

A comparison of the Eating Disorder Examination and a general psychiatric schedule

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Objective: The aim of this study is to investigate the adequacy of a general interview schedule for the purpose of assessing bulimia nervosa.

Method: In two waves of data collection 18–24 months apart, 250 women were assessed for disordered eating. The first interview was typical of that included in many psychiatric interview schedules and was used to screen women for selection in a subsequent interview. This latter interview, using the Eating Disorder Examination, represents the 'gold standard' for the assessment of disordered eating.

Results: While the psychiatric interview satisfactorily assessed disturbed eating in general, it seemed less capable of accurately assessing cases of bulimia nervosa in particular, the major weakness being the overestimation of binge-eating.

Conclusions: Structured psychiatric interviews are suitable for screening purposes to identify women with disordered eating, but identification of bulimia nervosa requires further assessment with a suitable instrument.

Key words: assessment, bulimia nervosa, Eating Disorder Examination.

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The accurate assessment of bulimia nervosa has proved to be somewhat problematic over the years, given the difficult-to-define concepts involved in the DSM-III-R [1] and subsequent DSM-IV [2] definitions of bulimia nervosa. In particular, the two components of bulimia nervosa that seem hardest to define are the behavioural component of binge eating and the attitudinal component of overvalued ideas about the importance of weight and shape [3]. The first component, a binge, is defined as 'rapid con-

sumption of a large amount of food in a discrete period of time accompanied by a feeling of lack of control over eating behaviour' [2]. So, for an eating episode to classify diagnostically as a binge, one must take into account the context so that the amount of food can be assessed appropriately as well as the level of control over the initiation and cessation of the episode. However, the term 'binge' is commonly associated with lack of control rather than the amount of food eaten [4]. The second problematic component, that of overvalued ideas, refers to how much weight and shape influence a person's self-esteem and self-worth, and appears to be difficult to determine without the help of an interviewer [5].

A semi-structured, investigator-based interview designed to overcome these problems of definition is the Eating Disorder Examination (EDE) of Fairburn and Cooper [6]. The EDE provides both a continuous measure of the severity of disordered eating as well as DSM-IV diagnoses for bulimia nervosa, anorexia nervosa and eating disorder not otherwise specified.

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It has been found to be a reliable instrument, and tests of discriminant validity support its use [7,8].

In his review of assessment of eating disorders, Wilson [9] considers the EDE to be unmatched for depth and breadth of assessment of bulimia nervosa and the accompanying problematic behaviours and attitudes. The EDE has become the 'gold standard' against which to measure other forms of assessment [5,10].

In large scale studies of psychiatric epidemiology, owing to economies of time and expense it is common practice to conduct a long interview to assess for the presence of a whole range of psychiatric disorders (e.g. [11,12]). Any particular type of disorder within this sort of interview is typically allotted only about 5 minutes. Often the interview is structured hierarchically, such that if the presence of the disorder is not indicated in early questioning, the remaining questions are not asked. These large-scale, epidemiological studies have a major impact on our understanding of psychiatric disorders, as they not only specify levels of psychopathology in the community (thus influencing funding decisions), but are also used to identify possible influences on the aetiology of the disorder (e.g. [13]), thus influencing therapeutic practice.

The aim of the present study is to investigate the adequacy of a general psychiatric interview schedule for the purpose of assessing bulimia nervosa. The assessment of the presence of lifetime bulimia nervosa by a psychiatric interview schedule will be compared with assessment by the EDE.

Method

Subjects

All women who participated in this study were registered with the National Health and Medical Research Council Australian Twin Registry and were from female-female, same-sex pairs (monozygotic and dizygotic), and were assessed for disordered eating with both psychiatric interview schedule and the EDE. The first wave of assessment of eating had been carried out within a semi-structured, psychiatric interview (the semi-structured assessment for the genetics of alcoholism, SSAGA) [14] with over 3000 women. The interview was carried out in 1992–1993 over the telephone by trained, lay female interviewers.

The second assessment, a telephone interview using the EDE, took place during 1994–1995, on average 18–24 months after the psychiatric inter-

view. There were 250 women selected for interview with the EDE, all of whom had previously completed the 1992–1993 interview. Women were selected in two ways for assessment with the EDE. First, women were chosen because they had indicated a lifetime prevalence of either bulimia nervosa or probable bulimia nervosa (denoting women who had responded positively to all items assessing bulimia nervosa with the exception of items relating either to over-concern with weight and shape or to feeling out of control with binge eating) during the SSAGA ($n = 34$). Second, a larger group of women and their co-twins were chosen randomly for inclusion ($n = 216$).

The mean age of the 250 women as of 1 January 1995 was 37.76 years ($SD = 4.54$), ranging from 30 to 46 years. This age range was selected in order that lifetime prevalence of disordered eating could be established with some confidence, given that few new cases of bulimia nervosa occur after the age of 25 [15]. The EDE interviewer, a clinical psychologist with 8 years of experience working with eating disorders, was blind to the results of the first assessment on the SSAGA. First, one of each twin pair was randomly chosen for interview. Interviews of co-twins then followed, thus minimising any halo effects from talking to the co-twin.

While there is relatively little research investigating the question of whether twins differ from singletons in their risk for psychiatric disorders, current investigations would suggest that there is no substantial difference in the rates of psychopathology between the two groups [13,16]. No study has specifically compared rates of eating disorders in these two populations. There is, therefore, no reason to expect that findings with twins cannot be generalised to a broader population.

Neither do we expect that the use of telephone interviews with the EDE, as opposed to face-to-face interviews, will yield different effects. Research comparing these two modes of interviewing would suggest that there is a high correlation between the results in the areas of depression [17] and general lifetime psychiatric diagnoses [18,19]. There is some suggestion that telephone interviewing may yield better response rates and promote higher compliance rates to the completion of individual items [20].

Assessment of bulimia nervosa

The first wave assessment, the semi-structured psychiatric interview, took about 2 hours to administer

and assessed a range of psychopathology, including alcoholism, anxiety disorders, depression and DSM-III-R eating disorders. There were five questions relating to bulimia nervosa, requiring simply a 'yes' or 'no' answer, which have been previously published [21]. A 'yes' was required on all questions for a diagnosis of bulimia nervosa to be made. If the first two questions were answered negatively, then the remaining questions were not asked. Currently, there have been no reliability or validity data on the eating questions of the SSAGA. However, questions relating to eating disorders were very similar to those used in the Composite International Diagnostic Interview (CIDI) [22], which has well-established reliability [23] and has been used in other epidemiological surveys [24].

The EDE took between 15 and 40 minutes to administer, depending on the level of eating pathology present. Items in the EDE assess the presence of disordered eating and related attitudes over the previous 4-week period using a 7-point severity scale ranging from 0 to 6. These items combine to form four subscales (namely dietary restraint, concern about eating, concern about weight and concern about shape), and these can be summed to provide a total score representing the severity of disordered eating. Additional questions assess the presence of the diagnostic elements of bulimia nervosa over the previous 3 months. Diagnostic questions were also asked as 'ever' questions, so that a diagnosis of lifetime prevalence of bulimia nervosa could be made. To meet criteria for bulimia nervosa on the EDE, the following three behaviours must be present: objective binge eating (12 binge episodes in a 3-month period and no more than 2 weeks between binges); at least one of the weight control behaviours; and scoring ≥ 4 on the items assessing importance of weight and shape. This is a slightly less restrictive diagnostic criterion than the DSM-III-R criteria which specifies 24 binge episodes in a 3-month period. Women were also asked specifically about the onset of bulimia nervosa to ensure that any women who had developed bulimia nervosa since the administration of the SSAGA could be removed from further analyses.

Other measurements

In order to assess the impact of personality on any differences between the two forms of assessment, the Internal Control Index (ICI) [25] and the Rosenberg Self Esteem Scale (RSES) [26] were also administered. The ICI is a 28-item scale that examines locus

of control by focussing on feelings of effectiveness. The RSES is a 10-item scale that is a commonly-used measure of self-esteem.

Results

Levels of bulimia nervosa on the psychiatric interview and the Eating Disorder Examination

The EDE assessed 18 (7.2%) women as having a lifetime diagnosis of bulimia nervosa. This compares to 27 (10.8%) definite cases of bulimia nervosa, or 34 (13.6%) combined definite and probable cases, assessed by the psychiatric interview schedule. Table 1 summarises the agreement between these two assessments, using definite cases of bulimia nervosa only. It can be seen that the sensitivity (proportion of true cases correctly identified) is 77% and the specificity (proportion of true non-cases correctly identified) is 94%, giving a kappa of 0.59 representing a fair to moderate agreement beyond chance.

The Eating Disorder Examination subscales

The subscales of the EDE were first examined for normality of distribution. The scales were found to be positively skewed, as is usually found [6], so non-parametric statistics were used. Inter-rater reliability of the EDE was assessed using ratings from taped interviews of 43 women. The other rater was a psychiatrist trained in the administration of the EDE. Pearson correlations were 0.97 for the restraint subscale, 0.73 for the eating concern subscale, 0.95 for the weight concern subscale and 0.98 for the shape concern subscale.

The EDE subscales of the 34 women assessed to have lifetime bulimia nervosa or probable bulimia

Table 1. Agreement between the psychiatric interview schedule and the Eating Disorder Examination (EDE) for bulimia nervosa (BN)

	Psychiatric interview schedule BN	
	Yes	No
EDE BN		
Yes	14	4
No	13	219
$\kappa = 0.59.$		

Table 2. Comparisons between a randomly chosen group and a group selected on the basis of previously indicated problems with eating

Subscale	Community group (n = 34)		Disordered eating group (n = 216)		z-score	p
	Mean	SD	Mean	SD		
Weight concern	1.08	1.08	1.81	1.36	-4.64	0.000
Shape concern	1.28	1.25	2.03	1.49	-4.50	0.000
Dietary restraint	1.33	1.41	1.82	1.57	-2.52	0.012
Eating concern	0.22	0.43	0.56	0.87	-4.13	0.000

nervosa on the psychiatric interview schedule (the SSAGA) and the 216 randomly selected women were compared using a Mann-Whitney analysis. The results of this comparison are presented in Table 2. On all four subscales, the disordered eating group, as diagnosed by the psychiatric schedule, experienced considerably more problems ($p < 0.01$ for all tests).

Sources of disagreement between the Eating Disorder Examination and the psychiatric interview

The psychiatric interview results of the four women who were assessed as having bulimia nervosa on the EDE but not on the psychiatric interview were examined. There were two women who had been assessed as binge-eaters only, and two who had been assessed as having a preoccupation with weight and shape only. During assessment, it was clear that these four women had not developed bulimia nervosa in the time between the two assessments. For these cases, it would have been useful to have asked all questions relating to bulimia nervosa in the psychiatric interview. On the other hand, all of the 13 women diagnosed as having bulimia nervosa on the psychiatric interview but not on the EDE exhibited disturbed attitudes or past use of extreme weight control, but none were assessed as having objective binges on the EDE.

Effects of personality

The personality variables of the 14 women assessed to have had bulimia nervosa on both occasions were compared to the 17 women who had been assessed as having bulimia nervosa on one occasion only, in order to examine the possibility that interview consistency is affected by personality. No significant differences were found for either locus of

control (respective means of 3.67 and 3.78; $t_{29} = -0.65$, $p > 0.05$) or self-esteem (respective means of 2.86 and 3.11; $t_{29} = -1.61$, $p > 0.05$).

Discussion

The psychiatric interview has shown itself to be able to discriminate satisfactorily between those women who have problems with disordered eating and those who do not. In particular, the psychiatric interview (definite cases) and the EDE yielded similar overall rates of bulimia nervosa. The level of agreement between the EDE and the psychiatric interview ($\kappa = 0.59$) indicates a good level of agreement between the two methods of assessment, given that Bushnell and his colleagues [27] found about the same level of agreement between two different interview schedules given by the same interviewer over only a 1-hour period.

However, the specific women assessed as having bulimia nervosa were somewhat different between the two interviews. Assuming the EDE to be a gold standard, and that general personality factors do not account for the different responses to different measures, one major potential weakness in assessing bulimia nervosa with a psychiatric interview was revealed. Where the psychiatric interview diagnosed bulimia nervosa and the EDE did not, bingeing was not diagnosed to be present for any of the cases of disagreement. This indicates that the psychiatric interview schedule has an overinclusive definition of bingeing, thus overestimating the number of women with bulimia nervosa. This supports the findings discussed previously, that bingeing is a difficult concept to accurately define.

These findings must be interpreted in the context of one major limitation of this study: the time gap between the two assessments. While care was taken

to identify any women who may have developed bulimia nervosa between the two interviews (and none were identified, as would be expected with women in this age range), it would have been preferable to administer the interviews closer together in time. In addition, the EDE had a slightly lower frequency of bingeing required for the diagnosis of bulimia nervosa, but this actually reinforces the main finding of this study that the reason for the lack of agreement was that the SSAGA overestimated the frequency of binge-eating.

In summary, while a psychiatric interview schedule would seem to satisfactorily assess disturbed eating in general, it seems to be less capable of accurately identifying cases of bulimia nervosa in particular. None in the probable bulimia nervosa category were found to have bulimia nervosa on the EDE, and nearly half of the definite cases were not assessed as bulimia nervosa on the EDE. This indicates that a brief general psychiatric interview is suitable for use as a screening interview in studies with a two-stage, case-finding design in a large population but that it should not be used on its own to identify cases of bulimia nervosa. In particular, it is not a completely satisfactory tool for causal modelling of bulimia nervosa. The use of the EDE would be more satisfactory for this type of work. It would also enable the development of a continuous measure of eating pathology and, therefore, would introduce more statistical power into an area which has very low prevalence rates.

However, it must be recognised that the EDE is neither practicable nor desirable under all circumstances, since it requires training and a significant amount of time to administer [5]. In cases of one-stage epidemiological research, the percentage of women diagnosed as having bulimia nervosa on a shorter questionnaire included in a general psychiatric interview schedule is liable to be similar to the EDE. Nevertheless, the present study suggests that such shorter forms might be able to be improved in two ways. First, there should be a clear assessment of the amount of food consumed in a typical binge. Second, the concept of being out of control while eating should be carefully elucidated. In addition to this, it would be useful if all diagnostic questions relating to eating could be asked, increasing the chances of cases being correctly identified.

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