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**The effect of pre-treatment psychoeducation on eating disorder pathology among patients with anorexia nervosa and bulimia nervosa**

Madeleine Tatham <sup>1</sup>, Elsa Athanasia <sup>1</sup>, Julie Dodd <sup>1</sup> and Glenn Waller <sup>2</sup>

<sup>1</sup> Norfolk Community Eating Disorders Service, Cambridgeshire and Peterborough NHS Foundation Trust, Norwich, UK. Phone: 0300 300 0142. Email addresses: Madeleine Tatham - m.tatham@nhs.net; Elsa Athanasia - elsa1981@hotmail.com; Julie Dodd - Julie.Dodd@cpft.nhs.uk.

<sup>2</sup> Clinical Psychology Unit, Department of Psychology, University of Sheffield, UK. Phone: 0114 222 6568. Email address: g.waller@sheffield.ac.uk

Correspondence to:

Madeleine Tatham, 13-15 Cathedral Street, Norwich, Norfolk, United Kingdom. email: [Madeleine.Tatham@cpft.nhs.uk](mailto:Madeleine.Tatham@cpft.nhs.uk)

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**The effect of pre-treatment psychoeducation on eating disorder pathology among patients with anorexia nervosa and bulimia nervosa**

**Abstract**

Pre-treatment psychoeducation can be effective for bulimic groups, but little is known about its effect on patients with anorexia nervosa. This study investigated the impact of a pre-treatment psychoeducational intervention on outpatients with diagnoses of full or atypical anorexia nervosa ( $N = 54$ ) or bulimia nervosa/atypical eating disorder at a normal weight ( $N = 43$ ). Each attended a four-session psychoeducational group whilst awaiting outpatient treatment. They completed measures of eating and personality disorder pathology pre-intervention, repeating the measures of eating pathology post-intervention. Effectiveness was tested for each diagnostic group using intention-to-treat analyses. Results confirm that such psychoeducational groups reduce unhealthy eating attitudes among bulimic patients, regardless of initial levels of eating and personality pathology. In contrast, the groups were not effective for anorexia nervosa sufferers. Such groups should be considered routinely during waiting periods for bulimia nervosa treatment, but further research is needed to determine how to help anorexia nervosa patients at this stage.

Keywords: psychoeducation, anorexia nervosa, bulimia nervosa

## **The effect of pre-treatment psychoeducation on eating disorder pathology among patients with anorexia nervosa and bulimia nervosa**

Although rapid access to outpatient treatment for eating disorders is recommended where appropriate (e.g., Treasure & Russell, 2011), the speed of such access is often lower than desirable. Difficulties include inadequate and inequitable provision of specialist services (e.g., BEAT, 2013). Even when sufferers are offered treatment, a large number of patients never take up therapy (e.g., Campbell, 2009; Waller, 1997; Waller et al., 2009). A key factor in this 'failure to engage' rate appears to be longer waiting times between assessment and treatment, which can also affect treatment outcome for those who do start therapy (Byrne, Fursland, Allen & Watson, 2011; Carter et al., 2012; Claus & Kindleberger, 2002; Jenkins, Turner & Morton, 2014). As a result, a number of service-level initiatives have been proposed to manage waiting times. These include active opt-in procedures (e.g., Carmen, Shah, Gilbert & Russell, 2007) and waiting list management strategies (e.g., Tatham, Stringer, Perera & Waller, 2012). While such strategies can be effective in managing waiting times without disadvantaging patients (Tatham et al., 2012; Jenkins et al., 2014), waiting times for treatment often remain unacceptably high (e.g., BEAT, 2013).

A key strategy used to enhance retention prior to therapy is the use of low-level pre-treatment interventions, conducted while the patient is awaiting full treatment. These interventions have the potential advantage of preparing patients for treatment with the aim of increasing treatment uptake and retention during treatment. A widely used example of such an approach is the provision of pre-treatment motivational interventions though the evidence base provides little support for this approach (e.g., Dray & Wade, 2012; Waller, 2012). Less well-researched is the provision and impact of pre-treatment psychoeducation. While such psychoeducation is a core component of some treatments for eating disorders (e.g., Fairburn, 2008; McIntosh, Jordan & Luty et al. 2006; Waller et al., 2007), its stand-alone impact in such cases is not well established. This lack of evidence contrasts with treatment approaches for other disorders, where psychoeducational interventions have been shown to have positive effects, such as depression (e.g., Brown & Lewinsohn, 1984). Psychoeducation

is used to provide information about the risks and consequences of a range of dysfunctional behaviours (more commonly known as a “harm reduction” approach; Marlatt, 1995), and to de-bunk myths about the use and effectiveness of safety behaviours. It can also serve other functions, such as promoting patient responsibility for change (Wolchik, Weiss & Katman, 1986), countering feelings of personal failure (Connors, Johnson & Stukey, 1984), and increasing self-efficacy (Franko et al., 2005), each of which can be relevant to individuals with eating disorders (e.g., Steele, Bergin & Wade, 2011; Wade, Treasure & Schmidt, 2011).

There is a very limited literature on the impact of psychoeducation when used as a stand-alone approach for the eating disorders. With a group with bulimic disorders, Olmsted et al. (1991) found that this approach can result in significantly positive outcomes. Over a quarter of bulimic patients remitted or had a good outcome over four weeks of such an intervention, with improvements in psychological, interpersonal and eating domains. Andrewes et al. (1996) investigated the effectiveness of a computerised psychoeducational program (Andrewes, McLennan & Say, 1995) in a mixed group of anorexic and bulimic patients. While there were attitudinal and knowledge changes, impact upon eating disorder pathology was not measured. More recently, a number of other e-health interventions have been developed to provide prevention and early intervention strategies for non-clinical/undiagnosed groups (e.g., Aardoom, Dingemans & van Furth, 2016). These include online family-based early interventions to reduce risk behaviour (Jones, Volker, Lock, Barr Taylor, & Jacobi, 2012), mirroring in-person prevention work (Sadeh-Sharvit, Zubery, Mankovski, Steiner, & Lock, 2016). However, little support has been found to date for online psychoeducational interventions in clinical groups (Loucas et al., 2014), suggesting that future developments may need to be in the domain of face-to-face interventions. It will also be important to assess the viability of such interventions in a group format, to ensure cost-effectiveness. Most importantly, there has been little study of the impact of psychoeducational interventions for low-weight patients.

This study will assess the impact of a pre-treatment psychoeducational intervention, comparing its impact among groups of anorexia nervosa and bulimia nervosa sufferers

(including atypical cases). In addition, the potential impact of potential moderating factors on outcome will be considered. Based on previous literature, those pre-treatment factors will include body mass index, eating pathology and personality pathology.

## **Method**

### **Participants**

The study was conducted in a UK National Health Service (NHS) specialist outpatient eating disorders service, which offers assessment and treatment of adult patients with moderate to severe eating disorders. Following NHS Research and Development guidance, no ethical permission was necessary, as this was a confidential audit of NHS routine clinical practice.

A case series of 105 consecutive referrals was drawn from that patient group. Of those patients, 97 had confirmed diagnoses and were considered here. Those 97 patients consisted of 54 who met DSM-IV criteria for anorexia nervosa or atypical anorexia nervosa (restrictive subtype = 34; binge/purge subtype = 20) and 43 who met criteria for bulimia nervosa or atypical normal-weight eating disorders. Prior to their being seen for individual therapy, each patient undertook a four-session pre-therapy psycho-education group intervention, as outlined below. This group was scheduled to take place within 6-10 weeks of their assessment. All participants were aged 18 years or more. Six of the participants were male (6.2%), and 91 were female (93.8%). The attrition rate across the four sessions was low, with only two of the 97 patients (2.1%) dropping out of the group.

### **Measures and Procedures**

Patients were asked to complete two questionnaires at the beginning of the group (or at their assessment session, if the two were adjacent), and one at start of their individual therapy. Their height and weight were also measured objectively, in order to calculate body mass index (BMI). They were asked to consent anonymously to their data being used to audit the outcomes of the group, and all agreed. The two self-report measures were:

**Eating Disorder Examination Questionnaire 6.0 (EDE-Q 6.0; Fairburn, 2008).** The EDE-Q is a 28-item self-report measure, which is derived from the Eating Disorder

Examination investigator-based interview (Fairburn & Cooper, 1993). The EDE-Q is used to assess the key attitudes, feelings, and behavioural features (including binge eating, self-induced vomiting, and laxative misuse) found in the eating disorders. Each item is rated on a seven-point scale over a 28-day timeframe. The measure addresses four domains of eating pathology - Restraint, Shape Concern, Weight Concern, and Eating Concern. The overall scale (EDE-Q Global) was also used in this study, as the hypothesis was that there would be general change. This was completed at the beginning and end of the group.

**Personality Beliefs Questionnaire-Short Form (PBQ-SF; Butler, Beck & Cohen, 2007).** The 65-item PBQ-SF addresses the cognitive elements of a range of personality disorders (paranoid, schizoid/schizotypal, antisocial, borderline, histrionic, narcissistic, avoidant, dependent, obsessive-compulsive, passive-aggressive). It has been demonstrated to be clinically useful with the eating disorders (Connan et al., 2009). Higher scores indicate a greater level of dysfunction.

### **Psychoeducational intervention**

The programme (labelled 'Keeping Myself Safe' - KMS) consisted of four weekly group sessions, each lasting for 90 minutes, followed by one individual review session lasting for 30 minutes. Each group contained approximately 4 members (range = 2-8). Patients were grouped into eating disorder diagnoses (anorexia nervosa or bulimia nervosa/normal-weight atypical cases), with each group seen separately. In keeping with the transdiagnostic model of eating disorders (Fairburn, Cooper & Shafran, 2003), the topics of the groups were identical across the groups. However, as the content for anorexia nervosa patients had a greater emphasis on the impact of starvation, the groups for anorexia nervosa and bulimia nervosa patients were run separately. A further reason for this separation was to counter concerns that patients might be deterred from engaging in a pre-treatment group intervention due to fears of negative evaluation or comparison with others regarding body size and shape.

The content was based upon the psychoeducational materials provided in Waller et al. (2007), and was delivered by two junior therapists in each case. The session content was

as follows:

1. information about the range of eating disorder pathology, the effects of semi-starvation, and motivational states;
2. the role and risks of compensatory behaviours and their biological and psychological effects;
3. dietary requirements and what the body needs to survive;
4. provision of a harm minimisation or 'keeping myself safe' template, with discussion of participants' own risks, strategies and sources of support;
5. review of each patient's individualised harm minimisation plan, detailing how they will look after themselves (including risk management, medical monitoring, and support strategies) in preparation for individual psychological therapy.

The first four sessions were in group format, while the fifth was conducted individually. Of the 97 patients who attended the KMS group, 85 (87.6%) went on to start individual treatment.

### **Data analysis**

To determine the effect of the KMS groups, pre- and post-group scores were compared for each diagnostic group, using paired t-tests, using intention to treat analyses (initial score carried forward). Effect sizes (Cohen's *d*) were calculated for all statistically significant differences. Pearson's correlations (*r*) were used to determine any associations between initial pathology (BMI; EDE-Q Global score; PBQ-SF scores) and levels of change in EDE-Q scores across the course of the group. These correlations were carried out separately for each diagnostic sub-group, and the acceptable *alpha* was adjusted to account for the number of correlations carried out. Due to some non-completion of measures, some N's differ across analyses.

## **Results**

### **Impact of KMS group participation on eating pathology**

Table 1 shows the pre- and post-group scores of the three clinical groups, using intention to treat analyses. There were no pre-post differences for either anorexia nervosa subgroup. However, the bulimia nervosa/atypical group showed significant improvements on

the EDE-Q Global, Eating, Shape and Weight scales. The effect sizes for these differences were all in the medium range. **There were no changes in levels of objective bingeing or vomiting among the two relevant groups.**

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Insert Table 1 about here

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### **Predictors of change across the KMS group**

Pearson's correlations were used to determine whether the patients' initial BMIs and their scores on the measures of eating (EDE-Q) and personality pathology (PBQ-SF) were associated with the level of change in their eating attitudes over the course of the KMS group. These analyses were conducted separately for the restrictive anorexia nervosa, binge-purge anorexia and bulimia nervosa/atypical groups. Due to the number of correlations conducted ( $N = 96$  per group), an alpha of 0.1% was adopted to reduce the risk of type 1 error. No correlation approached significance for any of the three diagnostic groups, indicating that psychopathology levels at the beginning of the KMS group did not influence how the patient responded.

### **Discussion**

This study examined the impact of a four-session pre-therapy psychoeducation group ('Keeping Myself Safe') on anorexia nervosa and bulimia nervosa patients. The findings demonstrate that the group was partially effective for bulimia nervosa patients, reducing their unhealthy eating attitudes (though they remained in the clinical range), **but not their bulimic behaviours**. This benefit was unaffected by their initial level of eating and personality pathology. In contrast, the group was not effective for either type of anorexia nervosa sufferer. However, the group had a strong retention rate across diagnostic groups.

The improvements in eating disorder pathology for patients with bulimia nervosa reflect those reported previously (Olmsted et al., 1991). It appears clear that such groups can be an effective pre-treatment intervention for patients with bulimia nervosa. The lack of

impact of psychoeducation for underweight patients in particular appears to conflict with the transdiagnostic model of eating disorders (e.g. Fairburn et al., 2003), particularly as Andrewes et al. (1996) found no differences across diagnostic groups in terms of changes in knowledge following a computerised psychoeducational programme. Whilst exchanging information and sharing experiences can lead to an increased sense of empowerment (Aardoom, Dingemans, Boogaard, & van Furth, 2014), it is possible that psychoeducation is not sufficient to address the core cognitive pathology of the eating disorders when the individual is starved and underweight. Other factors could include motivational level, limited early behavioural change, and the egosyntonic function of anorexia nervosa, each of which might mean that it is not viable to expect cognitive and attitudinal change among those with anorexia nervosa.

In summary, it appears that psychoeducational groups can be an effective pre-treatment intervention targeting eating disorder pathology for patients with bulimia nervosa awaiting treatment, but not for those with anorexic disorders. Future work of this sort needs to consider factors that might explain such a difference between groups (and within them), such as duration of illness, age, or motivational level. Alternatively, given the more egosyntonic nature of anorexia nervosa and the effects of starvation, it is possible that a more directive element is required to promote behavioural change (i.e., increased food intake) and facilitate cognitive change before psychoeducation could be expected to be effective for this group.

With regards to the other functions of the psychoeducational pre-treatment intervention (i.e., risk management), it would be useful to consider other potential outcome variables across both groups, such as greater medical compliance, reduction of physical complications, or the need for fewer intensive medical and supportive interventions whilst awaiting outpatient therapy. The KMS group also aims to promote early engagement and prepare patients for treatment. A high proportion (nearly 90%) of the patients who undertook the KMS group went on to start individual treatment. However, there are no data that would enable us to conclude that this number is higher than in other centres or than it would have

been without the KMS group in this service. Further research is needed to ascertain attrition rates in services that do or do not deliver such groups. Other targets might also include whether the patient develops more appropriate expectations of treatment (Carter et al., 2012) and increased self-efficacy (Steele et al., 2011), and whether there is any longer-term impact on retention and treatment outcome across therapies.

In terms of clinical practice, these findings support the use in routine clinical settings of brief psychoeducational groups as a pre-treatment intervention for patients with bulimia nervosa and normal-weight atypical cases. This approach can be delivered by relatively junior staff, keeping costs low. However, the use of such approaches requires development, as with all therapies. In particular, there remains a lack of positive, evidence-based pre-treatment options for enhancing therapy for anorexia nervosa. One possible direction for development of this clinical work is to conduct mixed psychoeducational groups for anorexia nervosa and bulimia nervosa patients, to determine whether the presence of the more responsive bulimia nervosa patients enhances the response of anorexia nervosa sufferers. However, it would also be valuable to determine whether the content of this group was any more effective than that of Andrewes et al. (1996) when delivered in a non-face to face format, or whether the format of delivery constrains the impact of all such psychoeducational interventions.

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**Table 1** – Changes in measures of eating pathology (BMI, EDE-Q attitudes, and EDE-Q behaviours over the previous 28 days) among restrictive anorexia nervosa, binge-purge anorexia nervosa and bulimia nervosa patients from beginning to end of the ‘Keeping Myself Safe’ group, using intention-to-treat analysis.

Variable	N	Pre-group		Post-group		t-test		Effect size
		M	(SD)	M	(SD)	t	P	Cohen's d
<u>Restrictive anorexia nervosa</u>								
BMI	33	16.4	(0.97)	16.5	(1.28)	0.73	NS	-
EDE-Q Global	33	3.98	(1.26)	3.88	(1.44)	0.82	NS	-
EDE-Q Restrictive	33	3.76	(1.91)	3.72	(1.90)	0.20	NS	-
EDE-Q Eating	34	3.59	(1.48)	3.53	(1.36)	0.44	NS	-
EDE-Q Shape	34	4.61	(1.31)	4.47	(1.64)	0.81	NS	-
EDE-Q Weight	34	4.04	(1.53)	4.04	(1.85)	0.01	NS	-
<u>Binge-purge anorexia nervosa</u>								
BMI	20	16.5	(2.13)	16.7	(2.35)	1.05	NS	-
EDE-Q Global	20	4.32	(1.30)	4.54	(1.23)	1.52	NS	-
EDE-Q Restrictive	20	4.13	(1.48)	4.29	(1.71)	0.94	NS	-
EDE-Q Eating	20	3.83	(1.51)	4.11	(1.31)	1.67	NS	-
EDE-Q Shape	20	4.78	(1.31)	5.04	(1.18)	1.62	NS	-
EDE-Q Weight	20	4.52	(1.50)	4.72	(1.42)	0.95	NS	-
Objective binges	20	9.63	(12.0)	8.62	(10.4)	0.94	NS	-
Vomiting	20	26.6	(43.0)	26.4	(52.1)	0.04	NS	-
<u>Bulimia nervosa/atypical normal weight</u>								
BMI	37	24.5	(4.29)	24.9	(4.53)	0.98	NS	-
EDE-Q Global	43	5.05	(0.67)	4.79	(0.98)	2.12	.04	0.329
EDE-Q Restrictive	43	4.46	(1.24)	4.31	(1.34)	1.16	NS	-
EDE-Q Eating	43	4.88	(0.92)	4.53	(1.11)	2.56	.02	0.400
EDE-Q Shape	43	5.55	(0.68)	5.30	(0.97)	2.12	.04	0.347
EDE-Q Weight	43	5.29	(0.81)	5.05	(1.01)	2.33	.03	0.360
Objective binges	43	14.1	(8.33)	9.00	(10.1)	0.36	NS	-
Vomiting	43	15.2	(8.86)	8.94	(14.0)	0.03	NS	-