

Anorexia Nervosa and Bulimia - A Singapore Perspective

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ABSTRACT

Objective: To study the clinical characteristics of patients with anorexia nervosa and bulimia.

Method: Fifty patients presenting to our department from 1991-1996 were identified and studied retrospectively.

Results: There was an increase in presentations for anorexia and bulimia over the period studied. The majority exhibited body image disturbance, morbid fear of fatness and compulsive efforts to lose weight, not dissimilar to that described in the Western literature. Significant transcultural differences were not found. Those with significant binge eating were more likely to present at a later age, have a higher BMI, menorrhoea, associated vomiting and/or laxative use, have prominent depressive symptoms and a history of self-harm. Compared to anorexics, bulimics were more likely to have relationship stresses and a history of self-harm.

Conclusion: The clinical characteristics of anorexics and bulimics are more striking for their similarities rather than differences to that described in the West.

Keywords: eating disorder, anorexia nervosa, bulimia, clinical characteristics, transcultural

INTRODUCTION

Anorexia nervosa and bulimia have been considered 'culture' bound syndromes based on the association with westernisation and urbanisation. Both affect predominantly young women with the core symptoms of shape/weight dissatisfaction, fear of weight gain and compensatory weight loss behaviours. In anorexia, significant weight loss and amenorrhoea (cessation of menstruation for three successive cycles) are additional diagnostic requirements in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)⁽¹⁾; whereas for bulimia, binge eating is a requirement.

Although considered rare outside the Western hemisphere, a literature base is building up in non-Western (especially Asian) countries such as China⁽²⁾, Taiwan⁽³⁾, Hong Kong⁽⁴⁾, Japan⁽⁵⁾, India⁽⁶⁾ and Pakistan⁽⁷⁾. Locally, the only case series consisted of seven cases of anorexia nervosa⁽⁸⁾. The only study of bulimia has been a case report of one patient⁽⁹⁾. There has been no case series of bulimia nervosa locally. Lee has commented on possible cultural differences in the presentation of anorexia in Chinese⁽⁴⁾. A marked

absence of 'fear of fatness' was noted in many subjects from Hong Kong⁽¹⁰⁾, nor was disordered body image as prevalent or intense as in the West. Although associations between food, fatness, prosperity and longevity have been part of traditional Asian culture, the drive to thinness appears to have permeated the younger generation of Asians.

As the Asian body frame is generally smaller than the Caucasian one (as well as there being differences within the three ethnic groups), normative weight for height data for adult males and females from the three different ethnic groups by age allows more accurate assessment of underweight and overweight. For example, the average weight of a Chinese female aged between 18-29 years who is 1.60m tall is 51.2kg. The calculated body mass index (BMI) is 20, which is the minimum for the 20-25 range used for Western populations. At present however, no such normative data exists for childhood and adolescence, the peak age of onset of eating disorders especially anorexia.

METHODS

Cases of eating disorder seen at our department over the last 6 years were identified through the admission register, record of dietetic referrals and enquiry to individual psychiatrists. Fifty-four cases were identified and case notes of 50 patients were available. Case notes were examined and supplementary information obtained from the attending psychiatrist where applicable. Data was analysed using the Statistical Package for the Social Sciences (SPSS 6). The Independent *t* test and χ^2 test with Yate's correction were applied as appropriate to continuous and categorical variables. Odd ratios and 95% confidence intervals are quoted as appropriate. The significance level was set at $p < 0.05$. Social class was defined by the subject's occupation (classified under the Singapore Standard Occupational Classification, 1990⁽¹¹⁾) or principal income earner's occupation (either parent or spouse) for students or housewives.

As binge eating is central to the current nosology of eating disorders, binge eaters were compared with non-bingers ("restrictors"). Criterion for binge eating was bingeing an average of at least 1 day a week for a month. The more traditional categories of bulimia (bingeing and/or purging behaviour in subjects of normal or above normal weight) and anorexia (binge-purging or nutrient restriction in subjects of below normal weight) were compared. Body image

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disturbance was defined as disturbed experience or influence of body weight and shape, or denial of the seriousness of the low body weight. Fear of fatness/weight gain was either overtly expressed verbally or covertly through marked resistance to weight gain.

RESULTS

The sample comprised of 4 (8%) males and 46 (92%) females. The ethnic make up of the sample were Chinese (78%), Malays (10%), Indians (10%) and Others - Japanese (2%). All were single except for 3 married and 1 divorced. The mean age of onset was 16.3 years (S.D. 3.33, range 12-27), and that of referral was 18.2 years (S.D. 5.4, range 13-42). Admissions for eating disorders in 1991 represented 2.5% of all ward admissions. This fell to 1.1% in 1992. Thereafter, there has been a gradual rise; 1.0% in 1993, 1.3% in 1994, 1.4% in 1995 and 2.0% in 1996. Seventy one percent of the sample were students, 23% in full or part-time employment, 4% housewives and 2% national servicemen. The social class breakdown amongst subjects and the corresponding figures for the population as a whole⁽¹²⁾ (in brackets) are as follows: Professional-Managerial 34.8% (20.3%), Technical-Associate Professional 19.6% (15.6%), Clerical 4.3% (12.8%), Service-Shop-Sales 37% (12.3%), Manual-Labourer 4.3% (34.8%). In 17% of subjects, the principal income earner was a 'businessman'. As indicated in the Singapore Standard Occupational Classification, such self-employed working proprietors were included under the Service Shop-Sales category.

The mean weight at referral was 42.5kg (S.D. 10.2, range 27.2-71.1) and height 1.58m (S.D. 0.06m, range 1.45-1.73m). The mean body mass index (BMI) at presentation was 16.6 (S.D. 3.45, range 11.4-28.1). Seventy-six percent of cases presented with BMIs below 19 (minimum healthy BMI). With respect to weight change desired (range -22.9kg - +12.1kg), 12 desired further weight loss (-7.5kg mean loss desired) at intake, 2 desired no change and 22 increased weight (mean gain of 6.5kg desired). Twenty-five (50%) presented with restrictive anorexia nervosa, 8 (16%) with binge-purging anorexia nervosa and 16 (32%) with bulimia. Twenty-two percent (n=11) were managed as out-patients, the rest (78%) received in-patient care at some stage. The average duration of in-patient admission was 17.5 days (median 9 days; range 2-77 days). The majority (n=28) received only 1 admission. Ten had subsequent admissions and only one was hospitalised more than three times (four admissions). Sexual abuse was reported by 4 subjects (8%) but in many cases, there was no record of an enquiry about this in the notes. Teasing about weight prior to onset of the eating disorder was common (56%). Although a family history of eating disorder was uncommon (4.4%), a family history of mental illness was found in 31% of the cases (depression, schizophrenia, eating disorders and unspecified, in order of frequency). Co-morbid psychiatric conditions were: Depression (52%); borderline personality disorder (10%); generalised anxiety

disorder (6%); conduct disorder (4%); substance abuse (4%); obsessive compulsive disorder (2%), and manic-depressive disorder (2%). Thirty-three percent attempted suicide at least once. One case had co-morbid mild mental handicap and two had Turner's syndrome.

The commonest associated stresses were familial (60%), work/school/educational (50%), relationships (29%) and physical/medical (27%). Marital (4%) and financial stress (2%) were uncommon, reflecting the low numbers of married and financially independent subjects. Amenorrhoea defined by three consecutive missed periods was present in 52% of the subjects, and menstruation was irregular in 23% of subjects. The majority of referrals were from other doctors (75%). In 19%, referrals were instigated by family or friends and only 6% were self-referrals. The mean duration of illness before presentation was 2.1 years (median 1 year), with a range of 0-23 years. In the majority of cases, the illness had only been of a few months' duration before presentation. Where enquired, gastric discomfort, bloating or nausea on eating was present in 52% of cases.

Table 1 - Psychopathology of anorexia and bulimia (n=49)

Body image disturbance	84%
Fear of fatness	90%
Compulsive efforts to lose weight	96%
Binge eating	45%

Compared with non-bingers, bingers were more likely to present at an older age ($p = 0.016$; C.I. 0.72 - 6.71), with a higher BMI ($p = 0.002$; C.I. 1.16 - 5.00), have menses ($p = 0.024$; odds ratio 0.19; C.I. 0.05 - 0.70), self induced vomiting ($p = 0.0001$; odds ratio 11.7; C.I. 3.0 - 45.3), abuse laxatives/enemas ($p = 0.017$; odds ratio 6.67; C.I. 1.5 - 28.8), suffer from depression ($p = 0.003$; odds ratio 7.65; C.I. 2.09 - 28.0) and attempt suicide ($p = 0.04$; odds ratio 4.40; C.I. 1.22 - 15.8). Apart from family stress ($p = 0.023$; odds ratio 5.31; C.I. 1.42 - 20.0), there was no association between other stresses and bingeing. No significant difference was obtained for age of onset, being teased pre-morbidly, in-patient status, duration of admission, compulsive exercise, fasting, skipping meals and family history of mental illness. There were no significant differences between Chinese and non-Chinese, apart from a trend (failing to reach statistical significance) for non-Chinese to be restrictors rather than bingers.

By virtue of diagnosis, anorexics were more likely to have amenorrhoea and a lower BMI; and less likely to have self-induce vomiting compared to bulimics ($p = 0.0001$; odds ratio 0.02; C.I. 0.002 - 0.15). Anorexics were less likely to suffer from relationship stress ($p = 0.007$; odds ratio 0.13; C.I. 0.03 - 0.50) and attempt suicide ($p = 0.007$; odds ratio 0.14; C.I. 0.04 - 0.53). Apart from relationship stresses, there were no significant differences with respect to other stresses and anorexia or bulimia.

Table 2 - Weight loss methods of anorexics and bulimics

Weight loss methods	Anorexic (n=31)	Bulimic (n=16)	Significance
Eating small meals	90%	80%	ns
Eating low calorie meals	55%	50%	ns
Compulsive exercise	52%	50%	ns
Skipping meals	39%	60%	ns
Self induced vomiting	19%	94%	p=0.0001
Laxative/enema use	23%	60%	ns

DISCUSSION

Eating disorder has been on the rise in the Western world evidenced by the general rise in registered incidences of anorexia and bulimia over the last few decades⁽¹³⁾. Both the absolute number of hospital admissions for eating disorders and admissions expressed as a percentage of total admissions have shown an increasing trend over the last 6 years. Whether this is a true increase due to the rapid cultural transition or an apparent one due to increased presentation and better diagnosis, is uncertain. The high proportion of in-patient cases partly reflects the greater ease to study inpatient cases as outpatient diagnoses are not computerised and thus missed in the study.

The predominance of anorexia over bulimia, presentation at a late/severe stage, poor outpatient response and local treatment preferences may also have contributed to more in-patient cases. Despite increasing outpatient, day patient and partial hospitalisation programmes, most authorities continue to advocate in-patient treatment for the anorexic patient, especially for those with lower initial weights (eg. less than 70% of average weight for height)⁽¹⁴⁾. In contrast, current opinion is that hospital treatment is rarely necessary for uncomplicated bulimia nervosa. The relatively high frequency of in-patient admission (69%) for bulimics is partly explained by the high psychiatric co-morbidity (attempted suicide in 63% and depression in 69%), which may themselves be reasons for admission. The high level of co-morbidity make it difficult to separate admissions for these symptoms as opposed to eating disorder per se. The 17.5-day average in-patient stay is much shorter than those described for specialist units, for example, 20 weeks in Crisp et al's⁽¹⁵⁾ study.

There was a trend for sufferers to be from Professional-Managerial or Technical Associate Professional backgrounds or families, with the manual category being under-represented. Thirty-six percent of cases presented as partial syndromes (most often because of lack of amenorrhoea in the anorexic range patients, and lack of binge eating in the bulimic range patients). Self-presentation occurred in only 1 case (3%), reflecting the denial in sufferers and reluctance to seek and accept treatment. Retrospective accounts of teasing about weight have been suggested to predict greater eating disturbances in adolescent

females⁽¹⁶⁾. In our study, 56% reported teasing, which was invariably followed by restrictive dieting. As such, teasing and dieting is common amongst adolescents, the vulnerability factors which explain why a significant minority go on to develop eating disorders, remains to be elucidated.

Co-morbid psychiatric conditions are not uncommon in eating disorders, with associated depression sufficiently severe to fulfil criterion of a major depression or dysthymia present in 45%. The general view is that depressive and anxiety symptoms and disorders are secondary to the core eating disorder⁽¹⁷⁾. Subjects may desire weight change on various levels – for example, weight gain on a cognitive-logical level, whereas weight loss on an emotional level, reflecting continued weight reducing behaviours in those stating a desire to gain weight. Subjects may also deny continued desires to lose further weight to avoid disapproval from members of the therapeutic team. The commonest weight control methods were some form of dietary restraint, compulsive exercising and purging. The absence of diuretic abuse may be due to its availability on prescription only. It is noteworthy that despite the proliferation of slimming and beauty salons locally and their aggressive advertising, only 2 subjects (4%) opted for this as a means of weight control. Half the subjects suffered from the restricting subtype of anorexia, with a much smaller proportion (16%) from the binge-purging/bulimic subtype. Treatment tended to be multi-disciplinary and eclectic in the majority of cases, making it difficult to define the predominant treatment orientation. Every case, except for one, who took her own discharge on the day of admission, was referred for dietetic consultation. Anorexics tended to receive a ward-based behavioural treatment with psychoeducation, family therapy and cognitive therapy as adjunctive therapies. Bulimics tended to receive cognitive-behavioural treatments with pharmacotherapy (selective serotonin re-uptake inhibitors (SSRIs)), psychoeducation and family therapy as adjuncts. In no case was individual dynamic (analytical) therapy used as the predominant therapy mode.

Although Lee et al describe a prominent “non-fat phobic” subgroup⁽¹⁰⁾, the majority of subjects expressed or communicated a morbid fear of fatness or weight gain. This may not be as explicit as subjects described in the Western literature, but with time and probing, such a fear was found in the majority. One subject did not explicitly admit to a fear of fatness but adamantly insisted that his weight was within a “healthy range” given in his school fitness guide. Presentation of various data to the contrary did not deter his view, and he continued to refuse help to gain weight, suggesting an implicit fear of weight gain. Feelings of bloatedness, fullness or discomfort were common reasons for food restriction. Nevertheless, this on its own without some implicit fear of weight gain or fatness, does not explain the strong resistance to liquid-based nutritional supplements or compulsive exercise and other weight reducing strategies which are concurrently employed in the majority. Lee et al

have suggested that these somatic presentations may be a more acceptable idiom for distress in Asian/Oriental cultures. In view of the importance placed on food and eating in Asian cultures, such reasons are less likely to bring about shame or embarrassment than more direct verbalisation of food refusal. In support of such cross cultural differences, Chiles et al⁽¹⁸⁾ found that Chinese patients were less likely to communicate or verbalise suicidal intent than their American counterparts. They postulated that this may be because the attempter would likely receive stern instruction to stop such culturally unacceptable behaviour. A similar mechanism may apply for food refusal.

Da Costa and Halmi⁽¹⁹⁾, in reviewing 14 studies of anorexia, conclude that differences between restrictors and bingers are sufficient to warrant a distinction. In our study, bingers were more likely to present at a later age (despite little difference in the age of onset), have a higher BMI, menorrhoea, associated vomiting and laxative use, prominent depressive symptoms and a history of deliberate self-harm. These results are quite similar to Lee et al's finding of older onset, higher pre-morbid BMI, greater abuse of laxatives and higher rates of vomiting in bulimic versus restrictive anorexics in a Hong Kong sample⁽⁴⁾. The major significant differences between the more traditional bulimic and anorexic subgroups were greater relationship stresses and a history of self-harm in the bulimic group. This may reflect the impulsivity and the chaotic 'borderline' personality traits common in this group⁽²⁰⁾. Two of the male anorexics developed fears of weight gain after health education classes on the risks of fat and obesity. Despite good knowledge and acceptance of the risks of obesity and fatty foods, there was striking denial of the risks of very low body weight despite being counselled and shown psychoeducational material. A minority of the large numbers of obese boys enrolled in the nationwide Trim and Fit (TAF) programmes in schools may be at risk from developing anorexic or bulimic tendencies. Perhaps risks of severe underweight, drastic weight loss and basic information about eating disorders should be incorporated into such programmes and monitoring implemented to evaluate the extent of this risk.

A deficiency was the lack of standardised rating scales and homogenous recording. The Eating Attitudes Test (EAT)⁽²¹⁾ has been validated on a Chinese population in Hong Kong, although several items were culturally inapplicable. Standardised data recording instruments such as Johnson's Diagnostic Survey of Eating Disorder⁽²²⁾ (DSED) and Cooper & Fairburn's Eating Disorder Examination⁽²³⁾ (EDE) are recommended to ensure homogeneity and completeness of data recording. Areas of further study include the newly defined 'binge eating

disorder'; differences in the characteristics of eating disorders presenting to child psychiatric services and to other government hospitals such as the Institute of Mental Health and a comparison of local and expatriate Western teenagers of school-going age. Impressions of a lower rate of child sexual abuse in our local subjects will have to be verified in future studies.

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