

Evaluation of a Motivation and Psycho-educational guided self-help intervention for people with eating disorders (MOPED).

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## **Abstract**

High dropout rates and poor levels of engagement are well documented for patients with eating disorders. Utilising motivational techniques and providing psycho-education have been suggested as ways to reduce treatment disengagement. This study aimed to evaluate the effect of a newly developed **motivational** and **psycho-educational** guided self-help intervention (MOPED) for people with eating disorders on engagement and retention in therapy. Patients who received MOPED pre-treatment ( $n = 79$ ) were compared to a diagnosis matched group of patients receiving treatment as usual (TAU;  $n = 79$ ). The study found that patients receiving MOPED had a higher engagement rate than those within the TAU group. Specifically, patients in the anorexic spectrum were found to present with both higher rates of engagement and completion of therapy when issued with MOPED in comparison to TAU. Self-help packages using motivational style could be a valuable and cost effective intervention for patients with eating disorders.

Keywords – dropout, motivation, engagement, eating disorders, psycho-education

## **Introduction**

Individuals diagnosed with an eating disorder are often undecided towards recovery and change (Vitousek, Watson & Wilson, 1998). Dropout rates from treatment for these individuals are relatively high, with research indicating that between 29% and 73% of patients drop out of outpatient treatment prior to completion (Fassino, Pierò, Tomba & Abbate-Daga, 2009). Studies looking at dropout rates from specific therapies have found that 22.9% of patients with anorexia nervosa (AN) and 40.6% of bulimia nervosa (BN) drop out from outpatient cognitive-behavioural therapy (CBT) (Schnicker, Hiller & Legenbauer, 2013). This is more than double when compared to patients with other psychiatric disorders (Watson, Fursland & Byrne, 2013).

The issue of premature termination of treatment (or lack of engagement with services) is an important focus of present research and of clinical importance in eating disorders, as failure to attend outpatient appointments is not only costly to health services (Sharp & Hamilton, 2001) but can result in delays to appropriate treatments and an exacerbation of symptoms. This has prompted services to adopt various strategies to increase engagement and attendance (Leavey, Vallianatou, Johnson-Sabine, Rae & Gunpath, 2011).

For patients suffering from an eating disorder it appears that knowledge of their condition and their therapy positively correlates with engagement and attendance of therapy (Leavey et al., 2011).

Psycho-education has been found to benefit patients when used in conjunction with professional help particularly for patients in the bulimic spectrum (Le Grange, 1998; Perkins, Schmidt & Williams, 2006; Pettersen & Rosenvinge, 2002; Rorty, Yager & Rossotto, 1993; Rosenvinge & Klusmeier, 2000, Wilson, Vitousek & Loeb, 2000).

As lack of motivation for recovery is a specific feature of patients with eating disorders, particularly for those with anorexia nervosa (Blake, Turnball & Treasure, 1997), motivational interviewing techniques (Miller & Rollnick, 1991) have also been found to be beneficial in increasing engagement of eating disorder patients (Cassin, von Ranson, Heng, Brar & Wojtowicz, 2008; Feld, Woodside,

Kaplan, Olmsted & Carter, 2001; Gowers & Smyth, 2004 Mahon, 2000) and reducing compensatory behaviour (Dunn et al. 2006).

With the aim of combining the psycho-education and the motivational techniques, Leicestershire Adult Eating Disorders Service (LAEDS) developed a **motivation and psycho-education (MOPED)** self-help manual with structured activities (that aimed to record completion, self-reflection and learning) in order to reduce therapy non-attendance when patients were placed on a waiting list for treatment. MOPED was developed for all types of eating disorders and it was therefore unclear if all diagnostic groups presenting to the service would benefit in the same way from its use.

The primary aim of this study was to evaluate MOPED by comparing engagement and completion of therapy rates between patients who were offered and completed MOPED whilst on the waiting list and those who were offered treatment as usual (TAU) (being placed on the waiting list, with no MOPED but offered informative leaflets specific to their condition). It was hypothesised that the MOPED group would have a better rate of engagement and completion of treatment when compared to the TAU. The secondary aim was to examine the primary aim according to diagnostic groups (anorexic spectrum and bulimic spectrum).

## **Method**

### *Setting*

LAEDS, part of the UK National Health Service (NHS), offers assessment and treatment to patients, over the age of 18 years, who have been referred primarily by primary care, with symptoms of an eating disorder. The service covers a population of approximately 1 million. Patients are assessed over two appointments using the Clinical Eating Disorders Rating Instrument (CEDRI) (Palmer et al., 1987) by an experienced senior clinician. The service offers several models of therapy including, short term Interpersonal Psychotherapy for Bulimia Nervosa-modified version (IPT BNm; Whight et al., 2012), and Cognitive Behavioural Therapy-enhanced (CBT-e, Fairburn, 2008). Longer term interventions include Psychodynamically informed Psychotherapy for AN (approx. 40 sessions) and 40 session of CBT for anorexia nervosa (Pike, Carter & Olmsted, 2004). Average waiting time for therapy within the service was 14.5 weeks (5.9 weeks for patients with AN and 10.5 weeks for those BN). Waiting time variation between groups was due to the number of therapists available and the clinical needs of patients.

### *The intervention*

#### Motivational and psycho educational package for people with eating disorders (MOPED; Cashmore, Cousins & Arcelus, 2011)

MOPED is a workbook with text and guided activities that are written for individuals with eating disorders. What makes MOPED different to other psycho-educational workbooks is the motivational interviewing style used throughout. All the activities have been developed in order to increase motivation whilst providing psycho-education. The aim is first to help the patient to decide whether he/she wants to change, and by doing so motivate the patient to accept help. Only then will the reader be shown how to start addressing behaviours such as dietary restriction, binges, self-induce

vomiting or compulsive exercise. (A copy of MOPED booklet is available upon request from the authors).

MOPED is supplied by the clinician at the end of the patient's assessment. The expectation is that the patient will then work through the sections of the booklet at home and return for a one to one, 45 minute follow up appointment with their assessor three weeks after their initial assessment appointments are completed and before therapy begins. During this appointment the patient will discuss the homework tasks they have completed from the booklet and any thoughts or difficulties they experienced whilst completing them. A similar 45 minute follow up appointment is also organised for those patients who are not offered MOPED . Discussions about progress and difficulties since they were last seen would take place.

### *Participants*

The experimental group consisted of 79 female patients who received MOPED following assessment and were placed on the waiting list for therapy during the study period (June 2012 to March 2014). Male patients were not included into the study due to the small numbers ( $n=4$ ). This group was compared to 79 matched (by diagnosis) patients selected in reverse chronological order from the pool of patients assessed and placed on the waiting list for therapy at the same service before MOPED was developed (April 2009 – March 2012). Both groups of patients were assessed by the same clinicians using the Clinical Eating Disorders Rating Instrument (CEDRI) (Palmer et al., 1987).

### *Tools*

Clinical Eating Disorders Rating Instrument (CEDRI) (Palmer et al., 1987): This is a semi-structured investigator based interview that measures eating-related behaviours and attitudes in accordance

with DSM-IV criteria. The tool has been shown to have good reliability and validity (Palmer et al., 1996).

Eating Disorder Examination Questionnaire (EDE-Q; Fairburn & Cooper, 1993; Fairburn & Beglin, 2008) Severity of eating disorder psychopathology was measured using the EDE-Q. This is a 28 items self-report measure derived from the EDE (Fairburn & Cooper, 1993) The EDE-Q focuses on the past 28 days and measures core elements of eating disorder psychopathology. It provides 4 subscale scores, restraint, weight concern, eating concern and shape concern. A global score is also obtained. A high score indicates greater level of eating disorder psychopathology. The EDE-Q has good reliability and internal consistency (Luce & Crowther, 1999; Peterson et al., 2007). This EDE-Q was completed by patients prior to their first assessment appointment and utilised clinically in conjunction with the CEDRI during the assessment process.

### *Procedure*

For the MOPED and non-MOPED groups, demographic information, number of assessment appointments, waiting time for assessment, type of therapy undertaken and number of previous referrals were recorded.

To ensure the groups as a whole were representative of patients with clinical eating disorders their EDE-Q scores were compared to clinical normative data (Brewin, Baggott, Dugard & Arcelus, 2014). Average sub-scale scores for both groups were within one standard deviation of the norms reported.

### *Statistical Analysis*

Statistical analysis was conducted in SPSS 21. The primary outcome of interest was the percentage of patients assessed who attended therapy following waiting list and the percentage of patients who

completed the agreed number of treatment sessions once they attended the first therapy session. Patients who were in therapy at the time of analysis were excluded from calculation of completion rates.

Differences in the characteristics of the two groups were compared using Pearson Chi square tests (e.g., ethnicity, occupation, and living situation) and t-tests (age, BMI). Non parametric equivalents were used to assess differences between groups on eating psychopathology and behaviours (as measured by the EDE-Q). Pearson Chi square tests were used to compare levels of engagement and completion between the two groups. Significance was determined using an alpha level of .05 for all tests.

The study received ethical approval from the Research & Development department of Leicestershire Partnership NHS Trust on behalf of the local ethics committee in line with Health Research Authority guidance (2013).

## **Results**

### *Socio-demographic characteristics and eating disorders psychopathology.*

No significant difference was found between the MOPED and non-MOPED group on demographic details (see Table 1) with the exception of occupational status. The MOPED group contained more students and less unemployed or inactive patients. When comparing eating disorders psychopathology using the EDE-Q, no statistically significant differences were found between the groups (see Table 1).

*Introduce table 1 around here*

### *Engagement and Completion Rates*

The engagement rate of 83.5% for the MOPED group was significantly higher than the non-MOPED group at 67.1%. More than three quarters of the patients in the MOPED group who were offered therapy, started it. Of these, 10 were still in therapy at time of analysis and were thus excluded, leaving 56 patients used in the analysis. Within the non-MOPED group 53 (67.1 %) patients started therapy, of these 1 was still in therapy at time of analysis and as such was excluded from subsequent analysis, leaving 52 patients. These remaining groups were compared on diagnosis and severity (as measured by the EDE-Q) and no significant differences were found. No significant difference was found in completion rates for the MOPED group compared to the non-MOPED group. (See Table 2).

### *Diagnostic Groups*

No significant difference was found in the BN spectrum patients for either engagement or completion of therapy rates when comparing MOPED with non-MOPED groups. When the AN spectrum patients were looked at in isolation, engagement rate was found to be significantly higher

in the MOPED group in comparison to the control group. Completion rates were also significantly higher in the MOPED group than the non-MOPED group. (See Table 2).

Introduce Table 2 about here

When analysing drop-out from therapy overtime for both AN spectrum and BN spectrum groups, survival analysis indicated that particularly for the BN group drop-out took place during the first half of therapy sessions (See Figure 1).

*Introduce Figure 1 about here.*

## **Discussion**

This study aimed to evaluate the impact of using a new motivation and psycho-educational guided self-help package for patients with eating disorders (MOPED) on subsequent therapy engagement and completion rates. The study compares a group of patients who had received the package with a historical group who had not, matched by diagnosis. Results showed that although engagement rates were high in the non-MOPED group (67.1%) this was enhanced significantly when MOPED was issued at assessment.

The results confirm the first hypothesis showing that a self-help manual written using a motivational enhancement approach does increase significantly the engagement of patients and reduce drop out pre-therapy whilst on the waiting list. The benefit of MOPED on engagement is further supported by the fact that despite the MOPED group having significantly more students included, who have previously been highlighted as more likely to dropout than engage (Mahon, Bradley, Harvey, Winston & Palmer, 2001), engagement was still increased. The results of this study suggest that using a self-help motivational approach post assessment improves subsequent engagement in therapy. The homework tasks and the advice given to patients to undertake one or two chapters per week, may have been enough to increase engagement with the service.

When investigating whether the MOPED self-help intervention also aided treatment completion rate, the study did not find any significant difference between the experimental group and the control group. This may suggest that motivation to remain in therapy is likely to be more related to the relationship between the therapist and the patient or related to the model of therapy. A short self-help intervention before therapy is unlikely to make a difference and may highlight the importance of continuing to use a motivational enhancement approach throughout therapy to continue to engage patients.

The study also found that interestingly it was in the patients suffering from AN rather than with BN where the main differences were found, showing higher rates of engagement in therapy and better completion rates in the MOPED group than the controls. This could be explained by the differences in the stage of changes between the diagnostic groups as research has indicated that patients with BN tend to be more motivated to recover than patients with AN (Johnson, 1985; Vitousek, Watson & Wilson, 1998). Differences for completion rates in the AN group could be explained by the type of interventions used in this group such as CBT for anorexia nervosa (Pike et al., 2004) known to have more motivational enhancement elements in it than treatment for bulimia nervosa such as IPT-BNm (Whight, et al.,2012).

NICE (2004) guidelines in the UK, highlight the importance, in the treatment of eating disorders, of a motivational enhancement approach prior to treatment, particularly with patients with AN, in order to maximise adherence to treatment. The role of motivational enhancement therapy delivered by therapists either one to one or as a group has already been researched (The project MATCH research group, 1997; Treasure et al, 1999; Feld et al, 2001). Vella-Zarb, Mills, Westra, Carter & Keating (2015) point out that it is unclear if it is the motivational elements that are effective or if other factors such as therapist contact are leading to better engagement and outcomes. The use of a self -help packages aiming at increasing motivation using a motivation style and homework tasks (such as MOPED) can be an valuable and cost effective intervention for patients with eating disorders, particularly those with AN.

This study has several limitations. First, the study did not measure levels of motivation in patients previous to the initiation of treatment. Whilst no conclusions can be directly drawn to the participant's changes in motivation levels the behavioural change of actually engaging with services for treatment is of important clinical relevance. Future investigations into MOPED should include a measure of motivation in order to control for this variable between groups. Second, there was no conclusive way of ensuring that all participants who were issued MOPED read it completely although

there was evidence from the completed tasks that patients did work through the manual. Finally, with an already relatively high level of engagement in the non-MOPED group more numbers of participants and comparisons are required to allow more robust statistical analysis thus providing with more confidence the effect of MOPED on engagement. This study aimed to pilot the intervention within a clinical setting and as such uses historical data (from before MOPED was developed). A randomised control trial approach would be a methodologically stronger in identifying the real value of this intervention.

Going forward MOPED has been developed for use online (e-MOPED). Online interventions allow for delivery via a form of communication used by the majority of young people (Ritterband et al, 2003) and are often used to reduce healthcare costs and address a lack of provision (Griffiths, Lindenmeyer, Powell, Lowe & Thorogood, 2006). Future studies would aim to compare engagement in patients using the paper version to those using the online version. Adaptations of MOPED have also been developed for use with students with eating problems (MOPED-student version) and one with athletes in mind. Further adaptations could include a version for carers. The benefits of guided self-help for carers have previously been highlighted (Rhind et al, 2014). Future research could also involve identifying patients who maybe more likely, based on previous research, to drop out of treatment due to certain personality traits (Jordan et al, 2014) or co-morbidities (Fassino et al, 2009) and assess the benefit MOPED can specifically have on their engagement. Evaluation of MOPED by patients is also a critical ongoing project. Pettersen, Rosenvinge & Wynn (2011) highlighted the perceived benefits to patients of psycho-education prior to treatment. By collecting patient centred feedback on the benefits and drawbacks of MOPED from a wide variety of diagnostic groups it may be possible to produce more tailored versions for diagnostic specific groups. Crucially the impact of MOPED, directly or indirectly, on outcomes post treatment also needs to be investigated further.

## REFERENCES

- Blake, W., Turnball, S. & Treasure, J. (1997). Stages and processes of change in eating disorders: implications for therapy. *Clinical Psychology & Psychotherapy*, 4:3, 186-191. DOI: 10.1002/(SICI)1099-0879(199709)4:3<186::AID-CPP128>3.0.CO;2-5
- Brewin, N., Baggott, J., Dugard, P. & Arcelus, J. (2014). Clinical Normative Data for Eating Disorder Examination Questionnaire and Eating Disorders Inventory for DSM-5 Feeding and Eating Disorder Classifications: A Retrospective Study of Patients Formerly Diagnosed Via DSM-IV, *European Eating Disorders Review*, 22(4), 299-305. doi: 10.1002/erv.2301.
- Cashmore, R., Cousins, T. & Arcelus, J. (2011). Motivational and psychoeducational package for people with eating disorders. *Leicestershire Partnership NHS Trust*.
- Cassin, S. E., von Ranson, K. M., Heng, K., Brar, J. & Wojtowicz, A.E. (2008). Adapted motivational interviewing for women with binge eating disorder: A randomized controlled trial. *Psychology of Addictive Behaviors*, 22(3), 417-425. <http://dx.doi.org/10.1037/0893-164X.22.3.417>
- Dunn, E. C., Neighbors, C., & Larimer, M.E. (2006). Motivational Enhancement Therapy and Self-Help Treatment for Binge Eaters, *Psychology of Addictive Behaviours*, 20 (1), 44-52. doi: 10.1037/0893-164X.20.1.44
- Fairburn, C. G. (2008). *Cognitive Behavioural Therapy and Eating Disorders*. New York: The Guildford Press
- Fairburn, C. G., & Beglin, S. J. (2008). Eating disorder examination questionnaire (EDE-Q 6.0). In C. G. Fairburn (Ed.), *Cognitive behaviour therapy and eating disorders*. (pp. 309 -313). New York, Guilford Press.
- Fairburn, C. G., & Cooper, Z. (1993). The Eating Disorder Examination. In C. G. Fairburn, & G. T. Wilson (Eds), *Binge Eating: Nature, assessment and treatment* (12<sup>th</sup> Ed) (pp. 317-360). New York: Guilford Press.
- Fassino, S., Pierò, A., Tomba, E., & Abbate-Daga, G. (2009). Factors associated with dropout from treatment for eating disorders: a comprehensive literature review. *BMC Psychiatry*, 9, 67. doi:10.1186/1471-244X-9-67. doi:10.1001/archpsyc.1991.01810290075014.
- Feld, R., Woodside, D. B., Kaplan, A. S., Olmsted, M. P., & Carter, J. C. (2001). Pretreatment motivational enhancement therapy for eating disorders: a pilot study. *International Journal of Eating Disorders*, 29(4), 393-400.
- Griffiths, F., Lindenmeyer, A., Powell, J., Lowe, P. & Thorogood, M. (2006). Why are health care interventions delivered over the internet? A systematic review of the published literature. *Journal of Medical Internet Research*, 8(2), e10. DOI: [10.2196/jmir.8.2.e10](https://doi.org/10.2196/jmir.8.2.e10)
- Gowers, S.G. & Smyth, B. (2004). The impact of a motivational assessment interview on initial response to treatment in adolescent anorexia nervosa. *European Eating Disorders Review*, 12:2, 87-93. DOI: 10.1002/erv.555
- Health Research Authority. Guidance for NHS research studies 2013 [www.hra.nhs.uk](http://www.hra.nhs.uk)

Johnson, C. (1985). Initial consultation for patients with bulimia and anorexia nervosa. In D. M. Garner & P.E. Garfinkel (Eds), *Handbook of psychotherapy for anorexia nervosa and bulimia* (pp. 19-51). New York: Guildford Press.

Jordan, J., McIntosh, V.V.W., Carter, F.A., Joyce, P. R., Frampton, M.A., Luty, S.E., McKenzie, J.M. & Bulik, C.M. (2014). Clinical Characteristics Associated with Premature Termination from Outpatient Psychotherapy for Anorexia Nervosa. *European Eating Disorders Review*, 22(4), 278-284. DOI: 10.1002/erv.2296

Le Grange, D.T. (1998). Patients' perspective of treatment in eating disorders: A preliminary study. *South African Journal of Psychology*, 28(3), 182.

Leavey, G., Vallianatou, C., Johnson-Sabine, E., Rae, S., & Gunpath, V. (2011). Psychosocial Barriers to Engagement With an Eating Disorder Service: A Qualitative Analysis of Failure to Attend. *Eating Disorders*, 19, 425-440. doi: 10.1080/10640266.2011.609096.

Luce, K.H., & Crowther, J. H. (1999). The reliability of the Eating Disorder Examination-Self-Report Questionnaire Version (EDE-Q). . *International Journal of Eating Disorders*, 25, 349-351.

Mahon, J. (2000). Dropping Out from Psychological Treatment for Eating Disorders: What are the Issues? *European Eating Disorders Review*, 8, 198-216.

Mahon, J., Bradley, S.N., Harvey, P.K., Winston, A.P. & Palmer, R.L. (2001). Childhood Trauma Has Dose-Effect Relationship with Dropping Out from Psychotherapeutic Treatment for Bulimia Nervosa: A Replication. *International Journal of Eating Disorders*, 30 (2), 138-148. DOI: 10.1002/eat.1066

Miller, W. & Rollnick, S. (1991). *Motivational Interviewing: Preparing people to change addictive behaviour*. New York: Guildford Press.

National Institute of Clinical Excellence (2004). Core interventions in the treatment and management of anorexia nervosa, bulimia nervosa and related eating disorders. Accessed January 20<sup>th</sup> 2015 from <http://www.nice.org.uk/guidance/cg9/evidence/cg9-eating-disorders-full-guideline-2>

Palmer, R. L., Christie, M., Cordle, C., Davies, D., & Kenrick, J. (1987). The clinical eating disorders rating instrument (CEDRI); a preliminary description. *International Journal of Eating Disorders*, 6, 9-16.

Palmer, R., Robertson, D., Cain, M., & Black, S. (1996). The clinical eating disorders rating instrument (CEDRI); a validation study. *European Eating Disorders Review*, 4, 149-156.

Perkins, S.J., Schmidt, U., & Williams, C. (2006). Self-help and guided self-help for eating disorders (review). *Cochrane Database Systematic Review*,3, 1-82.

Peterson, C. B., Crosby, R. D., Wonderlich, S.A., Joiner, T., Crow, S.J., Mitchell, J.E., Bardone-Cone, A. M., Klein, M., & Le Grange, D. (2007). Psychometric properties of the eating disorder examination-questionnaire: factor structure and internal consistency. *International Journal of Eating Disorders*, 40, 386-389.

Pettersen, G., & Rosenvinge, J.H. (2002). Recovery from eating disorders – a patient perspective. *Eating Disorders, 10*, 61-71

Pettersen, G., Rosenvinge, J.H., & Wynn, R. (2011). Eating disorders and psychoeducation – patients' experiences of the healing process. *Scandinavian Journal of Caring Sciences, 25*, 12-18. doi: 10.1111/j.1471-6712.2010.00783.x

Pike, K.M., Carter, J., & Olmsted, M. (2004). *Cognitive Behavioral Therapy manual for anorexia nervosa*. Unpublished manual.

Project MATCH Research Group (1997). Matching alcoholism treatments to client heterogeneity: Project MATCH post treatment drinking outcomes. *Journal of Studies on Alcohol, 58*, 7-29.

Rhind, C., Hibbs, R., Goddard, E., Schmidt, U., Micali, N., Gowers, S., Beecham, J., Macdonald, P., Todd, G., Tchanturia, K. & Treasure, J. (2014). Experienced Carers Helping Others (ECHO): Protocol for a Pilot Randomised Control Trial to Examine a Psycho-educational Intervention for Adolescents with Anorexia Nervosa and Their Carers. *European Eating Disorders Review, 22(4)*, 267-277. DOI: 10.1002/erv.2298

Ritterband, L. M., Cox, D. J., Walker, L. S., Kovatchev, B., McKnight, L., Patel, K., Borowitz, S. & Sutphen, J. (2003). An internet intervention as adjunctive therapy for pediatric encopresis. *Journal of Consulting and Clinical Psychology, 71(5)*, 910-917. doi: 10.1037/0022-006X.71.5.910.2003-07816-008.

Rorty, M., Yager, J., & Rossotto, E. (1993). Why and how do women recover from bulimia nervosa? The subjective appraisals of forty recovered for a year or more. *International Journal of Eating Disorders, 14*, 249-260.

Rosenvinge, J.H., & Klusmeier, A. (2000). Treatment for eating disorder from a patient satisfaction perspective. *European Eating Disorders Review, 8*, 293-300.

Schnicker, K., Hiller, W., & Legenbauer, T. (2013). Drop-out and treatment outcome of outpatient cognitive-behavioural therapy for anorexia nervosa and bulimia nervosa. *Comprehensive Psychiatry, 54(7)*, 812-823. doi: 10.1016/j.comppsy.2013.02.007.

Sharp, D., & Hamilton, W. (2001). Non-attendance at general practice and outpatient clinics. *British Medical Journal, 323*, 1081-1082. doi: <http://dx.doi.org/10.1136/bmj.323.7321.1081>

Treasure, J. L., Katzman, M., Schmidt, U., Troop, N., Todd, G., & de Silva, P. (1999). Engagement and outcome in the treatment of bulimia nervosa: first phase of a sequential design comparing motivational enhancement therapy and cognitive behavioural therapy. *Behaviour Research and Therapy, 37*, 405-418.

Vella-Zarb, R. A., Mills, J.S., Westra, H. A., Carter, J. C. & Keating, L. (2015). A Randomized Controlled Trial of Motivational Interviewing + Self-Help Versus Psychoeducation +Self-Help for Binge Eating. *International Journal of Eating Disorders, 48:3*, 328-332. DOI: 10.1002/eat.22242

Vitousek, K., Watson, S. & Wilson, T. G. (1998). Enhancing Motivation for Change in Treatment Resistant Eating Disorders. *Clinical Psychology Review*, 18, 391-420. [doi:10.1016/S0272-7358\(98\)00012-9](https://doi.org/10.1016/S0272-7358(98)00012-9)

Watson, H. J., Fursland, A., & Byrne, S. (2013). Treatment Engagement in Eating Disorders: Who exits Before Treatment? *International Journal of Eating Disorders*, 46:6, 553-559. doi: 10.1002/eat.22085

Whight, D., Meadows, L., McGrain, L., Langham, C., Baggott, J. & Arcelus, J. (2011). *IPT BN(m) :Interpersonal Psychotherapy for Bulimic Spectrum Disorders: A Treatment Guide*. Troubador Press

Wilson, G. T., Vitousek, K. M., Loeb, K. L. (2000). Stepped care treatment for eating disorders. *Journal of Consulting and Clinical Psychology*, 68(4), 564- 572. <http://dx.doi.org/10.1037/0022-006X.68.4.564>

Table 1. Demographic and clinical details of the MOPED and non-MOPED group and corresponding p values when compared on chi-square tests and t-tests.

|                                    | Non-Moped<br>n = 79 | Moped<br>n = 79 | p       |
|------------------------------------|---------------------|-----------------|---------|
| <b>Demographics</b>                |                     |                 |         |
| Age                                | 28.6                | 26              | 0.068   |
| Ethnicity                          |                     |                 | 0.339   |
| White                              | 74                  | 71              |         |
| Mixed                              | 1                   | 2               |         |
| Asian                              | 2                   | 5               |         |
| Black                              | 2                   | 0               |         |
| Unknown                            | 0                   | 1               |         |
| Occupational Status                |                     |                 | 0.003** |
| Employed                           | 36                  | 37              |         |
| Unemployed                         | 10                  | 3               |         |
| Student                            | 21                  | 35              |         |
| Looking after family/home          | 5                   | 1               |         |
| Inactive                           | 7                   | 1               |         |
| Unknown                            | 0                   | 2               |         |
| Living Situation                   |                     |                 | 0.324   |
| With family of origin              | 29                  | 30              |         |
| Alone                              | 7                   | 9               |         |
| Sharing non-partner                | 9                   | 8               |         |
| With partner and/or children       | 33                  | 26              |         |
| Other                              | 1                   | 6               |         |
| <b>Clinical</b>                    |                     |                 |         |
| Diagnosis (n)                      |                     |                 |         |
| AN                                 | 14                  | 14              |         |
| BN                                 | 20                  | 20              |         |
| EDNOS-AN                           | 22                  | 22              |         |
| EDNOS-BN                           | 8                   | 8               |         |
| BED                                | 8                   | 8               |         |
| Unspecified ED                     | 7                   | 7               |         |
| BMI                                | 21.7 (n=71)         | 22.1 (n=71)     | 0.700   |
| Previous assessments with LAEDS    | 0.29 (n=79)         | 0.22 (n=79)     | 0.425   |
| Waiting time for assessment (days) | 41.78 (n=79)        | 39.78 (n=79)    | 0.557   |
| No of assessment appointments*     | 2.53 (n=79)         | 2.96 (n=79)     | 0.111   |
| Type of therapy                    | CBT (n=6)           | CBT (n=14)      | 0.063   |
|                                    | IPT (n=28)          | IPT (n=19)      |         |
|                                    | CBT-AN (n=7)        | CBT-AN (n=8)    |         |
|                                    | PITA (n=13)         | PITA (n=24)     |         |
| No of binges                       | 8.33 (n=60)         | 7.17 (n=64)     | 0.506   |
| No of purges                       | 10.72 (n=61)        | 6.50 (n=64)     | 0.154   |
| EDE-Q restraint                    | 4.38 (n=61)         | 4.10 (n=67)     | 0.314   |
| EDE-Q weight concern               | 4.85 (n=61)         | 4.61 (n=67)     | 0.245   |
| EDE-Q eating concern               | 4.14 (n=61)         | 3.99 (n=67)     | 0.502   |
| EDE-Q shape concern                | 5.24 (n=61)         | 5.01 (n=67)     | 0.185   |
| EDE-Q global                       | 4.65 (n=61)         | 4.45 (n=67)     | 0.254   |

EDE-Q =Eating Disorders Examination Questionnaire, MOPED = Motivational and psycho-educational package for people with eating disorders, LAEDS = Leicestershire Adult Eating Disorder Service, AN = anorexia nervosa, BN = bulimia nervosa, EDNOS-AN = eating disorder

not otherwise specified – anorexic spectrum, EDNOS-BN = eating disorder not otherwise specified – bulimic spectrum, BED = binge eating disorder, ED= eating disorder, CBT = Cognitive Behavioural Therapy, IPT = Interpersonal Psychotherapy, CBT-AN = Cognitive Behavioural Therapy for anorexia nervosa, PITA = Psychodynamically informed psychotherapy for anorexia nervosa. \* This includes the initial assessment appointment and follow up assessment appointments prior to therapy. \*\* significant at p=0.01.

Table 2 Engagement and completion rates for MOPED and non-MOPED groups and by diagnosis

|                   | Non -MOPED |            | MOPED |            | X <sup>2</sup> |      |
|-------------------|------------|------------|-------|------------|----------------|------|
|                   | n          | n (%)      | n     | n (%)      |                |      |
| <b>Engagement</b> |            |            |       |            |                |      |
| All               | 79         | 53 (67.1%) | 79    | 66 (83.5%) | 5.75**         | 0.19 |
| BN spectrum       | 36         | 22 (61.1%) | 36    | 28 (77.8%) | 2.36           |      |
| AN spectrum       | 36         | 25 (69.4%) | 36    | 32 (88.9%) | 4.13*          | 0.24 |
| <b>Completion</b> |            |            |       |            |                |      |
| All               | 52         | 26 (49%)   | 56    | 34 (60.7%) | 1.25           |      |
| BN spectrum       | 22         | 15 (68.2%) | 27    | 14 (51.2%) | 1.34           |      |
| AN spectrum       | 24         | 7 (29.2%)  | 24    | 15 (62.5%) | 5.37**         | 0.34 |

MOPED – Motivational and psycho-educational package for people with eating disorders, BN – bulimia nervosa, AN – anorexia nervosa, \* significant at p=0.05, \*\* significant at p=0.01.