

17 Eating Disorder Ung Eng Khean

Case History

Judy is an attractive, articulate and intelligent 12-year old girl. Her parents described her as the “model student and child” until last year. She excelled at her studies, topping her year in one of the best girl schools. She was compliant and obedient. Things began to change a year ago after a comment from her friend who called Judy “fat”. Judy weighed 50kg compared to her friend’s 40kg. Stung by this comment, the highly competitive Judy decided to go on a severe diet to be thinner than her friend. Things go from bad to worse. Soon Judy was skipping meals and insisting on eating only vegetable and tofu. She would make any excuse to exercise and would even exercise in bed. Her periods, which began a year ago stopped. She would monitor and ensure that her sister, a year younger, ate more than she did. Her parents’ and friends’ efforts to encourage her to eat more and gain weight were to no avail. When they tried to insist that she eat, Judy would scream and cry. She would then run to lock herself in her room. When she was brought to the clinic, her weight had already dropped to 30kg and she was subsisting on a diet of fruit and tofu. She was told of her diagnosis of anorexia nervosa. Judy accepted that she did know that she had to gain weight but felt unable to do so. She described being controlled by various thoughts and impulses that she termed “Judy”. “Judy” would tell Judy not to eat and to ensure that everyone had to eat more than she did. She felt overwhelmed by “Judy” but did acknowledge that she feared weight gain and actually liked her now slim body. Judy was admitted to hospital with the aim of weight gain and refeeding. Her negative thoughts were then explored and she was encouraged to overcome her maladaptive thoughts. A target weight was set for her discharge and increasing privileges were given to her until she attained her discharge weight. She lost some weight after discharge but was then able to maintain a healthy weight and normal eating patterns.

Introduction

It is estimated that 1 to 3% of young women in the West have an eating disorder such as anorexia nervosa, bulimia or binge eating. In the West, eating disorders are the third most common serious medical disorder in adolescents after asthma and depression. Dissatisfaction with body, weight and shape in females is the *zeitgeist* in the industrialized world with an increasingly thin body ideal in females, despite rising average female weights and obesity rates. In a 1997 survey in *Psychology Today*, replicating similar surveys in 1972 and 1985, 89% of women surveyed wanted to lose weight and 56% were dissatisfied with their overall appearance (up from 25% in 1972 and 38% in 1985)¹. Dissatisfaction with muscle tone was 30%, 45% and 57%; tummy 50%, 57% and 71%; and hips/thighs 49%, 50% and 61% over these three time periods surveyed indicating increasing body dissatisfaction. Dissatisfaction is already evident in prepubescent girls as young as seven.

This thin body ideal is not limited to the West, but increasingly seen in Asia, albeit the sample populations are usually students and reports emanate mainly from Hong Kong, Japan, Taiwan, Singapore and Korea. In a pilot study of 26 female medical students in Singapore 58% reported feeling moderately or very fat, despite a mean Body Mass Index (BMI) of 18.7. Alarming, four out of the 10 whose BMI was below 18 reported feeling very fat. In a study of Singapore Chinese schoolgirls with a mean age of

16.5 years, 56% felt overweight despite a mean BMI of 18.89 in the sample and 40% expressed a wish to be either a model, dancer or aerobics teacher. Suggestions that this may be due to a process of acculturation has empirical support. A sample of Chinese female university students in Singapore were found to display a preference for thinness not unlike their Western counterparts. Unlike parent's education, speaking English at home was positively associated with preference for thinness, after controlling for BMI. Students from 3 different sites in China (Hong Kong, Shenzhen and rural Hunan) showed a consistent increasing gradient of body concerns and dissatisfaction accompanying socio-economic development. Men are not completely spared from societal pressures but may channel their fear of fat into an obsession with muscularity – muscle dysmorphia, a body dysmorphic disorder variant. To quote a male Chinese patient with muscle dysmorphia, “everything (in my life) revolves around my muscle mass.”

Industrialisation, modernisation, westernisation and increasing affluence are invariably linked with increasing obesity and eating disorders. A fascinating example is found in Fiji. In the early 1990's dieting was frowned upon and eating disorders unheard of. Towards the end of the 1990's, large numbers of women, especially teenage women were actively dieting and showing abnormal eating attitudes comparable to Western populations. During the two periods, one fundamental change had occurred – the introduction of television, with exposure to Western soap operas such as *Beverly Hills 90210* and *Melrose Place*. Asian immigrants to Western countries tend to show increases in rates of eating disorders compared with their counterparts in their home country. The risk appears to be more evident in second and subsequent generations and this may reflect the marked cultural transition between the first and subsequent generations. Reports and studies from various Asian centres support the notion of increasing numbers of patients with an eating disorder seeking treatment, though with the possible exception of Japan, rates are still below that seen in established market economies of the West. A study of hospital admissions in Singapore has shown a gradual increase in patients presenting with eating disorders. It is refreshing to note that local celebrities, such as actress Beatrice Chia and journalist Sumiko Tan have been willing to talk publicly about their eating disorder.

The causes of eating disorders are unknown. It is likely to be multifactorial. Current opinion focuses on a biopsychosocial model of various predisposing factors, precipitating and perpetuating factors. The rarity of eating disorders in non-industrialised societies combined with the strong link with modernisation/westernisation provides compelling evidence for a strong cultural element. Eating disorders are one of the most strongly culture-bound psychiatric phenomena. The fact that reports of anorexic-like illness appeared some 300 years ago and William Gull's classic description appeared before the last century suggests that westernisation/modernization are not the only aetiological factors. However, they are perhaps the most important factors responsible for the proliferation of cases in recent decades. The commonest entry point to eating disorder is through dieting in adolescence. This is often precipitated by negative comments and taunts in a girl who is sensitive and struggling to cope with the various physical, psychological and social consequences of obesity.

Table 1. Putative Predisposing, Precipitating and Perpetuating Factors

Predisposing Factors	
Genetic:	Family history of obesity or psychiatric illness: eating disorder, eating/weight concerns, mood disorder, substance abuse, OCD
Demographic:	Female gender; Higher social status; Vocations placing premium on low weight/fat
Physical:	Obesity/Overweight; Early menarche; Pubertal bodily changes
Adverse event:	Sexual abuse; Neglect; Rejection
Personality:	Perfectionism; Obsessionality; Self depreciation/negative self-evaluation; Low self esteem; Excessive compliance
Familial:	Weight/Shape/Dieting preoccupation, adverse comments/attitudes about eating/weight/ shape, poor quality nurturing/parenting
Socio-cultural:	Exposure to Western culture; media influences promoting thin body ideals
Precipitating Factors	
Dieting	
Stressful event:	Adverse comment about appearance/weight, School change; Relationships
Perpetuating Factors	
Physical:	Starvation state
Cognitive:	Rewards, preoccupation with food, weight and appearance
Behavioural:	Perception of Control/Comfort. Stress/distress reducing effect.
Affective:	Depression, helplessness, demoralization
Interpersonal:	Secondary gains

Clinical Features

The general appearance of an anorexic sufferer usually leads to a high index of suspicion. He or she is underweight, emaciated, pale and skin is usually dry and yellowish. A look at the neck, shoulders or limbs may reveal down-like lanugo hair. The sufferer may be lethargic or more commonly anxious and fidgety. Overactivity in the face of severe cachexia is a hallmark of anorexia nervosa. One simple test to evaluate for severe muscle loss is to get the sufferer to squat and to ask him/her to rise without using arms to assist. Inability to do so suggests severe muscle loss.

Bulimia and binge eating disorder are more difficult to identify on clinical examination and observation alone. Vomiting may however be associated with the following signs: facial swelling due to parotid gland hypertrophy; dental enamel erosion;

Russell's sign - callous swellings on the dorsum of the fingers arising from abutment on the teeth in self-induced vomiting; bruising in the chest or stomach conforming to the contours of the toilet bowl and electrolyte abnormalities such as potassium, sodium and chloride depletion. The abuse of the emetic Ipecac may have serious and even fatal consequences. Laxative abuse may induce a metabolic acidosis.

Table 2. Comparison of Diagnostic Features of the Eating Disorders

Diagnostic Feature	Anorexia	Bulimia	Binge Eating Disorder
Voluntary maintenance of unhealthy low weight (<85% expected)	✓		
Amenorrhoea (cessation of periods for at least 3 cycles)	✓		
Intense fear of weight gain or becoming fat	✓		
Inaccurate perception of body weight, size or shape and/or marked over concern about body weight, size or shape	✓	✓	
Inappropriate weight reducing behaviour (vomiting, laxative or diuretic abuse, excessive exercise, fasting) at least twice a week		✓	
Large uncontrolled binge eating at least twice a week		✓	✓
Marked distress about binge eating / eating habits			✓

- ✓ Diagnostic requirement under DSM-IV Classification scheme. Note that features which are not diagnostic requirements may also be present (for example; inappropriate weight reducing behaviours in anorexia; intense fear of weight gain in bulimia and binge eating disorder)

General examination of the cardiovascular system may reveal hypotension and bradycardia. Electrocardiogram (ECG) abnormalities may include prolonged QT interval, prominent U waves and arrhythmias. The extremities may be cold and ankle oedema may occur after vomiting or laxative abuse. Complaints of abdominal fullness and constipation due to delayed gastric emptying, laxative abuse and decreased intestinal motility are common. In Asian sufferers, difficulties in verbalising emotional states may make such somatic presentations more common. A bone scan may reveal osteoporosis increasing the risk of fractures. Low levels of phosphate, magnesium and zinc are occasionally found.

With respect to the reproductive system, amenorrhoea occurs due to low oestradiol and a decrease in gonadotropin-releasing hormone (GnRH) pulsatility. Atrophy of the brain has been reported in a number of CT scan studies of anorectics. In a number of cases mild changes remain after weight regain. The clinical importance of this remains equivocal. The semi-starvation state in anorexia is reflected in haematological hypofunction (anaemia and leucopenia), hormonal hypofunction (reduced sex hormones) and hypoglycaemia. The serum cortisol may be elevated in keeping with a state of stress.

Eating disorders have a high comorbidity with other psychiatric disorders, namely depression, anxiety disorders (especially social phobia and obsessive-compulsive disorder), personality disorders, addictive disorders, impulse control disorders and

dissociative disorders. The presence of any of these disorders in a young woman should raise the index of suspicion for an eating disorder. Evidence supports the notion that depression is a secondary consequence of eating disorder. It is important to distinguish between obsessive-compulsive disorder, obsessional personality disorder and obsessional, perfectionistic traits that are very common in those with anorexia. Dissociative episodes and impulse control problems such as self-harm, sexual promiscuity and shoplifting are more common in bulimia.

Table 3. Laboratory, Investigation & Physical Abnormalities in Eating Disorder

<u>Laboratory / Investigation abnormalities</u>	
Urea/Electrolytes/Renal	
●	↓Potassium; ↓Sodium; ↓Chloride; ↓Calcium; ↓Magnesium; ↓Phosphate; ↑Urea
■	↓Potassium; ↓Sodium; ↓Chloride; ↓Calcium; ↓Magnesium; ↓Phosphate; ↑/↓Urea; Metabolic alkalosis; Metabolic acidosis;
Metabolic/Hormonal	
●	↓Glucose; ↑Cholesterol; ↓Zinc; ↓LHRH; ↓LH; ↓FSH; ↓Estrogen; (↓Testosterone in males); ↓Progesterone; ↓T ₃ ; ↑Cortisol; ↑Growth Hormone; ↑Liver enzymes; ↓Protein; ↓CSF 5-HIAA; ↓Serum Leptin
■	↓Glucose; ↑Cholesterol; ↓LHRH; ↓LH; ↓FSH; ↓Estrogen; ↓Progesterone; ↓T ₃ ; ↓Protein
Haematological	
●	↓Haemoglobin (Anaemia); ↓White cells; ↓Immune function; ↓ESR;
■	↓Haemoglobin (Anaemia)
Cardiovascular/Orthopaedic/Neurological	
●	ECG: low voltage; ST, T, QT changes; Bone densitometry: osteoporosis, osteopenia; CT scan (atrophy, enlarged ventricles); PET scan changes (glucose hypermetabolism in caudate area); EEG abnormalities
■	ECG: "U" wave; ST, T, QT changes; CT scan changes; PET scan changes; EEG abnormalities

Table 4. Physical Abnormalities and Complications of Eating Disorder

<u>Physical abnormalities/complications</u>		
Appearance		
●	Emaciated; Pale; Peripheral edema; Dry yellowish skin; Lanugo hair; Brittle nails and hair; Cold extremities; Acrocyanosis	
■	Parotid gland swelling; Peripheral edema; Dental enamel erosion; Callouses on dorsum of dominant hand (Russell's sign); Dry skin	
Gastrointestinal/Dental		
●	Impaired taste; Delayed gastric transit; Abdominal pain/fullness; Constipation; Pancreatitis; Hepatitis	
■	Impaired taste; Abdominal pain; Constipation; Gastritis; Oesophagitis; Pancreatitis; Hepatitis; Gastric dilatation; Periodontal disease; Caries	
Cardiovascular		
●	Bradycardia; Hypotension; Mitral valve prolapse; Cardiomyopathy	
■	Bradycardia; Hypertension; Mitral valve prolapse; Cardiomyopathy	
Endocrine/Metabolic/Renal/Orthopaedic		
●	Amenorrhoea; Infertility; Sexual disinterest/dysfunction; Breast atrophy; Cold intolerance; Dehydration; Renal stones; Osteoporosis; Osteopenia; Growth retardation; Bone fractures	
■	Menstrual dysfunction; Cold intolerance; Dehydration	
Neurological/Psychological		
●	Weakness; Muscle wasting; Seizures; Tetany; Poor concentration; Poor memory; Depressed mood; Irritability	
■	Seizures; Rhabdomyolysis (in ipecac abuse); Depressed mood; Irritability	
Psychiatric Comorbidity		
●	Depression; Anxiety Disorder; Personality Disorder (obsessional, avoidant, borderline)	
■	Depression; Anxiety Disorder; Substance abuse; Personality Disorder (borderline, histrionic, avoidant, obsessional); Impulse Control Disorder/Pathology (shoplifting, self harm, sexual promiscuity); Dissociative States	
●	Anorexia nervosa	■ Bulimia nervosa
Shaded abnormalities are more common		

Information from family or friends which might lead the physician to suspect an eating disorder include: unexplained significant weight loss in a teenage girl who appears otherwise unconcerned, apparently well and active; increasing secrecy and withdrawal related to eating with the family/friends/in public; changes in eating habits—unduly slow, picky, restrictive, vegetarianism; sudden increases in the frequency, duration and intensity of aerobic exercise; adopting a different style of dressing—baggy clothing; increased use of the toilet (especially during and after meals) with reports of smell or sight of vomitus.

It is worth noting that reports from Hong Kong have shown that many sufferers fulfill all the criteria for anorexia except the marked fear of fatness. This may reflect the greater likelihood of Asians to exhibit their psychological distress in somatic rather than cognitive presentations. A study of a Singapore cohort found sufferers to be markedly

similar to Western cases with the fulfillment of the DSM-IV criteria. Although a BMI <17.5 is sometimes given as an example of <85% of expected weight for height, the typical Singaporean young Chinese female aged 16 to 25 years has an average BMI of 20 (based on population weight/height studies). Thus, for Asians, a lower BMI would be a more realistic indicator of anorexia.

Management

Treatment of anorexia nervosa, bulimia and binge eating disorder shares common core components (assessment, correction of physical abnormalities, weight restoration; normalisation of eating patterns and regular meals; cessation of inappropriate weight reducing methods; psychoeducation; psychotherapy and relapse prevention). A good assessment of the patient's physical, psychosocial and familial functioning is the cornerstone of good treatment. Most patients with bulimia and binge eating disorder willingly present to a doctor for help with their bingeing and purging behaviour that they find distressing, making engagement and rapport easier. Not so the defiant adolescent with anorexia who denies that there is anything wrong with them. Practitioners need to (1) devote extra time to build up rapport, (2) exhibit good knowledge about adolescent issues and eating disorders, and (3) explain that marked weight loss poses a significant health risk requiring thorough assessment (without necessarily going into diagnoses initially), to maximize chances of engagement. As the management of anorexia nervosa often involves a multi-disciplinary team approach, family physicians should refer these patients to a specialist service for joint/further management after engaging with the patient.

The family physician can play a central role providing psychoeducation to the patient and preparing the patient and family to accept specialist help. Psychoeducation encompasses a basic discussion of some of the known risk factors for eating disorder, the cultural pressures to be thin, the "set-point" theory which suggests that each body functions optimally within a narrow weight range, the effects of starvation on the mind and body, the importance of weight restoration and a regular pattern (emphasizing the use of food as "medicine"), inappropriate and risky weight control strategies and determining a healthy body weight for the patient. Providing reading materials or references and emphasizing the seriousness of the condition may help reduce patient denial, increasing the chances of the patient agreeing to see a specialist.

Management in an outpatient or day hospital setting should be offered unless the risks to the patient are such that inpatient treatment is required. Few specialist eating disorder units exist in Asia, and the next best option is an admission to a general hospital psychiatric ward/unit adopting a multi-disciplinary management approach (psychiatrist, psychologist, physician, dietitian and physiotherapist). Involuntary admission may be indicated in some cases of adult anorexia nervosa, should the severely at-risk patient refuse admission. The most common reasons for such admissions are severe low weight (BMI <14) and/or medical complications of anorexia. In children and adolescents, parental consent suffices even in the unwilling child/adolescent.

Correction of any significant abnormality is a priority. In anorexia nervosa, weight restoration is of critical importance as many of the symptoms associated with anorexia are common to starvation states and improve with refeeding and weight restoration. A common example is depression associated with anorexia. This often improves in tandem with refeeding and weight restoration. In bulimia and binge eating disorder, where the weight is not critically low, the emphasis is on regular meals and snacks and the elimination of bingeing and purging. The onset of self-induced vomiting often heralds an increase in the frequency and amount of binge eating.

No ideal treatment has emerged for anorexia. Drugs have not been unequivocally shown to be effective. The selective serotonin reuptake inhibitor (SSRI) Fluoxetine has shown some promise in relapse prevention when used after the active weight restoration phase. Other drugs that have been used, but whose benefits are unproven include various antipsychotic agents (chlorpromazine and olanzapine), antidepressants (tricyclic antidepressants and selective serotonin reuptake inhibitors) and the appetite stimulant Cyproheptidine. Great caution needs to be exercised in the use of drugs that have potential cardiac side-effects as the cardiac status of an anorexic is already likely to be compromised. Family therapy is an effective intervention in younger patients who remain dependent on their family. Common issues that arise in therapy, both dynamic and cognitive include: control issues, independence, self-esteem, expression of strong emotions and self-invalidation/negativity. Cognitions in the anorexic are likely to be severely self-critical. It is not uncommon for sufferers to describe a strongly self-critical "anorexic" mind, which "bullies" and dictates terms to the patient's "rational" mind. Oftentimes, this is likened to a civil war in the mind of a sufferer with each side seeking to control the patient. In-patient treatment emphasises behavioural concepts, where increasing privileges and independence are offered for each successive weight target achieved. Discharge at a healthy weight offers the best outcome, but costs and the impracticalities of a long admission may mitigate against this.

In contrast, recent advances have suggested that either cognitive-behavioural psychotherapy or interpersonal psychotherapy is effective in bulimia, as are antidepressants (fluoxetine, desimipramine and imipramine). In milder cases, self-help manuals have been an effective treatment option. Group based cognitive-behavioural therapy may represent the most cost-effective option for cases requiring therapeutic input. On-line manuals are starting to appear but their effectiveness remains to be verified. Fairburn has described the steps in cognitive-behaviour therapy for bulimia or binge eating disorder, namely (1) Self-monitoring via record keeping, detailing food intake, eating pattern, activity patterns, behaviour and emotions. Weight monitoring is restricted to once a week to reduce preoccupation with weight per se. (2) Regularising of the eating pattern with three regular meals and two or three healthy snacks in between. Feelings of intense hunger and deprivation are likely to lead to reduced self-control. Vomiting and purging behaviour has to be resisted. Once controlled, binges tend to improve markedly. Distraction by talking to someone, engaging in a physical activity or a pleasurable activity such as surfing the internet helps one "surf out" the urges to vomit or purge. (3) Stop bingeing by substituting it with other activities/behaviours. (4) Focus on changing cognitions and adopting a problem solving approach. (5) Cessation of "dieting" behaviour and altering "food rules" to more functional ones. (6) Relapse prevention. Relapse prevention is a preventive self-management cognitive-behavioural approach. Its main aims are to help people maintain their goals and prevent relapse, and to help those suffering lapses to "get back on track". High-risk situations are identified (negative emotions, interpersonal conflict, social influence, positive emotional state) and coping skills developed. Cognitive reframing of lapses as mistakes reduce catastrophisation and an "abstinence violation effect". Didactic training, modelling, role-playing and visualization can also be used to help patients manage lapses.

In view of the responsiveness of bulimia and binge eating to these interventions, milder cases may be suitable for treatment by an enthusiastic and well-informed family physician. Dietary advice comprise of instructions to have regular meals and healthy snacks. A food diary, which the patient fills in daily, is recommended and perusal together with the physician will yield important information. Cases who do not respond well can be referred to a dietitian and/or a psychiatrist.

Results from long-term studies in the West suggest that there is a significant number of sufferers with a chronic protracted course. High rates of premature death in anorectics have been reported, mainly by suicide or a complication of severe weight loss/vomiting. The studies also suggest that a fair number do make a good recovery. A chronic course and comorbid personality disorder or psychiatric diagnoses are predictors of poorer response. As a rough guide of outcome for anorexia; 1/3 do well, 1/3 do moderately with intermittent relapses, and 1/3 poorly with a protracted illness. Bulimia appears to be more responsive to treatment, and some studies utilising cognitive-behaviour therapy boast of response rates up to 80% (albeit with a high dropout rate).

Some predict an “epidemic” of eating disorders and obesity in Asia. Although this may be a premature judgment, there seems little reason not to believe that eating disorders will become more prevalent. The results of public education programmes have been equivocal, with some commenting that adolescents actually pick up tips on extreme and inappropriate weight loss from these programmes. As it is likely that such information is available to adolescents through the media or internet, a responsible psychoeducation programme taking pains to reduce sensationalising or glamourising eating disorders is likely to be more helpful than detrimental. Efforts to improve life-skills, self-esteem and body image in adolescents may also help to prevent eating disorders. A schools-based programme focusing on early detection may help identify cases early on.

References

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