional reassurance. Lethargy is a late and very worrisome symptom.
7. Depression. Not melancholia, but pervasive distortion of pleasure and sources of satisfaction.

## C. Physiological changes

1. Hypothermia, bradycardia, hypotension.
2. Amenorrhea occurs in 1/3 - 1/2 before significant weight loss. Hormonally, characterized by low estrogen, LH and FSH and mimics a pubertal or prepubertal state.
3. Edema occurs occasionally, often during refeeding.
4. Anemia, leukopenia.
5. Moderately abnormal LFT's are common in severe weight loss.
6. Fluid and electrolyte disturbances, especially in those who use purging techniques. Mild dehydration is common. Hypokalemia may be serious among vomiters and laxative abusers.

7. Elevated cholesterol.
8. Gastric motility is slowed. (Complaints of fullness may be real.) Constipation frequent.
9. Osteoporosis. Treatment of underweight patients with estrogen appears ineffective.
10. Basal metabolic rate is much reduced. T4 levels are low-normal, T3 levels are low.
11. Plasma cortisol levels are high, due to increased cortisol production and decreased metabolism. Dexamethasone suppression is abnormal.

Most changes are partially or completely related to weight loss and do not require specific intervention.

#### 4. Starvation Effects

Many of the symptoms and signs of anorexia nervosa are seen in any form of starvation, self-induced or otherwise. This includes obsessional preoccupation with food, unusual food related behaviors, bulimia, social isolation, and depression. Not increased physical activity. The effects of starvation thus contribute to psychological distress and feeling out of control, and may lead to more dieting.

#### 5. Differential Diagnosis

Typical cases are not hard to recognize. In atypical cases, consider chronic disease (e.g. TB, AIDS), malignancy, malabsorption or gastric obstruction, Crohn's Disease, hyperthyroidism, Addison's disease, and brain tumors. It is rare for patients with such illnesses to present with the desire for thinness and increased physical activity characteristic of anorexia nervosa. Also, consider other primary psychiatric diagnoses: primary depressive illness, schizophrenia.

#### 6. Epidemiology

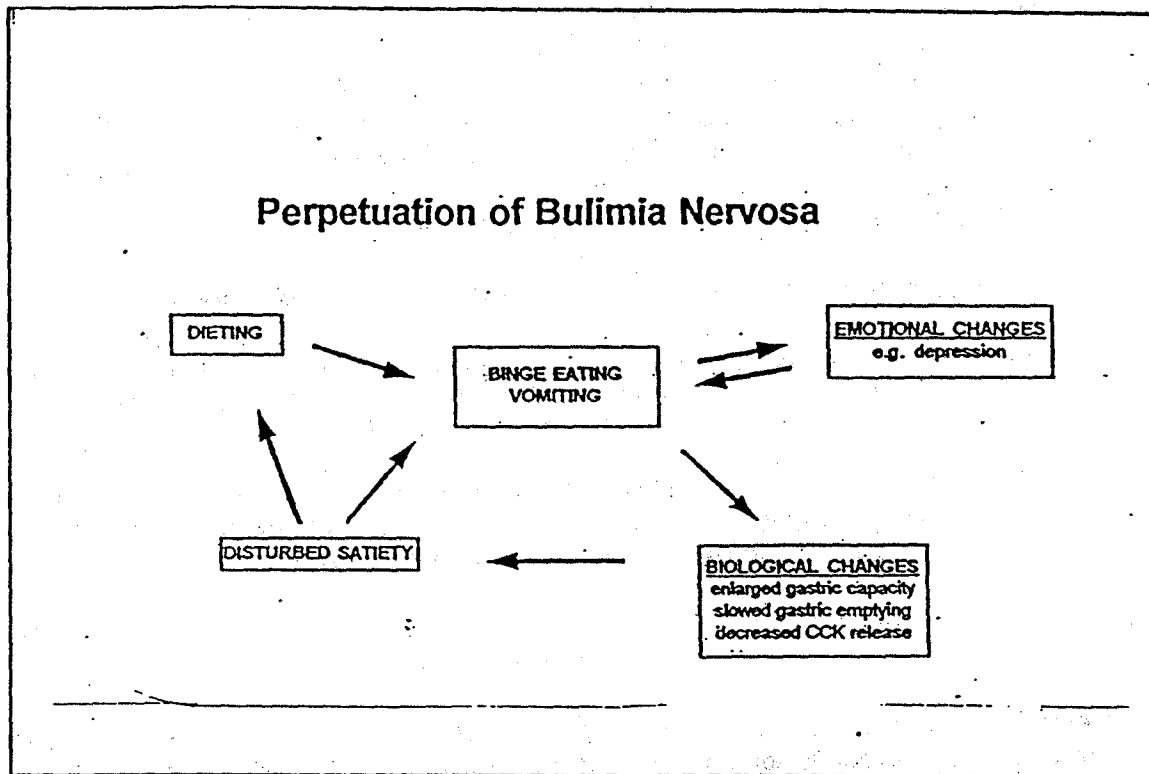
Female to male ratio 10-20 to 1. Middle and upper-middle classes may be at higher risk. Overall incidence about 5 per 100,000 women per year, but prevalence as high as 1-5% of high risk groups (e.g. private girls' schools). Incidence has probably increased in the last half century. About 90% of cases begin between ages 12-35 years; 5-10% have primary amenorrhea. Tendency for slight premorbid obesity, especially among bulimics.

#### 7. Natural History

Precipitating events include separation or loss, circumstances with new demands (e.g. dating), or physical illness. These, or others, lead to perceived threat to self-esteem and an attempt to resolve the threat and re-exert control by dieting. Usually a significant length of time (1-3 years) between onset of illness and presentation to professional.

In long term follow-up, 40% do well, 30% show partial recovery, 20% remain chronically

## 10. Possible Model of Bulimia Nervosa



### BINGE EATING DISORDER

#### 1. History

First recognized as a distinct pattern among the obese by Stunkard in 1959.<sup>15</sup> A growing literature, especially in the last decade, suggests that obese individuals who binge eat are likely to be depressed, to be more obese and, perhaps, to be more difficult to treat.

#### 2. Suggested Criteria in DSM-IV Appendix

- A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:
- (1) eating, in a discrete period of time (e.g., within any 2 hour period), an amount of food that is definitely larger than most people would eat during a similar period of

## BULIMIA NERVOSA

### 1. History

While broadly defined "binge eating" has presumably existed for as long as there have been humans and while a number of cases were reported earlier, the syndrome of bulimia nervosa was clearly described by Gerald Russell in 1979.<sup>4</sup>

### 2. Diagnostic Criteria in DSM-IV

- A. Recurrent episodes of binge eating. An episode of binge eating is characterized by both of the following:
  - (1) eating, in a discrete period of time (e.g., within any 2 hour period), an amount of food that is definitely larger than most people would eat during a similar period of time and under similar circumstances; and,
  - (2) a sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating).
- B. Recurrent inappropriate compensatory behavior in order to prevent weight gain, such as: self-induced vomiting; misuse of laxatives, diuretics, enemas, or other medications; fasting; or excessive exercise.
- C. The binge eating and inappropriate compensatory behaviors both occur, on average, at least twice a week for three months.
- D. Self-evaluation is unduly influenced by body shape and weight.
- E. The disturbance does not occur exclusively during episodes of Anorexia Nervosa.

Specify type:

**Purging type:** during the current episode of Bulimia Nervosa, the person has regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas.

**Non-purging type:** during the current episode of Bulimia Nervosa, the person has used other inappropriate compensatory behaviors, such as fasting or excessive exercise, but has not regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas.

### 3. Clinical Characteristics<sup>5</sup>

Predominantly female. Most patients presenting to clinics are of normal body weight. Onset mid-late teens, with presentation for treatment 3 to 7 years later. Past history of anorexia nervosa in about one-third.

### 4. Complications<sup>6</sup>

- a) Dental disease (vomiters): stomach acid erodes dental enamel.
- b) Salivary gland enlargement (vomiters): benign, painless hypertrophy. Probably is source of elevated serum amylase.

- c) Menstrual irregularity, etiology unclear.
- d) Fluid and electrolyte disturbances: hypokalemia; alkalosis in vomiters; acidosis in laxative abusers.
- e) Paresthesias, major motor seizures.
- f) Myopathy in ipecac abusers.
- g) Gastric rupture.

### 5. Eating Behavior<sup>7</sup>

Distinction between 'subjective' and 'objective' binge eating episodes. Most patients who meet criteria for bulimia nervosa probably engage in both. Laboratory studies document clearly excessive food intake, but little support for "carbohydrate craving." Rather, patients (and controls!) tend to eat excessive amounts of sweet, high fat foods when overeating. When not overeating, many patients restrict food intake.

### 6. Comorbidity<sup>8,9</sup>

There is clearly an increased frequency of affective disorder among patients with bulimia nervosa; in clinic samples, ~25% have current major depression and 50 to 75% have past histories of major depression. There is also an increased frequency of substance abuse, especially of alcohol and stimulants. Some, but not all, investigations have noted increased frequency of anxiety disorders, especially social phobia. Axis II disorders, especially Borderline Personality Disorder, are common, but not universal. The etiological relationships between bulimia nervosa and these other disorders are presumably quite complex.

### 7. Natural History<sup>10</sup>

Few data are available. Several studies have reported high rates of chronicity and of relapse, but clearly many patients also make complete recoveries.

### 8. Epidemiology<sup>11</sup>

Prevalence of bulimia nervosa meeting DSM-IV criteria is probably 1-2% among young women; at least as many have subthreshold cases.

### 9. Treatment<sup>12-14</sup>

Over 10 double-blind, placebo-controlled trials have demonstrated that antidepressant medication is more effective than placebo in the short-term treatment of bulimia nervosa. However, the response to medication is often only partial, and long-term outcome are not encouraging about the efficacy of medication when used in the absence of psychotherapy.

Cognitive-behavioral therapy (CBT) is clearly effective in short-term, and, possibly, in long-term as well. There are indications that structured, but less behavioral interventions, such as interpersonal psychotherapy (IPT), may also be effective.

There are small but significant advantages to combining psychotherapy with medication.

ill and 10% die (8% malnutrition, 2% suicide). Good prognosis related to early age of onset, absence of bulimia and absence of chronicity.

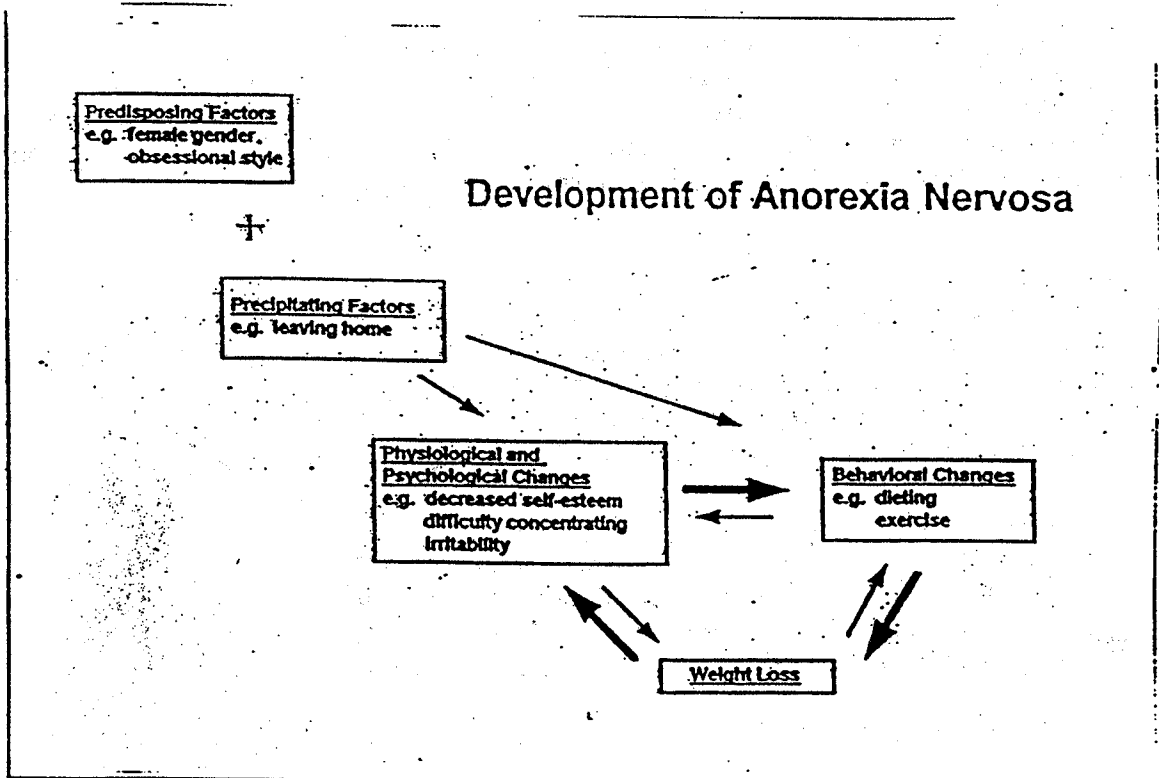
## 8. Treatment<sup>2,3</sup>

Hospitalization should be considered for rapid or severe weight loss (e.g., less than 80% of ideal body weight), for medical complications and for failure of outpatient treatment. Most inpatient centers utilize behavioral limits of some variety to encourage weight gain, and are successful. Initially, enough calories are supplied to maintain body weight (~1500 kcal/day). Calories are then increased by 50% every 3-5 days to achieve weight gain of 2-4 lbs. per week. Tube feeding and parenteral nutrition may be necessary in extremely difficult cases.

Medications are ancillary method of treatment; they may be useful in an occasional case, but no data to support their routine use. Antipsychotics, especially chlorpromazine, have been used to control activity and reduce anxiety; may rarely be helpful but will not alter disturbed thinking. Some evidence exists that amitriptyline and cyproheptadine may be of some use, but not impressive. Recent speculation regarding fluoxetine, but no controlled data. No evidence that hormonal treatment, such as estrogen replacement, is especially useful.

Most therapists suggest that an empathic relationship is the critical foundation of therapy. Psychological issues vary among patients but issues of control, independence, competition and erroneous identification of affective states are common. Must help patient identify how she tries to simplify life by reducing everything to an issue of weight.

## 9. Model of Development



- time and under similar circumstances; and,
- (2) a sense of lack of control over eating during the episode (e.g., a feeling that one can't stop eating or control what or how much one is eating).
- B. The binge eating episodes are associated with three (or more) of the following:
- (1) eating much more rapidly than normal
  - (2) eating until feeling uncomfortably full
  - (3) eating large amounts of food when not feeling physically hungry
  - (4) eating alone because of being embarrassed by how much one is eating
  - (5) feeling disgusted with oneself, depressed or feeling very guilty after overeating
- C. Marked distress regarding binge eating is present.
- D. The binge eating occurs, on average, at least two days a week\* for six months.
- \*The method of determining frequency differs from that used for Bulimia Nervosa; future research should address whether the preferred method of setting a frequency threshold is counting the number of days on which binges occur or counting the number of episodes of binge eating.
- E. The binge 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.

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