EATING DISORDERS

1. Introduction

Until about 30 years ago, eating disorders were believed to be uncommon. More recently, they have been recognised as both disabling and relatively common.

The three most common eating disorders are anorexia nervosa, bulimia nervosa and obesity. Anorexia and bulimia appear to be closely related, and there is a considerable overlap between these two eating disorders.

Anorexia was first described in 1868 by the physician William Gull, and he emphasised the psychological causes of the condition.

Bulimia refers to episodes of uncontrolled excessive eating, usually in binges when up to 20,000 kilocalories can be consumed. The psychiatrist Russell first described the condition in 1979.

Obesity is a medical condition, characterised by excessive body fat, and is diagnosed when the BMI (Body Mass Index, calculated as the weight in kilograms/height in metres^2) exceeds 30.

There is usually no underlying psychological causative factor in obesity.

2. Anorexia Nervosa

2.1 Description

The main features of anorexia consist of a morbid fear of fatness associated with a distorted body image. There is deliberate weight loss to a severe degree with associated amenorrhoea in women.

The central psychological features are the characteristic overvalued ideas about body weight and shape, and patients may have a distorted image of their bodies, believing themselves to be too fat even when they are seriously underweight.

Patients generally eat very little, often between 600 – 1000 kcal a day, and are self-conscious of eating in public. Social isolation is often found. If other people encourage them to eat, patients can be resentful or may hide food.

A sub-group of patients has repeated episodes of uncontrolled eating. This behaviour becomes more frequent with chronicity and increasing age.

2.2 Epidemiology

Estimates of the incidence vary greatly as many cases are clinically undiagnosed. (It is estimated that general practitioners recognise only 45% of cases of anorexia nervosa and 12 % of bulimia nervosa). Surveys of young women have found a prevalence of between 1 to 2%.[1] In clinical practice, about 90% of anorexics are female. The condition is more common in upper than lower social classes, and is reported to be rare in non-Western countries and in non-white populations in Western countries.

Individuals in certain occupations, for example acting, dancing or modelling, are more prone to develop anorexia (or bulimia). Some authorities report an unusually high incidence of sufferers of anorexia (or bulimia) working in food related occupations.

The condition usually begins in adolescence (85% have an onset between the ages of 13 and 20), although childhood onset is becoming more common.

2.3 Aetiology

Many factors are thought to be important, and most cases will be due to a combination of causes.

- **Cultural Factors:** Both anorexia and bulimia are disorders of food–rich societies where the stereotypical picture of physical attractiveness equates beauty with thinness. Adolescents are particularly vulnerable to such pressures. Eating disorders are also more common in adolescents and young people with chronic illness and physical disability.[2 3]

- **Genetic Factors:** Twin studies have shown that there is a greater concordance of anorexia in monozygotic than in dizygotic twins (60% v 10%) and female siblings of patients with anorexia have a 6-10% incidence of the condition compared with 1-2% in the general population.
- **Family Environment:** There are raised rates of dieting, overeating and concern about shape and weight in the families of anorexics compared with the general population.
- **Hypothalamic Dysfunction:** There are marked changes in the functioning of the endocrine system in anorexia. These changes are generally secondary to weight loss, but the early onset of amenorrhoea in some women suggests that some changes may be primary. Serotonin plays an important role in the loss of appetite and limitation of food intake. This may be the basis for the reported success of Selective Serotonin Reuptake Inhibitors (SSRIs) in the treatment of some eating disorders.
- **Psychological Issues:** There are often abnormal relationships found in the families of sufferers of anorexia nervosa. The families may be unusually close-knit or have a raised incidence of parental problems. It has been suggested that the development of anorexia may serve to prevent dissent within the family. The adolescent may feel shy or lacking in confidence, and the development of anorexia is a way of coping with pressures by creating an illusion of being in control.

2.4 Diagnosis

Anorexia is characterised by:

- Deliberate weight loss with a BMI of 17.5 or less
- A distorted body image
- A fear of fatness
- Amenorrhoea.

The DSM-IV criteria for anorexia nervosa are shown in Appendix A.

Associated clinical features may include:

a) Psychological factors:

- Depressive symptoms
- Perfectionist traits
- Fear of sexuality
- Social isolation
- Preoccupation with food (e.g. may enjoy preparing elaborate meals for others and yet avoid eating in company)
- Hyperactivity (e.g. vigorous exercise to lose weight)
- Possible laxative or amphetamine abuse.

b) Physical symptoms and signs:

- Constipation
- Cold intolerance
- Lanugo hair on body
- Muscle weakness
- Anaemia
- Osteoporosis
- Bradycardia
- Hypotension.

c. Endocrine abnormalities:

- ↑ growth hormone
- ↑ cortisol
- ↓ gonadotrophin
- ↓ T3.

Medical complications occur commonly, and can be disabling or life-threatening in nature.[4]

2.5 Differential Diagnosis

Differential diagnoses include organic causes of low weight such as diabetes, Addison's disease, thyrotoxicosis, wasting diseases (eg. tumour, TB), and malabsorption. These conditions are not usually associated with abnormal attitudes to weight or eating.

Psychiatric causes of low weight include depression (which often occurs in anorexia nervosa), psychotic disorders, personality disorders, and substance and alcohol abuse.

2.6 Management

Sufferers of anorexia, in common with patients with other eating disorders, are often very reluctant to accept that they are ill, and have a realistic fear that the main aim of the treatment will be for them to gain weight. The first goal is, therefore, the establishment of a good relationship between doctor and patient in order to engage the patient in treatment.

Assessment begins with a full psychiatric history and mental state examination. Information from the family (with the patient's consent) can be invaluable. A physical examination is performed, and investigations might include:

- Blood tests (e.g. full blood count, urea, electrolytes and creatinine, liver function tests, thyroid function tests)
- ECG
- Chest X-ray.

The aim of treatment is the return to a healthy weight (a BMI above 20), abolition of binges and weight control measures that threaten health. It is helpful to work towards a realistic target weight that is agreed by the patient.

2.7 Treatment

It must be remembered that the patient suffering from anorexia nervosa sees the low body weight as a solution to her / his problems, whereas the public usually views the weight loss as the problem itself.

For any treatment to succeed, the underlying problems need to be addressed with psychological measures:

a) **Cognitive therapy** has been shown to be successful in research studies.[5] The patient is encouraged to examine herself / himself and change thought processes underlying the abnormal behaviour.

b) **Behavioural therapy.** This depends on the patient learning new behaviours through a system of rewards and positive feedback. Targets are set which are realistic and achievable, and a plan for achieving the target is made.

c) **Family therapy.** This may be the first choice if the family dynamics are thought to be important in the eating disorder. The family is seen as a whole and the relationships are examined. It may give the opportunity for conflicts to be discussed and solutions to problems found.

Family therapy is generally most valuable in younger and less chronically ill patients.

Every patient should see a dietician for advice as to calorie consumption (about 3000 kcal a day) and healthy eating such as 3-4 meals a day with snacks as well.

Exercise should be limited to thirty minutes a day.

There is a limited role for drug treatment, but SSRIs (e.g. fluoxetine) have been tried.[6] Clomipramine and amitriptyline have not been shown to have any advantage over placebo.[7] Generally, antidepressants are reserved for the treatment of any associated depression. Improvements with domperidone and cisapride in patients with delayed gastric emptying have been reported.

Some patients may benefit from self-help groups or occupational therapy.

The majority of patients can be managed as outpatients. However, if the weight falls to a dangerously low level (weight loss of >30% or BMI <70% expected), admission may be necessary. In hospital, a reasonable aim is a weight gain of 0.5 to 1 kg a week, and the in-patient stay is usually 8 to 12 weeks.

2.8 Prognosis

In general, about 65% have a good outcome and maintain a normal weight. 20% remain moderately underweight long term, and 15% have a poor outcome with a persistently very low BMI.

Poor outcome is associated with very early or late onset of the illness, a chronic course, severe weight loss, co-existing anorexia and bulimia, and persisting relationship difficulties. Men generally have a worse prognosis.

Mortality has been reported as up to 5% over 4-5 years, but as high as 10% in the long term. Just over two-thirds of deaths are due to the effects of starvation, and one-third are by suicide.

Outcome studies of morbidity are hampered by high failure-to–trace rates and the increased likelihood of non-cooperation in those still suffering from an eating disorder. There is still a high continued incidence of depressive (38%) and obsessive-compulsive (22%) symptoms in the context of continued eating disorder symptoms.

3. Bulimia Nervosa

3.1 Description

The core feature of bulimia nervosa is binge eating associated with a sense of loss of control and compensatory vomiting and / or purging. Laxatives and diuretics are commonly used. There are associated overvalued ideas concerning shape and weight of the type seen in anorexia nervosa.

3.2 Epidemiology

The prevalence of bulimia nervosa is around 2-4% among women between the ages of 16 and 40 years. (Van Hoeken et al). It is uncommon in men (female:male ratio of 50:1) and has only been identified in developed countries. There has been a dramatic increase in presentation and diagnosis in recent years, but it is unclear as to whether this is due to better detection of the condition or an increased incidence.

Presentation is usually several years later than in anorexia nervosa, and it is usually diagnosed in the late teens or twenties. It commonly follows a period of dietary restriction, and 25% of patients have a history of anorexia nervosa. As the overeating becomes more frequent, the body weight returns to a more normal level. At some stage, self-induced vomiting and laxative abuse are adopted to compensate for overeating.

3.3 Aetiology

Bulimia appears to be the result of exposure to general risk factors of psychological disorders and to risk factors for dieting.

They include:

- A family history of psychiatric disorder
- Adverse childhood experiences
- Depression
- Alcohol and / or substance abuse
- Low self esteem
- Perfectionism.

There is an increased incidence of depression, alcohol and / or substance abuse, and bulimia in first degree relatives of patients with bulimia.[8]

Overall, there is a considerable overlap in the aetiological factors for anorexia and bulimia nervosa.

3.4 Diagnosis

Bulimia nervosa is characterised by:

- Episodes of binge eating
- Self-induced vomiting
- Fear of fatness.

The DSM-IV criteria for the diagnosis of bulimia are summarised in Appendix B.

There is a high incidence of associated depression (about 35-40%) and obsessive-compulsive symptoms (22%).

Patients with bulimia are usually of normal weight or slightly overweight.

Associated clinical features include:

- Major weight fluctuations
- Poor dental hygiene with pitting and acid erosion
- Arrhythmias (due to potassium and calcium loss)
- Cardiomyopathy (ipecacuanha abuse)
- Pancreatitis
- Stomach dilatation
- Gastric rupture
- Severe constipation
- Megacolon
- Laxative abuse
- Carotenaemia (excessive ingestion of “health foods”)
- Muscle weakness (potassium loss)
- Oesophageal tears.

Rarely, renal damage, tetany and epileptic fits may occur.

3.5 Differential Diagnosis

The differential diagnosis includes anorexia, affective disorders (such as emotionally unstable personality disorders) as well as obesity, hypothalamic or pituitary tumours.

Rare differential diagnoses are Kleine-Levin (which has associated hypersomnia) and Kluver-Bucy (associated hypersexuality) syndromes.

Diabetic women with bulimia may use their diabetes to lose weight.

3.6 Management

The treatment follows the same general principles as for anorexia nervosa; these are the establishment of a regular eating programme to maintain a healthy weight, and the abolition of binge eating and vomiting.

The management of bulimia is usually easier than that of anorexia nervosa as the patient is likely to wish to recover, and a good working relationship can often be established. The starting BMI is usually above 20 so there is no need for weight restoration.

The client's physical and psychological condition is assessed in the same way as for anorexia, and electrolyte disturbances may need to be corrected.

The most extensively studied psychological treatment is cognitive behaviour therapy, and up to two thirds of patients achieve substantial and lasting change.

In-patient treatment is rarely indicated unless depression (when suicide may be a real danger) is a major factor. A metabolic crisis may precipitate an admission, as may renal failure, arrhythmia or oesophageal tears.

3.7 Drug Therapy

Some anti-depressants have an independent anti-bulimic effect, and fluoxetine (in doses up to 60 mg a day) has been used as well as imipramine and trazodone.[9] The drug treatment needs to be maintained for a prolonged period of time - maybe several years. Trials of tricyclic antidepressants have failed to demonstrate any clinical benefit. Lithium has been tried with some reported success.[10]

Patients with bulimia have a high propensity for addiction and should not be given tranquillisers.

3.8 Prognosis

The prognosis of bulimia is similar to that of anorexia nervosa. Two thirds have a continued preoccupation with weight and eating, and about one third maintain a healthy and regular eating pattern.

Prognosis is worse in patients with a low BMI, and with a high frequency of purging. The short-term benefits of psychotherapy are, however, reasonably well established and can give about a 50% remission.

An increased mortality rate has been reported for both anorexia (6 times) and for bulimia (9 times the normal population risk).

A comparison of anorexia nervosa and bulimia nervosa is given in Appendix C.

4. Obesity

4.1 Description

Obesity is a medical condition characterised by excess body fat. It is diagnosed when the BMI exceeds 30. The cause of obesity is an excessive calorific consumption compared with energy expenditure for everyday activities. It is a chronic condition, and obese children and adolescents are unlikely to grow out of their obesity unless treated. Most untreated adults continue to gain weight at the rate of approximately 1kg each year. It has been estimated that in the USA, 300,000 deaths each year can be attributed to obesity, making it a public health problem second only to smoking as a potentially preventable cause of death.

4.2 Epidemiology

Almost 20% of adults in the UK meet the criteria for the diagnosis of obesity, and the percentage is increasing as the population adopts a more sedentary lifestyle.

Similar figures are found in other developed countries, in all of which there is an increasing prevalence with lower socio-economic status. In poorer countries, obesity may be associated with greater wealth. The incidence of severe obesity is higher in men than in women, whereas the gender ratio of being overweight is the reverse.

4.3 Aetiology

The main aetiological factors are family and cultural norms. Psychological causes do not seem to be of great importance in most cases, but patients may report low self-esteem and depression as a consequence of being obese.

Studies of adopted children have shown a stronger correlation with the level of obesity in biological parents than in adoptive parents, and there is greater concordance between monozygotic than dizygotic twins.

Despite this, there is also a strong effect related to upbringing and the influence of the patient's partner; the level of obesity in spouses correlates with each other as strongly as with their children. It is interesting to note that fat dogs often belong to fat owners.

4.4 Diagnosis

The diagnosis is made on the measurement of the patient's BMI.

4.5 Differential Diagnosis

The main conditions to be excluded include bulimia nervosa and Prader-Willi syndrome. No specific psychiatric disorder has been strongly associated with obesity.

4.6 Management

The goal of management should be gradual weight reduction rather than an unrealistic attempt at rapid loss. The goals may be modest (e.g. as little as 5-15%), but may improve mood and body image as well as any physical benefits which may result. An increase in physical activity is encouraged, and advice should be given as to sensible eating and what constitutes a balanced diet with an appropriate calorific intake. Teaching controlled eating using cognitive behavioural techniques is more likely to produce sustained weight loss than simply advising a reducing diet.

Very low calorie diets produce a disproportionate decrease in non-fat tissues and are poor at producing sustained weight loss.

4.7 Drug therapy

Drugs such as fenfluramine or orlistat may be appropriate for short periods in the obese patient but proper assessment, supervision and dietary restriction are essential.

4.8 Surgical treatment

Consideration of extreme measures such as jaw wiring or gastric restriction is appropriate for the very severely obese patient (BMI >40). The risks are considerable, and such treatments should be offered only where other treatment has failed.

4.9 Prognosis

Obesity roughly doubles mortality risk. Severe obesity (BMI >40) is associated with a 12-fold increase in mortality in those aged 25-30. There is also a significant morbidity from arthritis and diabetes as well as from conditions associated with decreased activity, e.g. coronary heart disease.

5. Main Disabling Effects

5.1 Assessing the Claimant

Physical function is usually well preserved in patients with anorexia nervosa. Medical complications are common and may give rise to symptoms such as fatigue, which will need to be addressed during the assessment. With increasing severity and chronicity, physical weakness and osteoporosis can intervene with the attendant loss of function.

The weight is more normal in bulimia, and physical function almost always well preserved. The likelihood of physical incapacity increases with frequent bingeing and purging due to electrolyte imbalance as well as cardiac, renal and gastrointestinal complications.

Obesity may cause impairment of exercise tolerance and musculoskeletal problems, but unless the BMI is over 40, there is unlikely to be significant functional impairment in those below the age of 40 years.

Psychological problems are possible in obesity, but are always found to a greater or lesser extent in anorexia and bulimia. Low mood is particularly common at low weights in anorexia, and suicidal ideation and behaviour can occur. In bulimia, suicidal attempts and self-mutilation can be significant features.

The increased frequency of mood disorders, personality disorder and substance abuse also affects the psychological welfare of a claimant with an eating disorder.[5 11]

Specific difficulties of mental health function in anorexia and bulimia are more likely to occur in the following categories:

- Poor concentration
- Interference with leisure activities
- Agitation or confusion
- Alcohol on wakening
- Distress due to mood fluctuation
- Obsessiveness with physical appearance
- Interference with daily activities
- Difficulties in coping with changes to routine
- Disruptive behavioural problems
- Impairment of interaction with others
- Irritability
- Preference for being alone.

5.2 IB-PCA Considerations

In anorexia and bulimia, the Mental Health Assessment is mandatory. A very low weight client is likely to suffer sleep disturbance with early morning wakening. Some weight restrictive activities such as exercising or purging may be carried out secretly during periods of nocturnal wakefulness.

An obese patient may have some associated depression, and consideration must be given as to whether a Mental Health Assessment is appropriate.

The degree of psychological disturbance in anorexia and bulimia can be very considerable, and exemption should be considered when there is evidence of the condition severely and adversely affecting the client's everyday life.[12]

Appendix A - DSM-IV Criteria for Anorexia Nervosa

- 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).
- Intense fear of gaining weight or becoming fat, even though underweight.
- Disturbance in the way in which one's body weight or shape is experienced, undue influence of body weight or shape on self-evaluation, or denial of the seriousness of the current low body weight.
- In post-menarchal females, amenorrhoea, i.e. the absence of at least three consecutive menstrual cycles. (A woman is considered to have amenorrhoea if her periods occur only following hormone, e.g. oestrogen administration).

Types

Restricting type: During the current episode of anorexia nervosa, the person has not regularly engaged in binge-eating or purging behaviour (i.e. self-induced vomiting or the misuse of laxatives, diuretics or enemas).

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

Diagnostic and Statistical Manual of Mental Health Disorders (DSM-IV) published by the American Psychiatric Association.

Appendix B - DSM-IV Criteria of Bulimia Nervosa

Recurrent episodes of binge eating. An episode of binge eating is characterised by both of the following:

- 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 similar circumstances.
- 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).

Recurrent inappropriate compensatory behaviour in order to prevent weight gain, such as self-induced vomiting, misuse of laxatives, diuretics, enemas or other medications; fasting, or excessive exercise.

The binge eating and inappropriate compensatory behaviour both occur, on average, at least twice a week for three months.

The disturbance does not occur exclusively during episodes of anorexia nervosa.

Types:

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 behaviours, such as fasting or excessive exercise, but has not regularly engaged in self-induced vomiting or the misuse of laxatives, diuretics, or enemas.

Appendix C - A Comparison of Anorexia Nervosa and Bulimia Nervosa

Anorexia Nervosa (AN)		Bulimia Nervosa (BN)
Fear of fatness, inflated body image, deliberate weight loss, amenorrhoea, BMI <17.5.	Definition	Uncontrolled binge eating with purging/vomiting. Preoccupation with weight and shape.
Symptoms: Preoccupation with food bingeing, purging, vomiting, fear of sleep, poor concentration, feeling cold, social/sexual contact, depression. Signs: Of AN – lanugo, bradycardia, hypotension, cold extremities, bruising. Of vomiting – see Bulimia.	Clinical Features	Fluctuating (normal or excessive) weight. Signs of vomiting: Hypokalaemia, alkalosis, pitted teeth, finger callus, parotid swelling. Psychiatric: Depression, poor impulse control, substance abuse (including alcohol).
Onset at age 13-20 (85%). 95% female. 1-2% prevalence in female students. ↑ in higher social class.	Epidemiology	Onset usually age 15 – 30. Prevalence 2-4%. Sex ratio 50F:1M (now increasing in males).
Organic: Diabetes (which may co-exist with AN), Addison's, malabsorption, malignancy, (all unlikely). Psychotic: Schizophrenia (delusions re. food).	Differential Diagnosis	Psychiatric: AN. Neurological: Kleine-Levin, Kluver-Bucy syndromes.
Genetic – FH of eating disorders, OCD, obsessional personality. High conflict, enmeshed family interaction. Cultural and peer group pressure to diet.	Aetiology	Dietary restraint triggers binge/starve cycle. Female excess due to: Socio-cultural pressures. ↑ diet induced serotonin hypofunction.
Hospital if: High suicide risk. Physically frail. Psychotherapy.	Management	Psychotherapy. SSRIs.
Up to 10% mortality (Third suicide, two-thirds starvation) . 20% chronicity, 20% full recovery.	Prognosis	Poor if low BMI. High frequency of purging.

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