
NEW INSIGHTS INTO THE PREVENTION AND TREATMENT OF BULIMIA NERVOSA

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Targeted Prevention in Bulimic Eating Disorders: Randomized Controlled Trials of a Mental Health Literacy and Self-Help Intervention

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1. Introduction

Eating disorders (EDs) in the community are associated with high burden and poor quality of life (Mathers et al., 2000, Hay & Mond, 2005). It is also known that people with EDs have frequent chronic medical complications (Mehler, 2003), increased risk of obesity especially for the more common bulimic EDs such as binge eating disorder (Neumark-Sztainer et al., 2006; Hudson et al., 2007) and high levels of co-morbidity with both depression and anxiety (Hudson et al., 2007). However, there is a wide gap between the presence of a disorder and its identification and treatment. It is well-documented that the overwhelming majority of people in the community with an ED do not seek help for their eating behaviours (Hart et al., in press; Welch & Fairburn 1994), and that even fewer access appropriate or evidence-based treatments (Cachelin & Striegel-Moore, 2006; Mond et al., 2009). This is problematic as many randomised controlled trials support the efficacy of treatments, such as cognitive-behaviour therapy for bulimic EDs (Hay et al., 2004) and unmet treatment needs likely add to the general community burden from psychiatric disorders (Andrews et al., 2000). In addition, these disorders often become chronic with longitudinal studies indicating persistence of symptoms over many years (Fairburn et al., 2000, Evans et al., 2011).

It has been argued that factors contributing to the low rates of help-seeking amongst people with EDs include poor knowledge about treatments amongst sufferers (Cachelin & Striegel-Moore, 2006; Hepworth & Paxton, 2007; Mond & Hay, 2008), feelings of shame (Cachelin & Striegel-Moore, 2006; Hepworth & Paxton, 2007), perceived stigmatisation of EDs (Stewart et al., 2006), ambivalence towards change (Hepworth & Paxton, 2007), cost (Cachelin &

Striegel-Moore, 2006; Hepworth & Paxton, 2007), and a belief that one could or should handle the problem alone (Becker et al., 2004; Cachelin & Striegel-Moore, 2006).

Many of these reasons for the under-utilisation of health care in eating disorders are features of 'mental health literacy', a term introduced and defined by Jorm as "knowledge and beliefs about mental disorders that may aid in their recognition, management and treatment" (Jorm et al, 1997). Jorm and colleagues, and others, have argued that poor mental health literacy is a major factor in the individual, social and economic burden of mental health problems (Andrews et al., 2000; Jorm et al., 2000). There have been attempts to evaluate the efficacy of mental health literacy interventions in improving outcomes for patients with problems such as depression. In one study Jorm and colleagues (2003) reported a large community-based RCT (n=1094) for an evidenced based guide to treatments versus a general brochure for people with depressive symptoms. They found more positive outcomes in the former group but the effects were not large.

In the area of eating disorders we have conducted a small randomized controlled study of a brief postal mental health literacy intervention in community women with bulimic eating disorders. At the end of a year symptomatic improvement, less pessimism about how difficult eating disorders are to treat, improved recognition and knowledge, as well as increased help-seeking were observed in both groups (Hay et al., 2007a). Those randomized to receive the mental health literacy intervention also had improved mental health related quality of life. The study supported further investigations of the role of targeted health literacy interventions in eating disorders described in this chapter.

2. Randomised controlled trial of an eating disorder (bulimia nervosa) mental health literacy intervention (BN-MHL)

2.1 Aims of BN-MHL trial

The study aims were to test the efficacy of a mental health literacy intervention for eating disorders in a non-clinical sample of adult women. Outcomes included mental health literacy regarding treatments for a common eating disorder, bulimia, perceived health related quality of life and general and specific eating disorder psychological symptoms.

2.2 Methods of BN-MHL trial

The sample was derived from a longitudinal survey of women with disordered eating recruited through advertisements in four universities and colleges of higher education in two Australian States (Queensland and Victoria). Details of the total sample at baseline have been reported in Mond et al. (2010). Recruitment strategies varied and included approaches via central University email/web mail, printed advertisements in student bulletins and halls of residence and direct approach to students in University common areas. For individuals approached via email, participants were given the option of completing an on-line questionnaire. For other participants, questionnaires were provided in hard copy with reply-paid envelopes. The questionnaire included measures of eating disorder psychopathology and health-related quality of life (as completed by the first sample, see below).

The sample for the trial comprised 217 symptomatic young women (all ≥ 18 years, mean age 24.5 years SD 7.6) who agreed to follow-up. They were included if they had current extreme weight/shape concerns and/or current regular (e.g. occurring weekly over the past three months) binge eating and/or any extreme weight control behaviours such as self-induced

vomiting and/or laxative/diuretic use and/or fasting or severe food restriction and/or 'driven' exercise and/or who self-identified on the BN-MHL survey as currently having a problem like that of 'Naomi' (see below – only one was included on this criteria alone). The majority of students (179, 84%) were Australian born and 150 (72%) were never married.

At the start of the first year (baseline) the participants who agreed to follow-up were randomised to receive either a bulimia nervosa mental health literacy (BN-MHL) intervention (n=97) or information about their symptom scores and local mental health services only, with the comparison group (as required by ethical consideration) receiving the intervention at the end of the first year. The intervention comprised a single posted package of information about treatment of BN and related disorders, purchasing information on the book "Binge eating and Bulimia nervosa: A guide to recovery" (Cooper, 1995). The recommended book included a detailed psycho-educational section and a self-directed cognitive-behaviour therapy. The package also provided recommended websites for further information on treatments, lists and contact details of local eating disorder specialist treatment facilities, and contact details for the (local) eating disorders support group and consumer organisation. At baseline the control group (n=120) received information about local mental health services only.

Randomisation was by means of SPSS RV.BINOM (1,0.5) function and allocation was concealed from the research officer who communicated with the participants. In the covering letter informed consent was obtained, along with permission for follow-up in order to "find out how health issues and general health and well-being impacts on people's quality of life over time". Participants were not told they were part of a randomised controlled trial. Three respective institutional ethics committees approved the research (namely James Cook, La Trobe and Western Sydney universities), with the proviso that control participants were provided with the intervention at one year.

ED symptoms were assessed with the Eating Disorder Examination Questionnaire (EDE-Q). The EDE-Q has been validated in community and clinic samples of people with EDs (Fairburn & Beglin, 1994; Mond et al., 2004). It yields a global score of ED attitudes and restraint, and four sub-scales (i.e. shape, weight and eating concern and dietary restraint) and also frequency of ED behaviours such as binge-eating over the preceding four weeks.

BN-MHL was assessed with a questionnaire designed for this research (Mond et al., 2010). A vignette describing a (fictional) 19-year-old female suffering from BN called Naomi (N) was presented. Care was taken to ensure that the core features of the disorder were present while avoiding the use of medical terminology. The text of the vignette was: *N is a 19-year-old second year arts student. Although mildly overweight as an adolescent, N's current weight is within the normal range for her age and height. However, she thinks she is overweight. Upon starting university, N joined a fitness program at the gym and also started running regularly. Through this effort she gradually began to lose weight. N then started to "diet," avoiding all fatty foods, not eating between meals, and trying to eat set portions of "healthy foods," mainly fruit and vegetables and bread or rice, each day. N also continued with the exercise program, losing several more kilograms. However, she has found it difficult to maintain the weight loss and for the past 18 months her weight has been continually fluctuating, sometimes by as much as 5 kilograms within a few weeks. N has also found it difficult to control her eating. While able to restrict her dietary intake during the day, at night she is often unable to stop eating, bingeing on, for example, a block of chocolate and several pieces of fruit. To counteract the effects of this bingeing, N takes water tablets. On other occasions, she vomits after overeating. Because of her strict routines of eating and exercising, N has become isolated from her friends.*

Following presentation of the vignette, participants were asked: “What would you say is N’s main problem?” They were required to choose one answer only from a list of options provided. Options, listed in a pre-determined, random order, were: “bulimia nervosa”; “anorexia nervosa”; “an eating disorder, but not anorexia or bulimia”; “yo-yo dieting”; “poor diet”; “low self-esteem/lack of self-confidence”; “depression”; “an anxiety disorder or problem”; “stress”; “a nervous breakdown”; “a mental health problem”; and “no real problem, just a phase.” Participants were asked to indicate which of a number of possible interventions within each of three categories—people (15 options), treatments/activities (12 options), and medicines/pills (4 options)—they believed would be most helpful for N as well as the person that they would first approach for advice or help were they to have a problem such as the one described. At 6 and 12 months the name and age of the person in the vignette was changed but gender remained female and the symptom profile remained that of purging type BN.

Mental health related quality of life was assessed with the well-validated 12-item Short Form-12 Health Status Questionnaire (SF-12; Ware et al., 1996). This provides a mental health related component score presented in this chapter. A score below 50 indicates impairment and below 40 moderate to severe impairment. General psychiatric symptoms were assessed with the Kessler-10 item distress scale (K-10). It is designed to detect cases of anxiety and affective disorders in the general population (Andrews & Slade, 2001) and it has been used in our previous research (e.g. Mond et al., 2004b). Scores range from 10 to 50 as there are ten items scored from 1 to 5. Scores of 19 or above indicate likely psychiatric disorder such as major depression or an anxiety disorder. Body Mass Index (BMI; kg/m²) was calculated from self-reported height and weight.

Differences between groups were tested statistically using SPSS v 18 and with independent t-test and chi square or independent sample Mann-Whitney U tests respectively. Due to multiple testing significance was set at $\alpha \leq 0.01$.

2.3 Results of BN-MHL trial

At baseline the participants’ BN-MHL and ED symptoms did not differ between groups. Eighteen percent correctly identified the problem in the vignette as BN and the most common response (27%) response was that the person’s problem was low self-esteem (Table 1). Regard for evidence based treatments or specialists was modest. Only one person at baseline, two at 6-months and five at 12-months thought a self-help treatment manual would be helpful.

ED symptoms were high with mean (SD) scores on the EDE-Q subscales of eating concern 2.4 (1.4), shape concern 4.2 (1.2), weight concern 3.8 (1.2), and restraint 3.0 (1.5). The majority (80%) were binge eating (objective and /or subjective type), 32 (15%) were vomiting for weight control, 30 (14%) were using laxatives and three (1.4%) had used diuretics in the past four weeks. Follow-up responses at 6 months were 66% and 62% at 12 months. There were no significant differences at baseline on outcome variables between those who were and were not followed to 12-months.

Further results and comparative findings of the groups randomised or not to the BN-MHL intervention over the 12-months are shown in Table 1 below. At follow-up there were no significant differences between the intervention and information-only groups in BN-MHL or in symptomatic outcomes or in mental health related quality of life (see Table 2). A

sensitivity analysis (to test for completer only analysis bias) was therefore not done. (Whilst on inspection it appeared that those in the intervention group were more likely to identify the problem as BN or another eating disorder ED at 6 and 12 months these differences were did not reach significance. There was a significant trend for those in the information only group to have fewer subjective binges at 6-months.)

	Baseline 6-months		12-months		
		BN-MHL	I-only	BN-MHL	I-only
N	217	65	78	62	72
Main problem					
Bulimia nervosa	39 (18%)	18 (28%)	26 (33%)	10 (16%)	8 (6.7%)
Other ED	35 (16%)	15 (23%)	8 (6.7%)	16 (26%)	19 (16%)
Low self-esteem	58 (27%)	14 (22%)	16 (13%)	13 (21%)	19 (16%)
Other	82 (38%)	18 (28%)	28 (36%)	22 (36%)	25 (35%)
Not answered	3 (1.4%)	0	0	1 (1.6%)	1 (1.3%)
Most helpful therapy					
Getting information	42 (20%)	23 (36%)	24 (31%)	20 (32%)	27 (38%)
Cognitive-behaviour	39 (19%)	10 (15%)	12 (15%)	12 (19%)	11 (16%)
Other psychotherapy	33 (15%)	7 (11%)	6 (8%)	5 (8%)	4 (6%)
Other	92 (42%)	24 (37%)	36 (46%)	34 (55%)	29 (40%)
Not answered	11 (5%)	1	0	1 (1.6%)	1 (1.3%)
Most helpful medication					
Vitamins/minerals	116 (54%)	36 (55%)	43 (55%)	40 (65%)	30 (42%)
Anti-depressant	37 (17%)	14 (22%)	22 (28%)	12 (19%)	19 (26%)
Herbal	29 (14%)	4 (6%)	4 (5%)	4 (7%)	12 (17%)
Other	1 (0.4%)	0	2 (3%)	1 (1.6%)	0
Unsure/none	19 (9%)	7 (11%)	4 (5%)	2 (3%)	6 (8%)
Not answered	14 (7%)	4 (6%)	3 (4%)	3 (5%)	5 (7%)
Most helpful professional					
Dietitian	51 (24%)	4 (6%)	14 (18%)	14 (23%)	22 (31%)
Specialist	48 (22%)	13 (20%)	18 (23%)	12 (19%)	17 (24%)
Non-specialist	30 (14%)	17 (26%)	13 (17%)	13 (21%)	12 (17%)
Family doctor	32 (15%)	12 (19%)	7 (9%)	7 (11%)	7 (10%)
Other	46 (21%)	16 (25%)	23 (30%)	15 (24%)	13 (18%)
Not answered	10 (5%)	3 (5%)	3 (4%)	1 (1.6%)	1 (1.3%)

Table 1. **Bulimia nervosa mental health literacy (BN-MHL) outcomes following a BN-MHL intervention.** All data is in the form of n (%), I=information, ED=eating disorder, specialist refers to psychiatrist or psychologist, non-specialist refers to a counsellor or social worker, all between group differences not significant.

	Baseline6-months		12-months		
		BN-MHL	I-only	BN-MHL	I-only
N	217	65	78	62	72
	Mean (SD)				
Global EDE-Q	3.3 (1.1)	2.9 (1.2)	2.6 (1.3)	2.7 (1.3)	2.4 (1.2)
EDE-Q Eating concern	2.4 (1.4)	1.9 (1.4)	1.7 (1.4)	1.9 (1.5)	1.6 (1.3)
EDE-Q Shape concern	4.2 (1.2)	3.6 (1.4)	3.4 (1.6)	3.0 (1.5)	3.4 (1.5)
EDE-Q Weight concern	3.9 (1.2)	3.4 (1.3)	3.1 (1.5)	3.1 (1.4)	2.9 (1.5)
EDE-Q Restraint	3.0 (1.5)	2.6 (1.5)	2.2 (1.5)	2.4 (1.4)	2.0 (1.4)
SF-12 MH	39 (12)	41 (11)	42 (11)	43 (12)	46 (12)
K-10	23 (8)	22 (8)	21 (9)	22 (8)	21 (8)
BMI kg/m ²	26 (6)	25 (6)	26 (6)	26 (6)	26 (5)
	Median (IQ range)				
Objective binge eating	1 (0-8)	0 (0-5)	0 (0-5)	0 (0-4)	0 (0-3)
Subjective binge eating	4 (0-10)	2 (0-6)	0 (0-2)*	0 (0-4)	0 (0-4)

Table 2. **Health outcomes following a mental health literacy intervention in women with disordered eating.** SF-12 MH (mental health component score) measures mental health related quality of life, the K-10 measures psychological distress, BMI=body mass index, mean and SD, all p not significant excepting *p=0.01

2.4 Summary and introduction to trial of self-help approaches

In the trial of BN-MHL intervention we found the participants' BN-MHL at baseline to be similar to that in our previous surveys (Mond et al., 2010). Participants were most likely to identify the problem for the women with BN as one of low self-esteem and had modest or low regard for evidence based or specialist therapies compared to non-specialists. As we found previously (Hay et al., 2007a) a BN-MHL intervention had no significant impact on changing attitudes or improving symptoms and in this study it also had no significant impact on improving mental health related quality of life.

The findings indicated that merely providing people with information about treatments for bulimic EDs and also advising them to seek help did not result in notable changes in behaviour or beliefs. Our question then was - what interventions might help people with EDs improve recognition and understanding of treatments for their problem and thereby prompt effective help-seeking? We thus planned a second feasibility trial to investigate the impact of enhancing the MHL intervention by adding an evidence-based self-help treatment manual to the MHL intervention.

3. Self-help as a targeted intervention for bulimic EDs in primary care

3.1 Introduction to feasibility trial of self-help

Self-help therapies have been introduced to help fill the gap between the high prevalence of bulimic-type EDs in the general population, and the lack of specialised professionals. Self-help can be appropriate for partial or less severe conditions, with guidance from trained non-specialised professionals in primary care services (GSH), or utilised in specialised services as a first step of a more comprehensive treatment, i.e. in a "stepped-care" approach.

Manuals studied have included: *“Overcoming Binge Eating”* (Fairburn, 1995) or translations/adaptations of it; the manual: *“Bulimia Nervosa: a guide to recovery”* (Cooper, 1995) since updated; and the manual: *“Getting Better Bit(e) by Bit(e)”* (Schmidt & Treasure 1993).

Hay et al. (2004) and Stefano et al. (2006) examined abstinence rates from ED behaviours such as binge eating in meta-analyses of trials pure self-help (PSH) vs waitlist in bulimic disorders such as BN or binge eating disorder. Rates ranged from 30% to 36% for PSH - and were better for GSH which ranged from 33% to 43%, the latter of which can be comparable to full CBT in its outcomes. In all meta-analyses PSH was however favoured over waitlist where abstinence rates were, for example, between 5% and 11%. Despite promising if modest findings, there have been a number of problems with these studies including variable levels of therapist training and variation in evaluation tools and outcome measurements. Whilst it has been argued that self-help can be a first step in management for selected people seeking help for EDs its role in assisting people with EDs not accessing services or treatments is thus less clear.

In addition, as weight concern and seeking help to lose weight is a common feature of women who do not seek help for their ED (Hay et al., 1998; Mond et al., 2007) we thought it important to add nutrition and lifestyle intervention strategies to self-help to assist women who are overweight or obese to reduce further weight gain and/or maintain weight in the healthy range. This included specific advice on healthy exercise. We also chose a vignette of someone with binge eating disorder as that is a common bulimic eating disorder and is more frequently associated with weight disorder (Hudson et al., 2007, Darby et al., 2009). We thus developed the intervention to be for both eating and weight disorder health literacy (EWD-HL).

We based this second trial in general practice as unrecognised bulimic eating disorders are common in women attending their family doctors (King, 1989; Whitehouse et al. 1992; Hay et al., 1998; Mond et al., 2009). The family doctor is also the point of access for psychological treatments for people in Australia. To inform the present study we conducted an investigation into the dissemination of an EWD-HL intervention into primary care at two general practices in late 2005 (Hay et al., 2006). One hundred and fifty-five women (aged 18-45 years) attending the two practices (over 3 months) in North Queensland (Australia) were screened through the distribution of an ED symptom and an ED-MHL survey by reception staff. Fourteen (9%) had a bulimic ED, and a further 12 (7.7%) had clinically significant symptoms. Attractive booklets containing information about ED and their treatments, a brief assessment screening questionnaire for Eating Disorders (the SCOFF (Morgan et al., 1999)) and information on local services and consumer groups were left in the waiting rooms, and a poster containing the SCOFF questions was displayed inviting patients to take a copy of the ‘guide’ booklet.

This survey confirmed a high level of untreated bulimic EDs in primary care settings as of the 23% women who self-identified an ED problem only one had sought professional help, in this instance from a counselor. In addition, patients reported they were prompted to discuss their ED symptoms with their GP as a result of reading the booklet. However, screening utilising reception staff was problematic and very inefficient compared to our previous method of embedding a research assistant (RA) in the practices (e.g. Hay et al., 1998). We also found the booklets needed to be provided to participants directly as, while many participants (54%) were interested in receiving a copy of the booklet when their attention was drawn to it, very few (14%) had picked it up in the waiting rooms. This

occurred despite the waiting room poster drawing their attention to the booklet. Thus our intent in the randomized controlled trial was to ensure dissemination of the EWD-HL intervention to all women who were symptomatic.

The aims of the present feasibility trial were to test the ease of screening women in general practice for untreated EDs and the acceptance of an unsolicited self-help and EWD-HL intervention. Secondary aims were to inspect symptomatic and MHL outcomes compared to a non-specific self-help intervention.

3.2 Methods of self-help trial

Participants were identified by an author (DK) from sequential surveys of consecutive women attendees in two family doctor waiting rooms over a series of morning, afternoon, evening and weekend clinics. They first completed a survey including informed consent, EDE-Q (see above section 2.2) screening questions, and reported weight and height. Respondents who were symptomatic were asked to complete the remaining survey questionnaires and were subsequently posted or not posted the relevant intervention packages. Assessments were conducted at baseline and a 3-month postal follow-up.

Assessments were the same as in the first trial described in section 2.2 above with the vignette being of that of a women with binge eating disorder (BED) and BMI 26 (i.e. above the normal range but not overweight or obese) and addition of a self-esteem questionnaire (Robson 1998, 1989). The background to the development of the questionnaire is described in the 1988 paper where self-esteem was defined as: "The sense of contentment and self-acceptance that stems from a person's appraisal of his own worth, significance, attractiveness, competence, and ability to satisfy his aspirations" (Robson, 1988). The Robson questionnaire aims to quantify this sense of self-esteem or the individual elements of self-appraisal. Seven components of self-esteem are evaluated: subjective sense of significance; worthiness; appearance and social acceptability; competence; resilience and determination; control over personal destiny; and the value of existence. The items are scored on an 8-point Likert scale from "completely disagree" (zero score) to "completely agree" (score of seven). The total score is a summation of the scores on each item. The reliability and validity of the questionnaire has been assessed in one non-patient group and two patient groups (Robson, 1989). In the non-patient group the split-half reliability score was 0.96 and the Cronbach alpha coefficient was 0.89. The test-retest correlation was 0.88 ($p < 0.0001$).

The text used in the BED-MHL vignette was: *Emily (E) is a 25 year-old student who has been "chubby" since she was 13. Over the years she has tried several diets, but she has never been able to stick with the recommendations for very long. E has just started a new job and is finding it hard to adjust. To make herself feel better, E "treats" herself with her favourite foods. When E gets home from work she often goes to the kitchen for a snack and then finds that she is unable to stop eating, for example, a sandwich, a chocolate bar, a slice of cheesecake, some ice cream and some fruit. Later in the evening she will eat dinner and sometimes she loses control with this as well and eats the leftovers, along with that another slice of cake, some cereal, and some more ice cream. These episodes of overeating occur, on average, two to three times per week. The next day she will try to eat less to "make up" for overeating. E feels ashamed of herself when she loses control of her eating like this and she despises the shape of her body, although she has never talked to anyone about it. She has often thought about more extreme methods of controlling her weight, such as fasting, vomiting after eating, or using laxatives, but she has never tried any of these things. She has been told by her doctor that she is just over the 'normal' weight for her height.*

Participants were included if they were over 18 years, had current extreme weight and/or shape concerns and current regular clinically significant ED behaviours (as in the first trial). Women who at baseline were receiving treatment for an ED and women who were at high risk if left untreated, specifically those who were pregnant, and of very low weight ($BMI \leq 17.5$) were excluded.

Participants were blind to their group and outcome assessments were blind to the group allocation. A second author (PH) was responsible for randomization (using a sequence generated using SPSS RV.BINOM (1,0.5) function), allocation concealment and posting out of the intervention packages. This trial was approved by the University of Western Sydney Human Research Ethics Committee.

The EWD-HL intervention was presented in booklet format which included (i) information on different types of eating disorders and associated mental health and weight problems, (ii) available evidence based treatments for EDs and what they involve, (iii) information on eating and lifestyle for maintaining a healthy weight, or for weight loss or gain in those who are overweight or underweight, designed specifically for those with eating disorders, (in accordance with National Health and Medical Research Council Australian guidelines for levels of exercise and nutrition (NHMRC, 2003) and a reference to a self-help book (Kausman, 1998: "If not dieting, then what?"), (iv) information regarding attitudes and beliefs likely to sustain symptoms and/or hinder treatment-seeking, (v) lists and contacts of local community and specialist treatment facilities and the (local) EDs support group or consumer organisation, (vi) the cognitive-behavioural self-help manual and book by Cooper (1995) "Bulimia nervosa and Binge Eating: A guide to recovery" that has specific guidance through the stages of therapy, checklists of progress, encouragement when treatment goals are obtained and advice on 'lapses' and when and where to go for more help if needed, and (vii) an ED screening questionnaire the "SCOFF" (Morgan et al., 1999) to assist participants self-identify an ED. In addition participants received a full copy of the book by Cooper (1995).

The control group received the self-help book "Overcoming Low Self-esteem" (Fennell, 1999). This utilises cognitive and behavioural techniques in a self-help guide format for readers. It is comparable in length and context to the Cooper manual for EDs. Low self-esteem is common in people with EDs and has been the target of primary prevention programs and general strategies to improve self-esteem have been included in other self-help manuals for BN (e.g. Schmidt & Treasure (1993)). In addition (and as described above) we have found community women and symptomatic women most frequently identify the main problem for a women with BED or similar ED as one of 'low self-esteem' (e.g. Mond & Hay, 2008). However, findings in RCTs targeting self-esteem in universal programs aimed to reduce ED risk factors have been inconsistent (Wade et al., 2003).

3.3 Results of self-help trial

Three hundred and twenty six women were approached over 6-months in two general practices. One hundred and sixty-three women were screened of whom 44 (13.5%) women met criteria and 36 (80%) agreed to do the full assessments and to have a follow-up assessment. Most were in full or part-time employment (57%) or employed in home duties (20%). Sixty per cent were married or living as married, 15% were separated or divorced, 74% had children, 43% had at least completed high school and 47% had completed a tertiary level qualification or degree. Mean age was 40.1 years (SD 11.9) and mean BMI was 30 (SD 7.5). The majority 40 (90%) were binge eating (7 subjective bingeing only) and 9 (20%) were using laxatives, diuretics or self-induced vomiting.

Twenty-three (52%) participants completed 3-month follow-up. There were no statistically significant differences in level of ED symptoms on the EDE-Q or other outcome variables between those who did and did not complete follow-up. Because of the small absolute numbers per group who completed follow-up descriptive data only are reported, no between group statistical tests were performed and sensitivity analyses were not performed. At baseline the MHL responses found most identified the problem as one of low self-esteem (see Table 3), vitamins and minerals were more favorably regarded than evidence based

	Baseline	3-month follow-up	
		EWD-HL & ED SH	Self-esteem SH
N	36	12	11
Main problem			
Bulimia nervosa	2 (5%)	0	0
Binge eating disorder	6 (17%)	4	1
Other ED	2 (5%)	0	0
Low self-esteem	18 (50%)	0	5
Other	7 (19%)	5	4
Not answered	1 (3%)	3	1
Most helpful therapy			
Getting information	8 (22%)	4	5
Cognitive-behaviour	4 (11%)	2	1
Other psychotherapy	4 (11%)	0	0
Self-help manual	0 (0%)	0	1
Other	16 (44%)	5	3
Not answered	4 (11%)	1	1
Most helpful medication			
Vitamins/minerals	21 (58%)	9	5
Anti-depressant	8 (22%)	2	2
Herbal	5 (14%)	0	4
Other	0	0	0
Not answered	2 (5%)	1	0
Most helpful professional			
Dietitian	8 (22%)	4	2
Specialist	5 (14%)	1	2
Non-specialist	5 (14%)	0	0
Family doctor	11 (31%)	3	3
Other	5 (14%)	4	4
Not answered	2 (5%)	0	0

Table 3. **Binge eating disorder mental health literacy (BED-MHL) outcomes following a EWD-HL/Self-Help (SH) intervention.** Specialist refers to psychiatrist or psychologist, non-specialist refers to a counsellor or social worker. Because of low numbers % are not presented for follow-up data.

medication (antidepressants), and primary care or other non-specialists were more often regarded as helpful than specialist care. BED was identified as the main problem by 17%, and increased at follow-up in those who had the EWD-HL intervention and ED self-help book, indicating some effect on recognition at least with this. Perceived helpfulness of evidence base treatments such as cognitive-behaviour therapy or anti-depressants did not seem to change and regard for specialists as the most helpful professionals did not increase. There was improvement overall but few differences in symptoms, mental health related quality of life or self-esteem between randomized groups at follow-up (as shown on Table 4). There were reduced numbers with objective but not subjective binge eating in those who received the self-esteem book.

No-one listed a self-help manual as most helpful at baseline but one person who received the self-esteem self-help book did list a self-help manual as most helpful treatment at follow-up. At follow-up 8/12 reported reading the ED self-help book (and most read about 50% of it), all found it not difficult to understand, 6/12 thought it informative (notably the first psycho-educative section of the book) but only 1 described it as personally helpful. Seven of 11 reported reading the self-esteem self-help book (and most read around 40% of it), all found it not difficult to understand, 7/11 thought it informative and 4/11 described it as personally helpful with again most finding the psycho-education sections more helpful than the self-help treatment section.

	Baseline	3-month follow-up	
		BED-MHL & ED SH	Self-esteem SH
N	44	12	11
		Median (IQ range)	
Objective binge eating	4 (0-8)	2 (0-4)	0 (0-5)
Subjective binge eating	5 (0-10)	2 (0-4)	2 (0-10)
		Mean (SD)	
EDE-Q Global score	3.3 (0.9)	2.7 (1.2)	3.1 (1.0)
EDE-Q Restraint	2.9 (1.4)	2.9 (1.6)	2.5 (1.3)
EDE-Q Eating concern	2.0 (1.4)	1.4 (1.4)	2.5 (1.3)
EDE-Q Weight concern	3.9 (0.9)	3.4 (1.6)	3.7 (0.9)
EDE-Q Shape concern	4.4 (1.0)	4.1 (1.6)	4.1 (1.2)
N	36	12	11
SF-12 mental health	42.2 (11.1)	44.0 (11.0)	42.6 (9.5)
K-10	19.2 (7.4)	18.1 (7.4)	16.5 (4.2)
BMI kg/m ²	30 (7.5)	31.8 (8.9)	31.8 (9.0)
Self-esteem	48.6 (7.7)	52.4 (4.7)	51.3 (7.9)

Table 4. **Health outcomes following a EWD-HL/Self-Help (SH) intervention.** SF-12 measures mental health component score of health related quality of life, the K-10 measures psychological distress, BMI=body mass index

Although more than half of the respondents reported reading and understanding a significant proportion of the self help material, this appears to have had no impact on

curbing attempts to lose weight. At assessment, 29 (85%) women reported trying to lose weight in the previous six months whilst in the three month period between assessment and follow up 21 (91%) reported they had been trying to lose weight.

4. Conclusions

In this chapter we describe two attempts to identify and assist women with EDs in the community, one a sample of younger women from tertiary education institutions and one a sample of older women attending their family doctors. In the first trial we did not replicate the positive findings of an earlier study which found a brief BN-MHL intervention improved mental health related quality of life when compared to a control condition of information about ED services only. The MHL intervention had little impact on changing attitudes and beliefs about EDs, their identification or their treatment. However, the present studies were possibly underpowered to show differences. The second study was with an enhanced intervention that included provision of an evidence-based self-help book. There may have been a small impact on identification of the ED but overwhelmingly participants still had a comparatively low regard for specialist treatments and rated getting more information as the most helpful approach for a fictitious person with a bulimic ED.

Given that identifying the main problem for the woman with a bulimic ED in the vignette as low self-esteem it was of interest that the self-esteem self-help book appeared better received and more found it personally helpful than the ED self-help book. Anecdotal comments were that the title of the ED book was disconcerting and some women were puzzled as to why they had received it. Although not overt we suspected that it may have been perceived as stigmatising by some participants. Many community women perceive significant stigma and discrimination for those who have a known ED (Hepworth & Paxton, 2007) and particularly for those with binge eating and (over) weight (Darby et al., manuscript in preparation). We think it is likely that self-help books for binge eating and BN such as that used in the present study are thus best provided in the context of a consultation where their role and relevance can be explained.

An additional factor (the 'elephant in the room') is the ambivalence people have towards the ED behaviours. We have found that despite distress from ED symptoms, people with EDs have a favourable regard for ED weight losing strategies (Mond et al., 2010) and are much more likely to seek help to lose weight than to modify disordered eating (Hay et al., 1998; Mond et al., 2007; Evans et al., 2011). This apparent paradox is perhaps understandable in the context of widespread public and community concerns about obesity and negative community attitudes towards weight disorders with widespread cultural positive regard for being thin. If a woman's main concern is to receive help for a perceived or actual overweight problem, then she may be less likely to want to engage in treatments that are not known to reduce weight. In addition, we have found many women and up to a third of general practitioners and other key health professionals consider weight gain to be likely with treatment for bulimia nervosa (Hay et al., 2007b).

The question of how best to improve ED-MHL for people with disordered eating, and if an improvement subsequently leads to an increase in accessing evidence-based treatments from appropriately trained professionals thereby reducing community and individual burden from EDs is still unanswered. Large scale universal public health campaigns and /or programs that target health care professionals are alternatives to the targeted programs described here. One focussing on depression and its treatment has likely had an effect in

improving community attitudes in Australia (Jorm et al., 2006). However their impact for reducing impact from depression for individuals is hard to evaluate. New approaches in developing strategies to help people with EDs understand their problems and how to effectively seek treatment may need to more directly target weight concern and deliver community interventions in mental health stigma-free contexts such as 'lifestyle' or 'well being' centres.

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