Metacognition in eating disorders: Comparison of women with eating disorders, self-reported history of eating disorders or psychiatric problems, and healthy controls

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A B S T R A C T

Objective: The aim of the study was to compare a clinical sample with eating disorders to different control samples on self-report measures of metacognition and eating disorder symptoms, in order to investigate the role of metacognition in eating disorders.

Method: The clinical group consisted of 53 female patients with eating disorders who completed the Metacognitions Questionnaire-30 and the Eating Disorder Examination Questionnaire 6.0. One-hundred and fifty women who served as a control group completed the questionnaires as an Internet survey. This control group was divided into three groups based on self-reported history of eating and psychiatric problems (N = 47), other psychiatric problems (N = 37), or no such problems (healthy controls: N = 66).

Results: The clinical group scored significantly higher on dysfunctional metacognition than healthy controls, especially on “negative beliefs about uncontrollability and danger”, “need to control thoughts”, and total MCQ-30 score. Eating disorder symptomatology was positively correlated with metacognition. Metacognition explained 51% of the variance in eating disorder symptoms after controlling for age and BMI, with “need to control thoughts” as the most important factor.

Conclusion: Metacognitive beliefs may be central in understanding eating disorders, and metacognitive treatment strategies could be a promising approach in developing new psychological treatments for eating disorders.

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1. Metacognition in eating disorders

The Diagnostic and Statistical Manual of Mental Disorders, 5th edition (DSM-V, APA, 2013) defines the criteria for different eating disorders such as Anorexia Nervosa (AN), Bulimia Nervosa (BN), and Eating Disorder Not Otherwise Specified (EDNOS). All these eating disorders share an intense fear of weight gain and a distorted body image that often serve as a basis for negative self-evaluation. Eating disorders are associated with severe physical and psychosocial consequences, and are considered difficult to treat (Fairburn & Harrison, 2003). Cognitive behavioral therapy is considered the treatment of choice for BN (National Institute for Health and Care Excellence [NICE], 2004), but there is insufficient evidence to conclude on a treatment of choice for AN (Bulik, Brownley, Shapiro, & Berkman, 2012). Prognostic indicators suggest that severity of psychiatric comorbidity relates to outcome for BN, while severity and duration of AN relates to outcome for treating AN (Keel & Brown, 2010).

These findings may indicate that there is a need for a new understanding of eating disorders which again may pave the way for more efficient treatments. The metacognitive model has identified transdiagnostic psychological processes that are involved in several disorders (Wells, 2009). It represents a new perspective and as such it may be of interest to explore if it contributes to the understanding of eating disorder symptoms. Metacognitive theory states that psychological disorder results from an inflexible and maladaptive response pattern to cognitive events, which is labeled the Cognitive Attentional Syndrome (CAS). The CAS consists of persistent worry and rumination, threat monitoring and ineffective coping strategies that contribute to the maintenance of the problem (Wells, 2013). The CAS is controlled by erroneous beliefs about thinking. These beliefs are called metacognitions, which refer to internal cognitive factors that control, monitor and appraise thinking. They are both positive- and negative metacognitive beliefs. Positive metacognitions are concerned with the benefits of worry, rumination, threat-monitoring, and counter-productive coping strategies. Example of a positive metacognition related to eating disorders could be “I must worry about my weight and eating in order to control my weight”. Negative metacognitions are concerned with the uncontrollability and danger of thoughts and cognitive experiences. Example of a negative metacognition in eating disorders could be “Worrying about my body and weight could make me go mad”. For more detailed descriptions of positive and negative metacognition in Anorexia Nervosa see Woolrich, Cooper, and...
These negative and positive metacognitive beliefs are the driving force of the CAS. Metacognitive treatment aims to eliminate the CAS to enable new learning to take place (Wells & Matthews, 1996).

There are several reasons why the metacognitive model could be beneficial for understanding and treating eating disorders. First, eating disorders seem to have many similarities with other types of psychiatric disorders related to worry where metacognitions are central, like generalized anxiety disorder (Konstantellou, Campbell, Eisler, Simic, & Treasure, 2011), and obsessive–compulsive symptoms (Halmi et al., 2005). Second, rumination (e.g. “I think about all my shortcomings, failings, faults, and mistakes”), which is an important aspect in the metacognitive treatment of depression, seems to also be of relevance in patients with bulimic symptoms (Nolen-Hoeksema, Stice, Wade, & Bohon, 2007). Third, eating disorders have a high rate of comorbidity (Hudson, Hiripi, Pope, & Kessler, 2007), and because the metacognitive model focuses on common psychological processes that transcend diagnostic borders, this approach could be considered especially relevant in treating eating disorders.

Some research has been undertaken to explore the role of worry and rumination in eating disorders which support the potential utility of a metacognitive perspective. Sternheim et al. (2012) investigated the role of worry in patients with AN and BN, and that they found that scores significantly higher on the Penn State Worry Questionnaire (Meyer, Miller, Metzger, & Borkovec, 1990) compared to healthy controls. The two groups with eating disorders did not differ from each other on worry. A positive correlation was found between worry and eating disorder symptomatology. Startup et al. (2013) also found elevated scores on measures of worry and rumination in a sample of 62 patients with AN compared to healthy controls. Additionally, they also found a positive correlation for both worry and rumination related to eating disorder symptoms, and that worry and rumination predicted severity of the eating disorder over and above measures of mood.

A related study by Woolrich et al. (2008) used a semi-structured interview to compare 15 patients with AN to 17 dieting women and 18 non-dieting controls. Patients with AN believed to a higher degree that their thoughts were abnormal and uncontrollable. Patients with AN were also more likely to use thought control strategies like mental self-punishment, worry and rumination in order to cope with their negative thoughts. Cooper, Grocott, Deepak, and Bailey (2007) administered the Metacognitions Questionnaire-30 (MCQ-30; Wells & Cartwright-Hatton, 2004) to 16 patients with AN, 15 dieters, and 17 non-dieting controls. They found that patients with AN scored higher on four out of five metacognitive factors namely; need to control thoughts, cognitive self-consciousness, negative beliefs of uncontrollability and danger, and cognitive confidence. The groups did not differ significantly on positive beliefs about worry. McDermott and Rushford (2011) compared MCQ-30 scores in a larger sample than Cooper et al. (2007), where the sample consisted of 74 with AN, and 93 without AN. The same pattern of elevated scores on four out of five subtypes of metacognition was found. Konstantellou and Reynolds (2010) found that problematic eating attitudes were related to higher scores on three out of five factors on the MCQ-30 in a non-clinical sample.

Although there has been some studies suggesting that metacognitions are important in eating disorders there have been no clinical trials exploring the effects of metacognitive therapy (MCT) for eating disorders. Also, a metacognitive treatment manual for eating disorders has yet to be developed. In general, MCT does not view emotional disorders as linked to content of negative thoughts. Instead it views attentional bias and worry/rumination as strategies for appraising and dealing with threat as essential in maintaining emotional disorders. These are the processes that are addressed in MCT. For a comparison of CBT and MCT confer on Fisher (2009). There is no current treatment for eating disorders which addresses metacognitions directly as specified by Wells’ (2009) description of the metacognitive model for emotional disorders. However, existing therapies are likely to change metacognitions indirectly as patients improve by reducing worry, rumination, and maladaptive coping behaviors (e.g. Solem, Håland, Vogel, Hansen, & Wells, 2009).

The studies reviewed in the introduction suggest that worry, rumination and metacognition are central in understanding eating disorders, but there is a need for further studies to validate the role of these factors in order develops a metacognitive treatment for eating disorders. As reviewed above, few previous studies have investigated metacognitive beliefs in anorectic patients. In order to improve and extend previous findings we chose to conduct a study using a larger sample, combining different samples of eating disorders, and to compare these against groups with other psychiatric symptoms as well as healthy controls. In order to explore the role of metacognition in eating disorders we used a comparative cross-sectional design, where a clinical sample of patients with eating disorders was compared to control samples with self-reported history of — eating disorders, psychiatric problems, as well as healthy controls.

The aim of this study was therefore to investigate metacognition in a clinical sample of patients with eating disorders and control groups. Based on metacognitive theory and earlier research, it was expected that the clinical sample would have a higher score on dysfunctional metacognition compared to healthy controls. Similar patterns, but smaller differences between the clinical and the control groups with self-reported history of eating problems and/or other psychiatric problems was also expected to be found. In addition, it was predicted that eating disorder symptomatology would be positively correlated with dysfunctional metacognition.

If metacognitions continue to prove to be of importance in eating disorders, therapeutic interventions aimed at challenging these beliefs could be called for.

2. Method

2.1. Participants

2.1.1. Clinical group

The clinical group consisted of 53 women receiving outpatient or inpatient treatment at the Regional Department for Eating Disorders (RASP), Oslo University Hospital and the Regional Competence Center for Eating Disorders (RKSF), at Stjørdal and Levanger in Norway. The mean age in the clinical sample was 28.4 years (SD = 9.3), with a range in age from 17 to 51. The eating disorders diagnoses in the clinical group consisted of 17 patients with AN, 14 with BN, and 22 were classified as EDNOS where five had a body mass index (BMI) in the overweight range. BMI was self-reported. The type of eating disorder was reported by the patients themselves. The duration of their eating disorder had a mean of 12.2 years (SD = 8.8), with a range in duration from 1 to 35 years. BMI was calculated for both their current weight and their lowest weight in adult age, which is presented in Table 1. Employment status was not recorded for the clinical group.

2.1.2. Control groups

The control groups consisted of 47 women with self-reported history of eating and psychiatric problems, 37 women with self-reported history of other psychiatric problems, and 66 women who reported no history of psychiatric- or eating disorder problems were classified as healthy controls. The majority of the controls were either in a fulltime job or currently a fulltime student. ANOVA analyses suggested that the mean age of the control samples were not significantly different from the clinical group with eating disorders (see Table 2).

2.2. Measures

The Metacognitions Questionnaire-30 (MCQ-30; Wells & Cartwright-Hatton, 2004) measures five factors of metacognition, namely; positive beliefs (e.g.: “Worrying helps me to avoid problems in the future”), negative beliefs about uncontrollability and danger...
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