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Guided self-help for bulimia nervosa in primary care: a randomized controlled trial

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ABSTRACT

Background. To increase access to cognitive behavioural therapy for bulimia nervosa new delivery modes are being examined. Guided Self-Help (GSH) in primary care is potentially valuable in this respect. This research aimed to compare outcomes following GSH delivered by general practitioners (GPs) in the normal course of their practice to a delayed treatment control (DTC) condition, and to examine the maintenance of treatment gains at 3 and 6 months following completion of GSH.

Method. Participants were 109 women with full syndrome or sub-threshold bulimia nervosa, randomly allocated to GSH ($n=54$) and DTC ($n=55$). The GSH group received direction and support from a GP over a 17-week period while working through the manual in *Bulimia Nervosa and Binge-Eating: A Guide to Recovery* by P. J. Cooper (1995). GSH and DTC groups were assessed pre-treatment and 1 week following the 17-week intervention or waiting interval. The GSH group was reassessed at 3- and 6-month follow-up.

Results. Intention-to-treat analyses at end of treatment revealed significant improvements in bulimic and psychological symptoms in GSH compared with DTC, reduction in mean frequency of binge-eating episodes by 60% in GSH and 6% in DTC, and remission from all binge-eating and compensatory behaviours in 28% of the GSH and 11% of the DTC sample. Treatment gains were maintained at 3- and 6-month follow-up.

Conclusion. Outcomes in GSH compare favourably with those of specialist-delivered psychological treatments. These findings are considered in light of the nature of the therapy offered and the primary care context.

INTRODUCTION

This research evaluated guided self-help (GSH) treatment delivered in primary care for bulimia nervosa. Despite demonstrated benefits of cognitive behavioural therapy (CBT) for bulimia nervosa (Wilson & Fairburn, 1998; Whittal *et al.* 1999; Hay & Bacaltchuk, 2003), only a low proportion of sufferers access specialist help (Welch & Fairburn, 1994). Patient shame, perceived and actual inaccessibility of care due to lack of availability, cost, and geographical factors may contribute to low access to treatment (Lacey, 1992; Turnbull *et al.* 1996; Banasiak *et al.* 1998; Agras, 2001). However, without treatment, symptoms generally remain chronic (Fairburn *et al.* 2000) and consequently, accessible, affordable and efficacious treatments are urgently required. These considerations have led to examination of modified and less intensive forms of CBT that utilize self-help manuals and may be delivered in community or primary-care settings (e.g. Fairburn & Carter, 1997; Wilson *et al.* 2000; Garvin *et al.* 2001). One such approach is Guided Self-Help (GSH), whereby a patient works through a CBT self-help manual guided

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by brief sessions with a specialist or non-specialist health professional.

Open pilot trials in secondary and tertiary settings suggested that GSH might be clinically useful (Cooper *et al.* 1994, 1996; Grave, 1997). Recently, two studies conducted in eating disorder clinics evaluated GSH when delivered by specialist health professionals (Palmer *et al.* 2002; Bailer *et al.* 2004). Palmer and co-workers compared the effectiveness of self-help alone, face-to-face GSH, telephone GSH and a wait list control for patients with a range of bulimic-type disorders. The face-to-face GSH group showed significantly greater improvements on bulimic symptoms than those in other conditions, although recovery rates for both GSH conditions were low (face-to-face, 10%; telephone, 14%). Bailer and colleagues compared outcomes following GSH in which patients were given a manual (Schmidt & Treasure, 1996) and up to 18 weekly brief visits with a psychiatry resident with outcomes following 18-week group CBT. Both groups showed significant reductions in bulimic symptoms with no differences between groups, although recovery rates were low.

While studies of GSH conducted in specialist settings are important, one limitation is that their findings may not generalize to primary-care or community settings that are typically more accessible and affordable for patients. Several studies have explored GSH for binge-eating disorder in this context with positive results (Carter & Fairburn, 1998; Peterson *et al.* 1998; Loeb *et al.* 2000). However, studies examining GSH in primary/community care settings for predominantly bulimia nervosa patients have produced mixed outcomes (Durand & King, 2003; Ghaderi & Scott, 2003; Walsh *et al.* 2004). Durand and King compared GSH in general practice with specialist out-patient treatment. In GSH, patients worked through the self-help manual over 6 months while maintaining regular contact with their GP. Significant improvements in bulimic symptoms measured by the BITE questionnaire (Henderson & Freeman, 1987) and secondary outcomes were observed at 6- and 9-month follow-up with no between-group differences.

Walsh *et al.* (2004) compared end-of-treatment outcomes of four groups: placebo, fluoxetine, GSH + placebo and GSH + fluoxetine. Patients in all groups received medical management and those in GSH groups received up to eight brief guided treatment sessions with a nurse over 4 months. Fluoxetine was superior to placebo in reducing eating and psychological symptoms and no significant differences between GSH and pills-only groups on principle bulimic symptoms were found. Recovery rates were low (GSH = 12·2%, pills-only = 9·5%), and notably, over two-thirds of patients failed to complete the treatments. Ghaderi & Scott (2003) compared the relative efficacy of pure self-help (manual only without guidance) and GSH in which participants received 6–8 sessions over 16 weeks delivered by trained psychology undergraduates in community settings. Both groups made equivalent significant improvements in eating and general psychopathology.

While research generally supports the value of GSH, to gain most benefit from this approach it needs to be accessible and affordable. In most Western health-care environments this requires delivery in a primary-care setting. The two studies of GSH conducted in primary care have produced inconclusive and conflicting findings. The Durand & King (2003) study showed promising results. However, the questionnaire assessment and small sample size renders the extent of improvement unclear. The very high drop-out rate in the second major study (Walsh *et al.* 2004) renders findings extremely difficult to interpret. Further research is required to examine the value of GSH in primary care.

The main aim of this research was to compare outcomes between two groups, a GSH group and a delayed treatment control (DTC) group, after 17 weeks. It was hypothesized that participants receiving GSH would show significantly greater improvement in bulimic symptoms and general psychopathology. The GSH group were reassessed at 3 and 6 months following the end of treatment. It was hypothesized that treatment gains would be maintained and that there would be no significant differences in bulimic symptom or general psychopathology scores between end-of-treatment and 3-month follow-up, and 3- and 6-month follow-up.

METHOD

Participants, recruitment and group allocation

Participants were 109 women (GSH = 54, DTC = 55). Inclusion criteria were: being female, 18 years or older, and meeting full or modified

DSM-IV (APA, 1994) diagnostic criteria for bulimia nervosa. To resemble more closely bulimic eating disorders presenting in general practice, modified DSM-IV diagnostic criteria were used in which the minimum threshold frequency criterion for episodes of binge-eating and purging was reduced from twice to once a week for the preceding three months (similar to Walsh *et al*. 2004). Exclusion criteria were: receiving psychological or pharmacological treatment for bulimia nervosa or psychiatric illness; body mass index (BMI) below 18; a DSM-IV Axis 1 diagnosis of anorexia nervosa, or comorbid severe major depressive episode, substance dependence or psychotic disorder; high suicide risk; current or recent pregnancy; and a serious medical condition that interfered with eating or weight.

Participants were recruited from the community by newspaper advertisements and media announcements (61·4%), posters placed in GP waiting rooms (21·1%), libraries and community centres (12·0%), and referral from a community-based eating disorder information centre (5·5%). These strategies were used to attract a community sample likely to visit a GP. Following initial telephone contact, a two-stage selection procedure was used; first, completion of two case-finding questionnaires, and second, a clinical interview assessing inclusion and exclusion criteria. A computer-generated biased coin randomization approach (Begg, 1998) was used, which ensures random allocation but takes into account the distribution of previous allocations so that groups will be approximately the same size. Randomization was conducted by a statistician who was uninvolved in the study and assessors remained blind to group allocation.

Treatment conditions

Delayed treatment control

The DTC group received no treatment during the study period. Following the 17-week waiting period they were reassessed and offered GSH but were no longer part of the study.

Guided self-help

The GSH treatment used the self-help manual by Cooper (1995), *Bulimia Nervosa and Binge-Eating*: *A Guide to Recovery*. Part 1 presents psychoeducational information about bulimia nervosa, while Part 2 presents a six-step, sequential, self-treatment programme which offers cognitive behavioural strategies and advice to assist a sufferer overcome their eating problem.

Each participant received an initial 30- to 60-minute session with the GP to whom she was allocated, during which she was given the manual and an outline of GSH, treatment rationale and goals, and respective roles. She was requested to read Part One of the manual prior to her next appointment and advised that over the next 16 weeks she was expected to work through the program at her own pace. Over this period, the GP provided support and encouragement in working through the program in the course of his/her normal clinical practice, in nine treatment sessions of 20–30 minutes each. Guidance sessions were weekly for the first 4 weeks, fortnightly for the following 6 weeks and then every 3 weeks for the remaining 6 weeks. Each session followed the general format of (1) assessing and monitoring progress by reviewing homework and setting the pace at which the participants moved through the programme, which entailed going through the review questions listed for that step, (2) discussing and resolving identified difficulties, and (3) jointly setting homework.

Study general practitioners

GPs were recruited through advertisements placed in GP newsletters. Of the 32 GPs who responded, 16 (12 women) (mean age 42·5 years, S.D. = 6·63) agreed to participate. Thirteen had a special interest in eating disorders in general practice but none had postgraduate or specialist qualifications in psychology or psychiatry. GPs were provided with initial training in GSH in a half-day continuing professional development workshop and were given a comprehensive manual prepared by the first author detailing the study protocol, their particular role, and procedural guidelines for administration of sessions. To provide supervision and ensure treatment integrity, GPs were contacted every 6 months for either group or individual telephone supervision with an investigator (P.J.H.).

Assessment instruments

Screening instruments and diagnosis

Two self-report questionnaires were used as screening case-finding instruments, the Bulimia

Test–Revised (BULIT-R; Thelen *et al.* 1991) and the Eating Disorder Examination Questionnaire (EDE-Q4; Fairburn & Beglin, 1994). The BULIT-R, which has sound scale properties (Brelsford *et al.* 1992), provides an index of the severity of bulimic symptomatology. Previous research demonstrated that a cut-off score of 104 in a clinic sample provided satisfactory sensitivity, specificity and predictive value (Powell & Thelen, 1996; Thelen *et al.* 1996), but to ensure no cases were missed a cut-off score of $\geqslant 94$ was used. Additionally, selected EDE-Q items were used to screen individuals for the probable presence of bulimia nervosa.

Diagnosis of bulimia nervosa (full syndrome, sub-threshold) was confirmed using the Eating Disorder Examination (12th edition) (EDE), a semi-structured clinical interview with demonstrated validity, reliability and sensitivity to improvements following treatment (Fairburn & Cooper, 1993). It assesses the frequency of objective binge-eating (OBE) and subjective binge-eating (SBE), purging and non-purging compensatory behaviours and severity ratings for attitudes and behaviours towards food, eating, weight and shape over the previous 28 days. For diagnostic purposes ratings on relevant DSM-IV items are assessed over the previous 3-month period. Four subscale scores are derived: Restraint, Eating Concern, Shape Concern and Weight Concern. The average provides a Global EDE score. To screen for psychological exclusion criteria, selected modules of the *Structured Clinical Interview for DSM-IV Axis I Disorders* (SCID-I/P; First *et al.* 1996) were administered, and the Millon Clinical Multiaxial Inventory-III (Millon, 1994), a self-report questionnaire, was used to assess DSM-IV Axis II personality disorders. A Personal History Questionnaire assessed demographic characteristics, eating behaviour, weight, and medical, psychiatric and treatment history.

Treatment outcome measures

Eating pathology. Primary outcome measures of eating pathology were derived from the EDE including assessments of the frequency over the past 28 days of episodes of: OBEs, SBEs, vomiting, laxative, diuretic and enema/suppository misuse. Scores on the Restraint, Eating Concern and Global scales assessed eating pathology.

Body image disturbance. The EDE Shape Concern and Weight Concern subscales (Fairburn & Cooper, 1993) measured concern about body shape and weight, respectively, and extent to which they unduly influence self-evaluation. Body dissatisfaction was assessed with the 34-item Body Shape Questionnaire (BSQ; Cooper *et al.* 1987; Rosen *et al.* 1996) and the Eating Disorder Inventory-2 (EDI-2) Body Dissatisfaction and Drive for Thinness subscales (Garner, 1991).

Body size. Direct measurements of weight and height were taken at interview and BMI (kg/m^2) calculated.

Psychological functioning. Psychological functioning was assessed with widely used, reliable and validated measures including the Beck Depression Inventory-II (Beck *et al.* 1996), the Rosenberg Self-Esteem Scale (Rosenberg, 1965), and three scales from the Brief Symptom Inventory (Derogatis, 1993), the Global Severity Index, Anxiety and Somatization Symptom subscales.

General functioning. The reliable and valid Satisfaction with Life Scale (Diener *et al.* 1985) and Overall Adjustment Score of the modified Social Adjustment Scale – Self-Report (SAS-SR: Cooper *et al.* 1982) were used to assess general life satisfaction and social functioning. The Overall Adjustment score is the average of the three separate role areas scores, Work, Social and Leisure Activities, and Extended Family, which reflect functioning in each area.

Attitudes towards treatment

Participants' attitudes towards GSH were assessed with ten 10 cm visual analogue scale items making up three scales and a single item measure. The Satisfaction with Treatment scale comprised four items including 'How helpful did you find this treatment approach for overcoming your eating problem?' (Cronbach's $\alpha = 0{\cdot}96$). The Satisfaction with Treatment Outcome scale contained three items including 'How satisfied are you with the overall treatment outcome?' (Cronbach's $\alpha = 0{\cdot}81$). The Satisfaction with General Practitioner scale contained two items including 'How helpful was the doctor in assisting you to deal effectively with your eating

problem?' ($r = 0{\cdot}96$). A single item, 'How confident would you be in recommending this form of treatment to someone you know who had the same problem as you?' assessed general Treatment Credibility.

Procedure

Following randomization, GSH participants were given an appointment with the study GP whose practice was closest to where they lived or worked. They were reassessed 1 week following end of treatment (17 weeks) by an assessor blind to treatment condition, and at 3 and 6 months following end of treatment assessment. DTC participants received only one reassessment, one week following the 17-week waiting period. Each assessment involved a face-to-face administration of the EDE and completion of self-report questionnaires. When face-to-face EDE interviews were not feasible a telephone EDE interview was administered or the assessment was completed by questionnaire only and the EDE-Q4 substituted for EDE scores. To minimize attrition, the importance of completing assessments was stressed, appointments were scheduled in advance and reminders sent, multiple contact addresses were obtained, a flexible approach to location and time of the interview was adopted, and, where applicable, travel expenses were reimbursed.

Design and statistics

Prior to study commencement a sample size that would provide adequate power for comparison between two groups was determined. For an expected difference in remission rate of 30%, based on previous meta-analyses by Hay & Bacaltchuk (2003), and a two-sided test with a power estimate of 0·90 and an alpha of 0·05, a minimum of 48 per group is required.

To determine differences between GSH and DTC at end of treatment for each continuous treatment outcome variable, 2 (group) × 2 (time of testing: baseline and end of treatment) repeated measures analyses of variance (ANOVA) were used. A Bonferroni adjustment for multiple comparisons, present in four of the five broad categories of treatment outcome variables (i.e. eating pathology, body image disturbance, psychological functioning and general functioning) was made. Categorical variables (remission rates) were compared using χ^2 analyses. Primary analyses were by intention to treat (ITT) with missing data at end of treatment replaced by baseline data. Secondary analyses concerned completers. A completer in the GSH group was defined as one who attended four or more guidance sessions and end-of treatment assessment. In the DTC a completer was defined as all those who completed reassessment.

To determine maintenance of treatment effects in the GSH group at 3- and 6-month follow-up, two planned comparisons were conducted on each continuous outcome variable following a one-way repeated measures ANOVA comparing scores at three time-points (end of treatment, 3- and 6-month follow-up) on those who completed end-of-treatment assessment. The first comparison was between end of treatment and 3-month score and the second was between 3- and 6-month scores. Maintenance of a treatment gain was indicated by the lack of a significant difference in the planned comparison. Where 3- or 6-month data were missing, the previous value was carried forward in analyses. Bonferroni corrections were made within each of the five broad groupings of continuous outcome variables. Non-parametric analyses (Cochran Q) were used to examine categorical data (remission rates).

Examination of treatment outcome variables prior to analysis revealed a number showed moderate to severe skewness and/or outliers and were transformed using logarithmic or square root transformations where appropriate. The transformation was used at each time-point.

RESULTS

Sample characteristics, randomization and attrition

Summary sample characteristics by group are shown in Table 1. The majority of participants met full DSM-IV diagnostic criteria for bulimia nervosa and were of the purging subtype. They were Caucasian women with a relatively long duration of illness and frequent psychiatric comorbidity. Just over half had received previous treatment for their eating problem. There were no statistical differences between the GSH and DTC conditions on baseline demographic, clinical features (Table 1) or outcome variables following randomization.

Table 1. *Post-randomization between-group comparisons on demographic and clinical features*

	GSH ($n=54$)	DTC ($n=55$)	t	χ^{2*} (df = 1)	p
Demographic variables					
Age, mean years (S.D.)	29·5 (8·72)	28·3 (8·22)	0·71		0·48
Not partnered (%)	42·6	47·3		0·09	0·76
Having children (%)	29·6	27·3		0·00	0·94
Tertiary education (%)	85·2	70·9		2·46	0·12
In paid work (%)	64·8	58·2		0·27	0·61
Clinical features					
Full syndrome bulimia nervosa (%)	90·7	83·6		0·68	0·41
Bulimia nervosa purging subtype (%)	83·3	87·3		0·10	0·76
Mean duration of bulimia nervosa (years) (S.D.)	9·17 (6·95)	8·48 (6·08)	0·55		0·59
Previously had anorexia nervosa (%)	22·2	25·5		0·03	0·86
Current major depressive episode (%)	20·4	14·5		0·30	0·58
Alcohol/drug abuse (%)	9·3	7·3		0·00	0·97
Axis II personality disorder (%)	52·2	51·9		0·00	1·0
Mean BMI (S.D.)	22·6 (3·58)	23·1 (3·56)	−0·81		0·42
Had previous treatment for bulimia nervosa (%)	56·6	52·7		0·05	0·83

* Yates continuity correction is reported.

Participant flow through randomization, treatment and follow-up is shown in Fig. 1. Fig. 1 also indicates reasons for drop-out in both GSH and DTC. During the intervention phase, the overall attrition rate was 31·2% ($n=34$). There was no statistically significant difference between the two groups' attrition rates. Following attrition, 36 and 39 participants allocated to GSH and DTC respectively were included in completers analyses of between-group comparisons, and 43 and 30 were included in ITT and completers analyses respectively examining maintenance of treatment outcomes. There were no significant differences between those who completed the trial and those who dropped out on demographic variables, clinical features or outcome variables at baseline.

End-of-treatment outcome

Examination of Table 2 reveals a significant group × time interaction for all eating pathology and body image variables in the ITT sample, with GSH showing significantly greater improvements than DTC at end of treatment. The effect sizes were mostly large for eating pathology variables and ranged from moderate to large for body image variables. Moreover, in relation to eating behaviours, the mean frequency of OBE episodes was reduced by 60% in GSH compared with 6% in DTC. Similarly, in those who reported some form of purging behaviour at baseline, there was a 61% compared to a 10% reduction in purging episodes in GSH and DTC groups respectively. There were significantly greater improvements in depression, anxiety, Satisfaction with Life and Social Adjustment (the result of improvements on the Work subscale) in GSH relative to DTC, and non-significant improvements in self-esteem, BSI Global Severity and BSI Somatization. No significant differences in BMI were observed. A similar but stronger pattern of results was observed for the completer sample (available on request).

Absolute remission from OBE in the ITT sample was significantly greater in the GSH compared with the DTC condition [GSH: 25/54, 46%; DTC: 7/55, 13%; χ^2 (1, $n=109$) = 14·80, $p<0·001$, ES = 1·74]. In addition, absolute remission from purging behaviors (for purging participants only) [GSH: 15/45, 33%; DTC: 6/48, 12%; $\chi^2(1, n=93)=5·77$, $p<0·05$, ES = 1·28] and all compensatory behaviours (including purging and/or non-purging compensatory behaviours such as dietary restriction and excessive exercise) [GSH: 19/54, 35%; DTC: 6/55, 11%; χ^2 (1, $n=109$) = 9·08, $p<0·01$, ES = 1·47] were significantly greater in GSH than DTC. Furthermore, absolute remission from binge-eating and all compensatory behaviours ('recovered' by Agras *et al.* (2000) criteria) was significantly greater in GSH than DTC [GSH: 15/54, 28%;

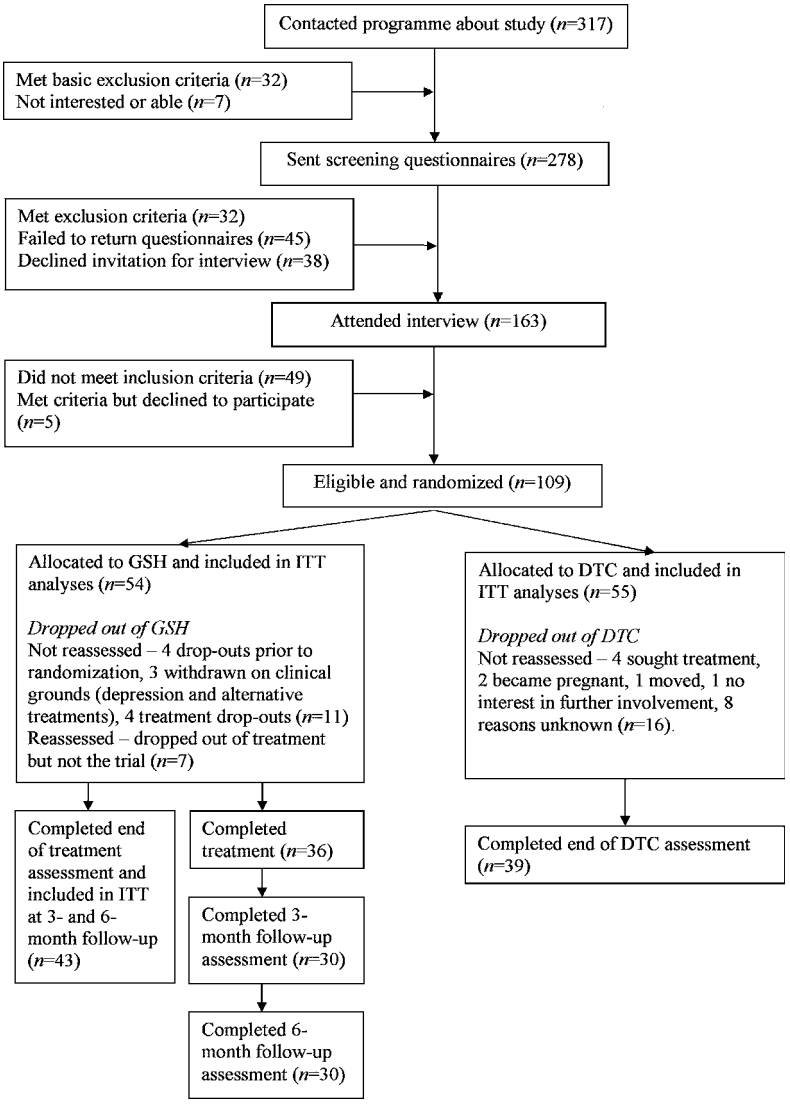

FIG. 1. Summary of participant flow. GSH, Guided Self-Help; DTC, Delayed Treatment Control; ITT, intention to treat.

DTC: 6/55, 11%; χ^2 (1, $n=109$) = 4·98, $p<0·05$, ES = 1·15].

Of completers, the proportion of participants in GSH compared with DTC who, at end of treatment, had ceased OBEs [GSH: 22/36, 61%; DTC: 7/39, 18%; χ^2(1, $n=75$) = 14·71, $p<0·001$, ES = 1·96], purging behaviours [GSH: 14/30, 47%; DTC: 6/36, 17%; χ^2 (1, $n=66$) = 6·97, $p<0·01$, ES = 1·47], all compensatory behaviours [GSH: 18/36, 50%; DTC: 6/39, 15%; χ^2 (1, $n=75$) = 10·31, $p<0·01$, ES = 1·73], and binging and all compensatory behaviours [GSH: 14/36, 39%; DTC: 6/39, 15%; χ^2 (1, $n=75$) = 5·29, $p<0·05$, ES = 1·23], was significantly greater.

Maintenance of treatment gains

As illustrated in Table 3, treatment gains were maintained at 3- and 6-month follow-up in the ITT sample and a similar pattern was observed in completers (available on request). Remission from behavioural symptoms was also

Table 2. *Intention to treat: summary statistics of repeated measures ANOVAs comparing Guided Self-Help and Delayed Treatment Control groups at end of treatment (17 weeks)*

	Guided Self-Help ($n=54$)		Delayed Treatment Control ($n=55$)				
	Baseline Mean (S.D.)	End of treatment Mean (S.D.)	Baseline Mean (S.D.)	End of treatment Mean (S.D.)	df	Group × time F	Effect size χ^2
Eating pathology							
Eating Disorder Examination							
OBE episodes (past 28 days)	25·00 (26·33)	10·00 (16·61)	23·78 (22·13)	22·36 (24·93)	1, 107	39·86*	0·171
SBE episodes (past 28 days) ($n=51$)	28·77 (39·58)	11·23 (30·83)	17·55 (21·18)	12·62 (16·09)	1, 49	9·88*	0·113
Purging episodes (past 28 days)[a] ($n=93$)	46·40 (49·15)	18·18 (35·92)	40·08 (34·65)	35·94 (36·18)	1, 91	34·00*	0·167
Vomiting episodes (past 28 days) ($n=82$)	53·65 (51·34)	21·92 (38·67)	39·67 (35·78)	35·67 (36·97)	1, 80	28·48*	0·173
Laxative episodes (past 28 days) ($n=28$)	8·77 (8·30)	1·38 (2·47)	18·40 (18·22)	17·12 (18·70)	1, 26	12·15*	0·152
Restraint score	4·12 (1·05)	2·36 (1·80)	4·11 (0·91)	3·80 (1·28)	1, 107	32·40*	0·158
Eating Concern score	2·93 (1·15)	1·58 (1·37)	3·02 (1·28)	2·52 (1·45)	1, 107	11·95*	0·068
Global score	3·87 (1·02)	2·46 (1·49)	3·89 (0·99)	3·49 (1·25)	1, 107	22·27*	0·112
Body image disturbance							
Eating Disorder Examination							
Weight Concern score	4·24 (1·30)	2·90 (1·72)	4·19 (1·29)	3·83 (1·56)	1, 107	16·24*	0·095
Shape Concern score	4·17 (1·40)	3·00 (1·77)	4·22 (1·20)	3·82 (1·42)	1, 107	10·16*	0·064
Body Shape Questionnaire score ($n=105$)	142·52 (34·11)	110·38 (44·27)	145·09 (29·46)	137·73 (34·51)	1, 103	24·00*	0·130
EDI-2 Body Dissatisfaction score ($n=104$)	18·96 (7·99)	13·57 (9·74)	20·98 (6·17)	20·05 (6·92)	1, 102	18·55*	0·121
EDI-2 Drive for Thinness score ($n=104$)	16·08 (4·70)	10·82 (7·39)	15·27 (4·55)	14·78 (5·56)	1, 102	23·75*	0·151
Body size							
BMI	22·57 (3·58)	22·34 (3·70)	23·13 (3·56)	23·10 (3·81)	1, 107	1·68	0·015
Psychological functioning							
Beck Depression Inventory-II score ($n=105$)	22·52 (12·08)	14·92 (13·17)	22·27 (11·58)	19·80 (12·26)	1, 103	10·51*	0·069
Rosenberg Self-Esteem score ($n=105$)	23·66 (5·78)	26·88 (6·85)	23·29 (5·30)	24·69 (5·26)	1, 103	4·29	0·032
Brief Symptom Inventory: Global Severity Index score ($n=105$)	1·04 (0·60)	0·76 (0·58)	1·10 (0·63)	1·01 (0·64)	1, 103	5·36	0·042
Anxiety score ($n=105$)	0·96 (0·69)	0·67 (0·57)	1·00 (0·78)	1·01 (0·82)	1, 103	7·15*	0·062
Somatization score ($n=105$)	0·74 (0·67)	0·47 (0·48)	0·76 (0·59)	0·70 (0·55)	1, 103	5·80	0·048
General functioning							
Satisfaction with Life ($n=105$)	16·38 (7·88)	20·44 (8·48)	15·25 (7·49)	16·16 (6·42)	1, 103	8·80*	0·066
Social Adjustment Scale–SR							
Overall Adjustment score ($n=103$)	2·45 (0·49)	2·18 (0·53)	2·48 (0·49)	2·44 (0·53)	1, 101	10·27*	0·080
Work score ($n=104$)	2·15 (0·58)	1·81 (0·61)	2·08 (0·60)	2·08 (0·058)	1, 102	14·67*	0·115
Social/Leisure Activities score ($n=105$)	2·59 (0·64)	2·30 (0·64)	2·65 (0·60)	2·56 (0·65)	1, 103	5·01	0·040
Extended Family score ($n=104$)	2·53 (0·62)	2·36 (0·71)	2·62 (0·57)	2·60 (0·63)	1, 102	2·48	0·023

No. of patients varies because of missing data owing to failure to complete or return a questionnaire.
[a] Purging episodes score = primary purging behaviour (episodes of vomiting, or laxative, or diuretic or enema/suppository misuse).
* p = significant below Bonferroni corrected threshold.

maintained. Among the ITT sample, cessation of binge-eating was 58% (25/43), 58% (25/43) and 60% (26/43) at end of treatment, 3- and 6-month follow-up respectively, and there were no significant differences in these proportions over time [Cochran Q (2, $n=43$) = 0·14, $p=0·93$]. Absolute remission from purging (of purging participants only) was 42% (15/36), 39% (14/36) and 50% (18/36) [Cochran Q (2, $n=36$) = 2·00, $p=0·37$] and cessation from all compensatory behaviours, (purging and non-purging) was 44% (19/43), 47% (20/43) and 51% (22/43) [Cochran Q (2, $n=43$) = 1·08, $p=0·58$] were also maintained at end of treatment, 3- and 6-month follow-up. Absolute remission rates from all binge-eating and compensatory behaviours were 35%, (15/43), 35% (15/43), and 42% (18/43) [Cochran Q (2, $n=43$) = 1·06, $p=0·59$] at end of treatment, 3- and 6-month follow-up respectively.

In completers, cessation from binge-eating was 60% (18/30), 63% (19/30) and 63% (19/30) [Cochran Q (2, $n=30$) = 0·15, $p=0·93$] at end of treatment, 3- and 6-month follow-up respectively while abstinence from purging was reported by 46% (12/26), 42% (11/26) and 54%

Table 3. *Intention to treat*: *summary results of planned comparisons between end-of-treatment and 3-month follow-up, and 3- and 6-month follow-up on major outcome variables in participants who completed end-of-treatment assessment* ($n=43$)

	Baseline Mean (S.D.)	End of treatment Mean (S.D.)	3-month follow-up Mean (S.D.)	6-month follow-up Mean (S.D.)	End of treatment *v.* 3-month *t* (1)	3-month *v.* 6-month *t* (1)
Eating pathology						
Eating Disorder Examination						
OBE episodes (past 28 days)	23·81 (28·30)	4·98 (12·42)	7·00 (16·06)	5·98 (13·99)	−1·74	1·55
SBE episodes (past28 days) ($n=27$)	28·77 (39·58)	5·15 (11·17)	4·78 (11·75)	3·96 (11·11)	1·10	1·19
Purging episodes (past 28 days)[a] ($n=36$)	43·94 (48·22)	8·67 (21·80)	11·25 (28·28)	10·64 (27·82)	−0·97	1·02
Vomiting episodes (past 28 days) ($n=29$)	51·17 (51·12)	10·69 (23·92)	13·90 (31·03)	13·14 (30·56)	−0·97	1·01
Restraint score	4·16 (0·96)	1·95 (1·66)	2·30 (1·59)	2·08 (1·64)	−2·68	1·68
Eating Concern score	2·85 (1·17)	1·15 (1·09)	1·18 (1·22)	1·18 (1·22)	−0·32	−0·04
Global score	3·84 (1·01)	2·08 (1·34)	2·14 (1·36)	2·07 (1·46)	−0·29	0·58
Body image disturbance						
Eating Disorder Examination						
Weight Concern score	4·24 (1·31)	2·55 (1·65)	2·51 (1·69)	2·50 (1·76)	0·42	0·06
Shape Concern score	4·15 (1·39)	2·68 (1·69)	2·56 (1·64)	2·50 (1·79)	1·17	0·39
Body size						
BMI	22·68 (3·76)	22·39 (3·91)	22·73 (3·88)	22·70 (3·89)	−2·76*	0·39
Psychological functioning						
Beck Depression Inventory-II score ($n=42$)	21·81 (12·35)	12·76 (12·61)	12·31 (12·89)	12·45 (12·22)	0·39	−0·11
Rosenberg Self-Esteem score ($n=42$)	23·95 (5·77)	27·79 (6·68)	28·24 (6·89)	28·33 (6·64)	−1·06	−0·14
Brief Symptom Inventory:						
Global Severity Index score ($n=42$)	1·00 (0·63)	0·68 (0·57)	0·60 (0·55)	0·56 (0·46)	1·79	0·64
General functioning						
Satisfaction With Life score ($n=42$)	17·26 (7·89)	22·09 (7·83)	22·17 (7·26)	22·21 (7·05)	−0·14	−0·06
Social Adjustment Scale–SR						
Overall Adjustment score ($n=42$)	2·39 (0·47)	2·07 (0·47)	2·05 (0·52)	2·07 (0·44)	0·16	−0·25

Numbers of patients vary because of missing data owing to failure to complete or return a questionnaire.
[a] Purging episodes score = primary purging behaviour (episodes of vomiting, or laxative, diuretic or enema/suppository misuse).
* p = significant below Bonferroni corrected threshold.

(14/26) [Cochran Q (2, $n=26$) = 1·17, $p=0·56$], and cessation from all compensatory behaviours was observed in 47% (14/30), 50% (15/30) and 57% (17/30) [Cochran Q (2, $n=30$) = 1·08, $p=0·58$]. Finally, absolute remission from symptoms in those who completed GSH was maintained, with 40% (12/30), 40% (12/30) and 50% (15/30) [Cochran Q (2, $n=30$) = 1·06, $p=0·59$] having no binge-eating or compensatory symptoms at end of treatment, 3- and 6-month follow-up.

Participant satisfaction with GSH

Attitudes towards treatment scores were favourable. In the ITT sample, where the maximum score was 10, the mean Satisfaction with Treatment score was 6·89 (S.D. = 2·46), Satisfaction with GP score was 6·25 (S.D. = 3·20), Satisfaction with Treatment Outcome was 5·93 (S.D. = 2·51) and Treatment Credibility score was 8·36 (S.D. = 2·24).

DISCUSSION

This study supports the efficacy of cognitive-behavioural GSH for bulimia nervosa delivered by non-specialist general practitioners in primary care. Observed outcomes are similar to those of major studies of CBT delivered in specialist treatment settings (e.g. Fairburn *et al.* 1993*a*; Agras *et al.* 2000). This is strongly illustrated by comparing recovery rates. In the present study, at end of treatment, 28% of ITT participants (39% completers) in the GSH condition were recovered from bulimia nervosa, compared to 29% (45% completers) in the 19 individual-session CBT condition of the multi-centre study conducted by Agras *et al.* (2000). Following GSH, bulimic behavioural symptom and body dissatisfaction measures showed substantial reductions, although more modest effects were observed on body image measures assessing core psychopathology of eating disorders (EDE Weight and Shape Concerns). While not the

treatment focus, significant improvements were also evident in general psychopathology, including depression, anxiety, life satisfaction and occupational functioning. Importantly, treatment gains were maintained at 3- and 6-month follow-up, consistent with other studies of CBT (e.g. Agras *et al.* 2000). Assessment of major outcome variables by EDE interview supports the reliability of these findings. Complementing the positive findings reported above were the moderate–high ratings offered by participants in their evaluations of GSH, suggesting this was an acceptable and credible treatment option.

While the majority of studies of GSH in clinic/community settings have found this approach to be beneficial, the two studies conducted in primary care have produced disparate findings (Durand & King, 2003; Walsh *et al.* 2004). This study's findings are broadly consistent with those of Durand and King (2003) although stronger, and are in stark contrast to the negative outcomes reported by Walsh *et al.* (2004). Possible reasons for this include: the treatment manual, the nature of participants, the GPs providing guidance, and the primary-care context. Cooper's (1995) self-help manual, *Bulimia Nervosa and Binge-Eating*: *A Guide to Recovery* was used in this study. Although based on the Oxford CBT manual (Fairburn *et al.* 1993*b*) it has not been widely used in GSH research. It is distinctive for its engaging, empathic and accessible style. It is notable that Durand and King, who also obtained positive findings, used this manual.

An examination of the features of participants in this study does not suggest their characteristics accounted for the relatively good outcomes. Like most treatment trials for bulimia nervosa, the majority of participants had moderate to severe symptomatology with substantial co-morbidity. Thus, the sample was approximately equivalent to those in other studies.

In trials of GSH in primary, secondary and tertiary settings, a wide variety of professionals, including research assistants, trainee and qualified psychologists and psychiatrists, nurse therapists and GPs, have provided the guidance. Study GPs may have been well equipped to provide guidance. While GPs do not have specialist training in working with mental health problems, current training in Australia teaches and assesses consulting and counselling skills. Study GPs were self-selected and, while they had no specialist eating-disorder training, they did have an interest in and empathy for this problem which may have enhanced their motivation and service delivery. It is possible that GPs without similar attributes would not be in as strong a position to provide guidance in this style of treatment. In the study conducted by Durand & King (2003), GPs also provided the guidance with positive outcomes.

Finally, it is important to consider the primary-care context. Bailer *et al.* (2004) highlight the importance of taking into account contextual factors recognizing that health-care systems vary widely across Western cultures, potentially contributing to differences in patient expectations, motivation and treatment engagement. As in other parts of the world, such as Britain and Canada, in Australia, many individuals with bulimic disorders seek assistance from a GP (Wertheim & Weiss, 1989; Hay *et al.* 1998) and are likely to be the agency first consulted and perceived as helpful (Mond *et al.* 2004). They are typically readily available, more affordable and attendance is not stigmatized. In addition, consultation times of around 20 minutes are not unusual. Consequently, receiving GSH in general practice is usually practical, which may facilitate engagement and motivation. In addition, treatment was free to participants, which may have enhanced motivation. GPs are also a credible source of medical information and treatment in Australia, which may contribute to positive patient expectations. In the present study, the preparedness to recommend this form of treatment to others does suggest that GSH was regarded as a credible treatment option by many. Such considerations suggest the present findings may not generalize to countries where family medicine is less strongly developed as a clinical discipline.

Importantly, the observed attrition and complete recovery rates suggest GSH was not acceptable or beneficial to all. While this study's attrition rate (33% GSH) was similar to the median drop-out rate of previous studies of GSH (35%, Durand & King, 2003), it was not as high as that achieved by Walsh *et al.* (2004) (70%). Nonetheless, it raises several important issues: a need for appropriate mechanisms dealing with follow-up and management of

drop-outs from GSH in primary care; a need to explore factors responsible for treatment failure; and consideration of enhancements to the treatment manual that may produce better treatment outcomes. Present findings suggest the latter may be achieved by developing those aspects of the manual dealing with body image and related cognitions.

Researchers are increasingly recognizing the importance of ascertaining the effectiveness as well as efficacy of treatments for bulimia nervosa (e.g. Wilson, 1998). The present study, involving a hybrid design, supports the effectiveness of GSH in this primary-care context as it was substantially conducted within a naturalistic environment. While GPs received minimum training and supervision, they provided the guidance within the confines of their regular busy general practices. However, while participants were recruited from general practices (21%) and community settings (73%) and while a sample recruited in this way might resemble patients seen in primary care, it is not a primary-care attendee sample and this may limit the generalizability of the findings in Australia and other countries. Moreover, elements of the randomized controlled trial introduced controlled aspects not found in a naturalistic study (e.g. formal assessment which may encourage involvement, and receiving guidance from a study GP rather than regular GP). Nonetheless, the study conditions were sufficiently close to natural primary-care environments in Australia to strongly support the use of GSH by well informed GPs.

Compared with specialist treatments, GSH for bulimia nervosa delivered in primary care by a general practitioner is a relatively low cost (to both patient and taxpayer), geographically accessible, and non-stigmatizing treatment for bulimia nervosa. Results from the present study indicate that this is a valuable treatment option and efforts should be made to facilitate its implementation.

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DECLARATION OF INTEREST

None.

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