

An analysis of the diaries of patients with *bulimia nervosa*

First submission: June 2004

Organised cognitive structures leading to the development and maintenance of eating disorders appear to be represented in the core psychopathology of *bulimia nervosa*. This study investigated the self-statements of bulimic patients by analysing self-report diaries from patients who had completed a course of cognitive behavioural therapy. Patients were assigned to one of two groups according to the outcome of therapy: successful (n=21) or unsuccessful (n=7). The results showed that there were statistically significant decreases in the use of specific self-denigrating words indicating thoughts relating to both eating disorder and affective disorder for the successful group but not for the unsuccessful group.

'n Dagboekanalise van pasiënte met *bulimia nervosa*

Georganiseerde kognitiewe strukture wat lei tot die ontwikkeling en instandhouding van eerversteurings blyk die kernoorzaak te verteenwoordig in die psigopatologie van *bulimia nervosa*. Vir hierdie studie is die outobiografiese inskrivings in dagboeke van bulimiese pasiënte wat 'n kursus van kognitiewe gedragsterapie ondergaan het, aan die begin en die einde van die terapie vergelyk. Pasiënte is aan een van twee groepe toegewys op grond van 'n terapie-uitkoms wat suksesvol (n = 21) of onsuksesvol (n = 7) was. Die resultate toon aan dat daar in die suksesvolle groep — in teenstelling met die onsuksesvolle groep — statisties beduidende afnames in die gebruik van spesifieke selfverkleinerende woorde wat dui op die gedagtegang van persone met eetversteurings en gemoedsversteurings.

The increasing incidence of bulimic behaviour, predominantly in young women, has generated a substantial demand for treatment as well as curiosity regarding the disorder. The exact prevalence of eating disorders is unknown but it is clear from the literature that they constitute a significant source of psychiatric morbidity (Eagles *et al* 1999: 120-4). It is estimated that approximately 1% of young women in industrialised countries may suffer from anorexia while the incidence of *bulimia nervosa* may be as much as ten times higher (Barber 1998: 295). Studies tend to show a prevalence rate for bulimia of between 1% and 2.8% (Hay 1998: 371).

Dysfunctional cognitive processes have been strongly implicated in the development and maintenance of *bulimia nervosa* (Fairburn 1991: 3-9; Williamson *et al* 2004: 1073). These dysfunctional cognitive processes revolve around the attitudes and beliefs held about eating, body weight and shape, and the thinking styles and structures within which these beliefs operate (Goldfein *et al* 2000: 435-45). The beliefs and assumptions of bulimic sufferers are intractable and rigid, and reflect the way in which bulimic individuals think, feel and evaluate both themselves and their bodies (cf Lavin & Cash 2001: 51-8; Rand & Wright 2001: 45-50).

Research has shown that body image problems occur among women with eating disorders as well as those without such conditions (cf Adami *et al* 1998: 299-306; Allaz *et al* 1998: 287-294; Smith *et al* 1999: 71-82). Body dissatisfaction and poor body image are prevalent in both bulimic women and those who do not have the disorder (Johansson *et al* 2005: 723). It thus appears that body image problems, dieting, weight and body preoccupation all lie on a continuum ranging from the benign to the pathological. However, research consistently shows that the negative evaluative body image attitudes that are prevalent among women in general distinguish well between women with and without eating disorders. What differentiates women with bulimia from those who do not have eating disorders seems to be the negative thoughts and attitudes concerning the self (Fairburn *et al* 2003: 509). The content of these thoughts and attitudes revolves around physical appearance, body shape and weight. Addressing and remedying these beliefs is thus critical in the treatment of *bulimia nervosa* (cf Bulik *et al* 1999: 137; Crow & Mitchell 1996: 755-60; Powell & Thelen 1996: 319).

The literature is replete with research concerning the existence of the thoughts, attitudes and beliefs of bulimic patients. The research on cognitive behavioural approaches for the treatment of *bulimia nervosa* is also extensive and explicates the process of such therapy. The research shows that a cognitive behavioural therapeutic process making use of self-monitoring, usually in the form of a diary system, is effective and beneficial in the recovery of bulimic patients (Arnow 1996: 57; Fairburn & Cooper 1993: 277-314). Many research studies acknowledge the presence of self-statements that reflect the underlying beliefs and automatic assumptions of bulimic patients but the specific content and language used have not been detailed (cf Bulik *et al* 1999: 137; Goldfein *et al* 2000: 436; Rofey *et al* 2004: 37; Waller 1997: 35-41).

1. Research question

The research question arose from the literature study. Are there statistically significant differences between two groups of bulimic patients (with successful and unsuccessful outcomes at the end of therapy) in terms of subject variables (such as the duration of the illness, weight, body mass index and the number of diary days recorded), word usage (words indicating thinking processes affected by eating disorders or affective disorders) and compensatory behaviour?

The current study examined the language content and the self-statements of bulimic patients. This language was assumed to be presented in their daily diary records, kept as a requirement for cognitive behavioural therapy. Once language markers were identified, the significance of the presence of such language could be determined by comparing the diary content of successful patients with that of unsuccessful patients.

Furthermore, as the bulimic patient recovers, the question is whether there will be corresponding decreases in the frequency of thoughts and feelings pertaining to poor body image and depression as reflected in their specific use of language and also in the frequency of their bingeing, vomiting, laxative abuse and exercise abuse. Where sufferers do not recover, the question is whether there will be no evidence of change in their thoughts and feelings pertaining to poor body image and depression or in the above-mentioned compensatory behaviours.

The general aim of the present study is to contribute to the growing body of research that focuses on the cognitive processes of *bulimia nervosa* and thus to add to, and improve, the treatment protocols for this disorder. The study aims to provide substantiated research data on the changes that occur in cognitive content and compensatory behaviours in bulimic patients during the process of cognitive behavioural therapy. Furthermore, it hopes to identify differences between those individuals who succeed in therapy and recover, and those who do not, thus providing valuable prognostic indicators for clinicians working with bulimic clients.

2. Methodology

2.1 Research design

An *ex post facto* design was used for the study. Data available from existing case files of private patients who had been diagnosed with and treated for *bulimia nervosa* and who had already completed a course of cognitive behavioural therapy was used for the study. The *ex post facto* design was chosen as data for 28 bulimic subjects was immediately available, meaning that problems such as compliance and dropout, which occur when obtaining a bulimic subject group, could be bypassed. The study was a double blind study as both the therapist and the patients were unaware at the time of therapy that a future study might be conducted.

The research was conducted according to the recognised standards of scientific competence and ethical research as stipulated by the Professional Board of Psychology. This was done by following the guidelines indicated in the sections of the code relating specifically to responsible research, compliance with the law and standards, and informed consent (Professional Board of Psychology 2002: 38-43). After discussing the research question with the senior consulting psychiatrist at the Eating Disorder Clinic it was decided that the diaries would remain the property of the therapist, that the anonymity of the clients would be totally protected, and that the main author, who is a clinical psychologist, would be bound by the same ethical code of confidentiality as if the patients had been clients in her own practice. Permission was granted by the clients, on condition of anonymity.

2.2 Subjects and groups

The selection of subjects was non-random and took place purely on the basis of the availability of completed therapy files containing diaries recorded during the therapy. The population from which these files were obtained was white, western, middle-class females who were the self-referred private outpatients of a therapist specialising in the treatment of eating disorders. Twenty-eight files of bulimic patients who had already completed a course of cognitive behavioural therapy were used for this study. These were assigned to one of two groups according to the outcome of the therapy, which was either successful ($n=21$) or unsuccessful ($n=7$).

The successful group was either asymptomatic or had significantly improved as indicated by the therapist at the end of the therapy. The ages of the 21 subjects ranged between 17 and 35 years, with a mean age of 23.52. Actual body weight varied from 47-80 kg with a mean weight of 58 kg. The unsuccessful group either terminated the therapy themselves or were hospitalised due to the increasing severity of the *bulimia nervosa*. The ages of the seven subjects ranged between 19 and 28, with a mean age of 21.71. Actual body weight varied from 43.9 to 59.7 kg, with a mean weight of 54.12 kg.

The same therapist had conducted cognitive behavioural therapy with all the subjects, thus ensuring consistency in the therapeutic approach and process. In the analysis, the main author carefully examined all the diaries, whereafter the results were captured on a customized computer programme and checked by a senior researcher. Any discrepancies were discussed until agreement was reached. However, due to the type of research material used, it should be noted that it may be problematic to obtain truly valid and reliable results. (Future studies could aim to increase validity and reliability).

3. Data collection

Data was collected from the self-report diaries of the 28 bulimic patients who had completed a course of cognitive behavioural therapy. The format for the therapy was based on the cognitive behavioural model (Fairburn 1985: 707-11). Patients attended weekly one-hour therapy sessions. The therapist provided each patient with a seven-day diary at

the beginning of each week wherein the patient was required to keep a detailed daily record of her food intake, number of binges, vomiting episodes, laxatives taken and the frequency and duration of exercise. Feelings, thoughts and emotions before, during and after binge eating and subsequent compensatory behaviours were also documented. The completed diary was handed in at the weekly therapy session and became the property of the therapist. The diary contents were used to structure each therapy session.

The contents of each patient's set of diaries were examined for the purpose of this study. The total number of weekly diaries produced by each patient varied from six to 48, since the duration of therapy varied from patient to patient. This factor made direct comparison of the subjects' diary data impossible. To overcome the problem, the duration of therapy was divided into quarters. Regardless of the number of weeks in treatment, the averages of the corresponding quarters could then be compared. The eating disorder and affective disorder word counts were all totalled for each subject for each quarter. The first and last quarters of treatment were then compared per group in order to establish whether any significant changes had occurred during the process of cognitive behavioural therapy.

3.1 Procedure for obtaining diary data

The diaries described above contained qualitative self-report data. A daily account of the patient's subjective experience of her *bulimia nervosa* was recorded. The patient diarised feelings, emotions and cognitions pertaining to food and eating behaviour as well as feelings, emotions and cognitions pertaining to any compensatory behaviours. The patient thus produced a daily record of her thoughts.

The contents of the daily thoughts record were quantified by counting the words written each day in each diary as well as counting the reported compensatory behaviours for each day and allocating them to certain groups. The word count of eating disorder thought processes consists of the number of such words written on each day. Words indicating eating disorder thoughts were defined as all words (and their similes) that referred to negative body image (such as fat, disgusting, ugly), food, eating and appetite (hungry, bingeing and so forth) and poor self-image (guilty, weak). Although hunger is a normal and healthy expe-

rience, in the context of the current research it is seen as problematic. All these words were identified for each daily thoughts record.

These words were then entered into a computer database for the purpose of sorting. Similes were clustered together in order to condense the word count into a more usable form. A group word was then chosen to represent each cluster of similes. Thus the word "fat" was the group word for the following cluster of similes used by the subjects in their diaries: big, chubby, enormous, fat, flabby, gigantic, heavy, huge, massive, obese, and overweight. This was the procedure for all words indicating eating disorder-related thoughts (mainly adjectives) until all words had been clustered under group words.

All the words indicating eating disorder-related thoughts were tallied for each group of subjects and then ranked in descending order from 1 to 20, where 1 was the most frequently used word and 20 the least frequently used word. The top 20 words were used for the total word count. Only the top five words were used for the specific word analysis because the frequency of the words ranked 6 to 20 was too low for statistical analyses to be performed. The five top-ranking words indicating eating disorder-related thoughts were fat, hungry, guilty, excessive and weak.

The affective word count consisted of the total number of words indicating affective disorder-related thoughts written each day. Words indicating such thoughts were defined as all words referring to negative mood (such as sad, unhappy, tired, angry) or indicating the presence of depression (such as down, miserable, anxious, negative). The procedure described above for clustering the words indicating eating disorder-related thoughts was applied to the words indicating affective disorder-related thoughts.

The words indicating affective disorder-related thoughts were tallied for the subjects in each group and ranked from 1 to 20 as described above for the words indicating eating disorder-related thoughts. The five top-ranking words were unhappy, anxious, angry, tired and negative.

Furthermore, compensatory behaviours are indicated by the total number of each occurring each day, including bingeing, vomiting, laxative abuse and exercise abuse. Subjects were required to make daily records showing which of these behaviours had occurred and at what frequency.

The occurrences were counted and recorded for each day along with the total word count per day, and the eating disorder and affective disorder vocabulary in the computer database mentioned above. All of this information could then be analysed to produce comparative data.

The following example illustrates how the word count was done: “Annie” wrote the following on day three of week one of her diary:

I'm so **fat** and **disgusting** that I just want to cry all the time. I really **hate** myself. The **bigger** I get the more miserable and depressed I get. When ever there is food around I stuff myself like a **fat pig**. I'm hungry all the time. I get so angry and tense after **bingeing** that I have to get rid of it all. It makes me feel **dirty** and **ugly**. No wonder I'm so **heavy**. I deserve to be unhappy because I'm so **weak** and so **fat**.

The data illustrated via the example would then be captured as Binges = 2, Vomiting = 3, Exercise = 0 and Laxatives = 1 x 8 before bed. Thus data obtained for word usage as recorded for day three, week one was:

- Total words indicating eating disorder-related thoughts (bold type) = 13;
- Specific words indicating eating disorder thoughts: *fat* = 6 (fat, bigger, fat, pig, heavy, fat); *excessive* = 2 (stuff, bingeing); *hungry* = 1 (hungry); *weak* = 1 (weak)
- Total words indicating affective disorder-related thoughts (underlined) = 6
- Specific words indicating affective disorder-related thoughts: *unhappy* = 4 (cry, miserable, depressed, unhappy); *anxious* = 1 (tense); *angry* = 1 (angry)
- Compensatory Behaviours = Binges = 2; Vomiting = 3; Exercise = 0; Laxatives = 1; Total compensatory behaviours = 6

The counting of daily word use (the identification of eating disorder-related and affective disorder-related words) and the incidences of compensatory behaviours was done manually. The data thus obtained was entered into the computer database, with each record reflecting a single day per diary per subject.

It was hypothesised there would be statistically significant differences between quarter one and quarter four of therapy in terms of the average use of the specific words indicating eating disorder-related thoughts, words indicating affective disorder-related thoughts, and com-

pensatory behaviours in the successful group but not in the unsuccessful group.

The Mann-Whitney U Test was performed to ensure that the two groups were comparable at the outset of therapy. In quarter one of therapy, no statistically significant differences were found between the successful and the unsuccessful groups in quarter one of therapy for the average total number of words indicating eating disorder-related thoughts ($p = 0.919$), words indicating affective disorder-related thoughts ($p = 0.472$), and five subject variables namely duration of illness ($p = 0.318$), weight loss goal ($p = 0.293$), body mass index ($p = 0.431$), number of diary days recorded ($p = 0.054$) and average total word output ($p = 0.176$). With the two groups being comparable, the Wilcoxon Signed Rank Test was then used to identify within-group differences.

4. Results

The results show that for the successful group there were statistically significant differences between quarter one and quarter four for the eating disorder-related word — *hungry* ($p = 0.018$; the mean decreasing from 5.19 in Q1 to 2.52 in Q4); *guilty* ($p < 0.004$; the mean decreasing from 6.29 in Q1 to 1.81 in Q4) and *weak* ($p = 0.006$; the mean decreasing from 2.38 in Q1 to 0.43 in Q4). For the eating disorder cluster words *fat* ($p = 0.09$) and *excessive* ($p = 0.152$) there were no statistically significant differences between quarter one and quarter four for this group. These results are summarised in Table 1.

Table 1: Significance of differences between Q1 and Q4 regarding specific eating disorder-related (ED) words (fat, hungry, guilty, excessive, weak) for group S (successful: n = 21).

Variables	Quarter	Mean	SD	Mean rank		Sum of ranks		Z	Sig
				Pos	Neg	Pos	Neg		
Fat	Q1	7.05	8.71					-1.697	0.09
	Q4	4.05	6.22	8.83	5.1	79.5	25.5		
Hungry	Q1	5.19	6.73					-2.358	0.018
	Q4	2.52	3.36	10.5	5.4	126	27		
Guilty	Q1	6.29	8.89					-2.85	0.004
	Q4	1.81	2.25	9.1	8.25	136.5	16.5		
Excessive	Q1	3.76	5.54					-1.433	0.152
	Q4	1.9	2.62	10.65	6.64	106.5	46.5		
Weak	Q1	2.38	5.16					-2.739	0.006
	Q4	0.43	1.36	6.35	2.5	63.5	2.5		

The results show that for the successful group there were statistically significant differences between quarter one and quarter four for the words indicating the affective disorder-related thoughts *unhappy* ($p < 0.002$; the mean decreasing from 6.57 in Q1 to 3.52 in Q4); *anxious* ($P < 0.002$; the mean decreasing from 6.38 in Q1 to 1.71 in Q4) and *tired* ($p = 0.012$; the mean decreasing from 2.9 in Q1 to 1.62 in Q4). There was no statistically significant difference between quarter one and quarter four for the words indicating the affective disorder-related thoughts *angry* ($P = 0.33$) and *negative* for this group ($p = 0.13$). These results are summarised in Table 2.

Table 2: Significance of differences between Q1 and Q4 regarding specific affective disorder-related (AD) words (unhappy, anxious, angry, tired, negative) for group S (successful: n = 21).

Variables	Quarter	Mean	SD	Mean rank		Sum of ranks		Z	Sig
				Neg	Pos	Neg	Pos		
Unhappy	Q1	6.57	8.74					-3.149	0.002
	Q4	3.52	5.33	8.57	7.5	128.5	7.5		
Anxious	Q1	6.38	8.74					-3.077	0.002
	Q4	1.71	3.02	7.46	1.5	89.5	1.5		
Angry	Q1	2.68	4.65					-2.136	0.33
	Q4	1.38	2.85	7.33	4	66	12		
Tired	Q1	2.9	4.81					-2.499	0.012
	Q4	1.62	3.72	5.44	1.5	43.5	1.5		
Negative	Q1	1.76	2.12					-1.514	0.13
	Q4	1.14	2.22	6.7	8	67	24		

As indicated in Table 3, for the unsuccessful group there were no statistically significant differences found between quarter one and quarter four for the specific words indicating eating disorder-related thoughts (*fat*: (p=0.416), *hungry* (p=0.655), *guilty* (p=0.285), *excessive* (p=0.102) and *weak* (p=0.157).

Equally, the unsuccessful group revealed no statistically significant differences between quarter one and quarter four for the specific affective disorder-related words *unhappy* (p=0.469), *anxious* (p=0.129), *angry* (p=0.49), *tired* (p=0.414) and *negative* (p=0.066) (cf Table 4).

Table 3: Significance of differences between Q1 and Q4 regarding specific eating disorder-related (ED) words (fat, hungry, guilty, excessive, weak) for group U (unsuccessful: n = 7).

Variables	Quarter	Mean	SD	Mean rank		Sum of ranks		Z	Sig
				Pos	Neg	Pos	Neg		
Fat	Q1	4.43	7.39					-0.813	0.416
	Q4	2.86	5.49	3.5	2.25	10.5	4.5		
Hungry	Q1	1	1.91					-0.447	0.655
	Q4	1.14	3.02	1	2	1	2		
Guilty	Q1	3.86	6.49					-1.069	0.285
	Q4	1.43	2.57	2.5	1	5	1		
Excessive	Q1	5.29	10.77					-1.633	0.102
	Q4	2.14	3.76	2	0	6	0		
Weak	Q1	0.43	1.13					-1.414	0.157
	Q4	0.71	1.5	0	1.5	0	3		

Table 4: Significance of differences between Q1 and Q4 regarding specific affective disorder-related (AD) words (unhappy, anxious, angry, tired, negative) for group U (unsuccessful: n = 7).

Variables	Quarter	Mean	SD	Mean rank		Sum of ranks		Z	Sig
				Neg	Pos	Neg	Pos		
Unhappy	Q1	5.86	8.15					-0.681	0.496
	Q4	2.57	2.7	6	2.5	18	10		
Anxious	Q1	1.17	2.06					-1.518	0.129
	Q4	0.71	0.76	3.25	2	13	2		
Angry	Q1	1.86	2.67					-0.69	0.49
	Q4	0.57	0.53	6	2.5	18	10		
Tired	Q1	2.86	5.4					-0.816	0.414
	Q4	1.43	1.9	2.25	1.5	4.5	1.5		
Negative	Q1	2.57	4.39					-1.841	0.066
	Q4	1.29	2.63	2.5	0	10	0		

The results show that for the successful group there were statistically significant differences between quarter one and quarter four for the compensatory behaviours of *bingeing* ($p=0.003$; the mean decreasing

from 8.43 in Q1 to 2.24 in Q4); *vomiting* ($p=0.013$; the mean decreasing from 7 in Q1 to 1.81 in Q4), and *exercise* in the successful group ($p=0.027$; the mean decreasing from 2 in Q1 to 0.95 in Q4); as well as for the *average total compensatory behaviours* ($p=0.001$; the mean decreasing from 20.05 in Q1 to 5.24 in Q4). There was no statistically significant difference between quarter one and quarter four for *laxative abuse* in the successful group ($p=0.144$). These results are summarised in Table 5.

Table 5: Significance of differences between Q1 and Q4 regarding compensatory behaviours (bingeing, vomiting, laxative abuse, exercise) for group S (successful: $n = 21$).

Variables	Quarter	Mean	SD	Mean rank		Sum of ranks		Z	Sig
				Neg	Pos	Neg	Pos		
Bingeing	Q1	8.43	14.4					-2.965	0.003
	Q4	2.24	3.69	9.93	4.67	139	14		
Vomiting	Q1	7	12.31					-2.483	0.013
	Q4	1.81	3.12	7.05	3.75	70.5	7.5		
Laxative abuse	Q1	2.62	7.17					-1.461	0.144
	Q4	0.24	1.09	3	1	9	1		
Exercise	Q1	2	3.78					-2.214	0.027
	Q4	0.95	2.31	3.5	0	21	0		
Total compensatory behaviours	Q1	20.05	25.72					-3.424	0.001
	Q4	5.24	5.28	11.25	3.33	180	10		

The results show that for the unsuccessful group there were no statistically significant differences between quarter one and quarter four for the compensatory behaviours of *bingeing* ($p=0.279$); *vomiting* ($p=0.068$); *laxative abuse* ($p=0.317$), or *exercise* ($p=1$) or for the *average total compensatory behaviours* ($p=0.173$). These results are summarised in Table 6.

Table 6: Significance of differences between Q1 and Q4 regarding compensatory behaviours (bingeing, vomiting, laxative abuse, exercise) for group U (unsuccessful: n = 7).

Variables	Quarter	Mean	SD	Mean rank		Sum of ranks		Z	Sig
				Neg	Pos	Neg	Pos		
Bingeing	Q1	7.71	12.67					-1.084	0.279
	Q4	5.57	9.03	3.83	1.75	11.5	3.5		
Vomiting	Q1	7.29	11.79					-1.826	0.068
	Q4	4.86	9.23	2.5	0	10	0		
Laxative abuse	Q1	1.57	4.16					-1	0.317
	Q4	0.86	2.27	1	0	1	0		
Exercise	Q1	0.71	1.89					0	1
	Q4	0.71	1.89	0	0	0	0		
Total compensatory behaviour	Q1	17.29	25.79					-1.363	0.173
	Q4	12	19.53	4.25	2	17	4		

5. Discussion

The essence of *bulimia nervosa* is the critical role that individuals assign to body weight and shape, which affects all aspects of their functioning, resulting in a constant striving for weight loss and thinness in the face of a continuous feeling of fatness. Dieting, food, eating, fasting, bingeing and vomiting preoccupy the bulimic patient's thoughts.

This study demonstrates that bulimic patients undergoing cognitive behavioural therapy use language that is indicative of cognitive structures revolving around poor body image, eating and depressed mood, regardless of the outcome of the therapy. However, the use of specific eating disorder and affective disorder vocabulary improves only in those bulimic patients who had a successful outcome at the end of therapy.

This study also shows that the dysfunctional behaviours associated with *bulimia nervosa* such as bingeing, vomiting and exercise abuse decrease significantly by the end of therapy only for the successful group.

No changes were observed in the use of specific eating disorder and affective disorder vocabulary or in the frequency of compensatory behaviours in the unsuccessful group by the end therapy.

The study supports previous findings that show that bulimic individuals are preoccupied with body weight, food and eating (Anderson & Maloney 2001: 970; Waller 1997: 35-41). Their thoughts revolve around dieting, daily food allowances and planning avoidance strategies, all of which are self-determined and self-imposed. When the bulimic deviates from the elaborate daily dieting and weight-loss plan, the response is to binge and then to engage in compensatory behaviours such as vomiting, laxative abuse and excessive exercise (Solenberger 2001: 156).

The bulimic pattern of dieting, restrained eating, fasting, binge eating, vomiting and laxative abuse is cyclical and has emotional sequelae such as depression. Bulimic patients often report feelings indicative of a low mood that has been shown to be closely linked to body dissatisfaction (Crow & Mitchell 1996: 755-60). Restricted eating, strenuous dieting, bingeing and purging also exacerbate depression in *bulimia nervosa*. Thus the eating disorder and affective disorder vocabularies are closely linked and interdependent in their usage.

This study also shows that the process of recovery from *bulimia nervosa* involves the simultaneous improvement of mood status, restructuring of body dissatisfaction and relief from the relentless drive for thinness, as well as a reduction in compensatory behaviours.

For the process of therapy to result in recovery the bulimic patient is required to make significant changes in her behaviour and lifestyle. These changes demand a tremendous amount of commitment, concentration and energy from the individual. This may cause a host of problems in her social, occupational and interpersonal functioning, possibly resulting in lowered frustration tolerance as well as anger. The qualitative study of the experience of successful therapy with eventual recovery could shed more light on the emotional challenges of therapy.

Furthermore, this study demonstrates the usefulness of the self-monitoring diary technique used in the cognitive behavioural approach to the treatment of *bulimia nervosa*. Its value for therapists and patients is that a written baseline of behaviours can be established and progress can be quantitatively assessed throughout the course of treatment, thus

creating a tangible record of the improvements achieved. This is encouraging and motivating for both therapists and patients, as *bulimia nervosa* is a frustrating disorder to suffer from and to treat, so even the most minor improvements are significant in gaining a sense of control over what is a debilitating problem.

The single most limiting factor of this study was the very small number of subjects available for use, particularly in the unsuccessful group. It is, however, a good reflection on the therapist conducting the therapy, where 21 out of 28 patients (approximately 75%) had a successful outcome. Gathering a large number of bulimic patients is a common problem cited in research on the eating disorders. The secretive nature of the disorder makes bulimic sufferers reluctant to seek treatment or to participate voluntarily in research studies. This means that collecting larger groups of bulimic patients for research purposes could take a long time, thus hampering research efforts. This is even more difficult when studies revolve around the therapeutic process and its outcome and efficacy. The present research approach of analysing the self-report diaries of bulimic patients in cognitive behavioural therapy needs to be replicated to establish its usefulness and relevance to therapy. Longitudinal studies need to be designed to gather sufficient data to replicate it.

The diary analysis focused on the use of eating disorder and affective disorder vocabulary with negative meanings and connotations. The presence of positive language regarding body image and mood was not monitored. Such positive language and the gradual increase in its usage may offer a more complete picture of the subjects' progress in therapy. This could also be investigated in future studies or analyses of diary contents.

Future studies could also consider ways in which to incorporate control groups such as normal dieters with no history of eating disorders, normal non-dieters, restrained eaters, anorexics, obese individuals with and without eating pathologies, and individuals with binge eating disorders. Body image issues are rampant among the vast majority of women and are not restricted to those with eating disorders. Comparative data needs to be gathered for other groups of women and men with and without eating pathologies to establish how thoughts and feelings about body weight, food, eating and dieting vary among these other groups.

In sum, the results of the present study show that the process of cognitive behavioural therapy led to positive cognitive changes for bulimic patients in the group with successful therapy outcomes. This is evident in the choice of language in the daily diaries of the patients, which is initially reflective of the self-denigrating thoughts and feelings that bulimic patients have every day. The process of cognitive behavioural therapy significantly ameliorates their use of such negative language by the end of treatment. The dysfunctional behaviours of bingeing, vomiting and exercise abuse also decrease significantly by the end of therapy. These changes are crucial in improving the quality of a bulimic individual's daily life. As expected, no significant differences were found for the use of specific eating disorder and affective disorder vocabulary or for compensatory behaviours at the beginning versus the end of therapy in the unsuccessful group.

6. Conclusion

These research findings suggest that cognitive behavioural therapy had a significant impact on the cognitive schemas and behaviours of recovered bulimic subjects in the successful group. It is hoped that this approach to the evaluation of cognitive content and cognitive behavioural therapy will inspire further investigations to focus on these issues and to explore new directions in researching eating disorders. The benefits of cognitive behavioural therapy are also demonstrated and it is hoped that this study will encourage the use of this approach. *Bulimia nervosa* is not a disease; it is a disorder that resides in the automatic assumptions and underlying beliefs of the individual. Genetic factors, too, may make an important contribution to the development of the disorder. Prevention and treatment are thus of paramount importance.

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