Mental imagery in women with eating disorders and healthy controls.

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Primary Objective:First we need to establish that patients with an eating disorder and healthy controls differ in mental imagery. So, the first aim of our research is to compare the nature and characteristics (emotionality, vividness and perspective...

Ethical review	Approved WMO
Status	Recruiting
Health condition type	Eating disorders and disturbances
Study type	Observational non invasive

Summary

ID

NL-OMON43857

Source
ToetsingOnline

Brief title
Mental imagery and eating disorders

Condition

- Eating disorders and disturbances

Synonym
Eating disorders

Research involving
Human

Sponsors and support

Primary sponsor: Stichting Rivierduinen
Source(s) of monetary or material Support: Stichting Rivierduinen

Intervention

Keyword: Eating disorders, Mental imagery

Outcome measures

Primary outcome

Mental imagery measured with a semi structured interview for mental imagery (Day, et al., 2004; Osman, et al., 2004) and prospective mental imagery measured with the Impact of Future Event Scale (Deeprose & Holmes, 2010).

Secondary outcome

BMI; calculation based on self report weight and height, PTTS symptoms measured with the Zelfinventarisatielijst (ZIL, Hovens et al., 2001) and eating disorder severity measured with the Eating Disorder Questionnaire (EDEQ 6.0; Fairburn & Beglin, 2008).

Study description

Background summary

Eating disorders are serious psychiatric disorders (APA, 2000) and patients are impaired for years and need a long time to achieve remission if remission is achieved at all (Keel & Brown, 2010).
Treatment outcome for anorexia nervosa (AN) is poor. Seven to nine years after intake only 31% of the women with AN achieved remission and 36% of this remitted group relapsed in the years after remission (Keel, Dorer, Franko, Jackson & Herzog, 2005). Remission rates for women with bulimia nervosa (BN) were 75% of which 35% relapsed in the years after remission (Keel, et al., 2005). Overall 30% of the eating disorder patients recovers and 30% recovers partially and 30% has a chronic course and 10% dies due to the consequences of the disorder (Steinhausen, 2002, 2009).
A meta-analytic review (Stice, 2002) showed that the thin-ideal internalization is a risk factor for body dissatisfaction, dieting, negative affect and bulimic pathology. Thin ideal internalization and body dissatisfaction also appear to be maintenance factors for bulimic pathology. Body dissatisfaction is one of the most robust and consistent factors for maintaining eating pathology because

it leads to dieting and dieting increases the risk for bulimic behavior. Predictors for relapse for AN as well as BN, even after remission, are: misperception of body weight or shape, fear of gaining weight or becoming fat and over-concern with weight or shape (Keel et al., 2005). For women with BN worse psychosocial function and overconcern with weight or shape increased the risk of relapse (Keel et al., 2005).

There is evidence that in all eating disorder subtypes the same transdiagnostic mechanisms play a major role in the maintenance of eating disorder psychopathology (Fairburn, 2003, 2008). For BN Cognitive behavioral therapy (CBT) is the evidence-based treatment of first choice (Hay, 2013). Evidence based treatments for anorexia nervosa are limited, partially due to the relative rarity of the disorder. However, evidence is growing that the cognitive behavioral model and CBT are also applicable to AN as well as family based therapy (Fairburn, Cooper, Doll, O'Connor, Palmer & Dalle Grave, 2013; Hay, 2013). Better understanding of factors maintaining eating disorders and improving treatment is of great importance.

Mental imagery has received growing attention in the last two decades because of the powerful effect on emotions. Due to this effect on emotions and behavior imagery plays a critical role in psychopathology (Brewin, Gregory, Lipton & Burgess, 2010; Holmes & Mathews, 2010). Imagery is a key feature of post-traumatic stress disorder (APA, 2000). Images in the form of flashbacks evoke great emotional distress. Research has shown that imagery is not solely linked to PTSD, but also to other mental disorders (Hackmann & Holmes, 2004), such as social phobia (Hackmann, Suraway & Clark, 1998; Hackmann, Clark & McManus, 2000), hypochondriasis (Muse, McManus, Hackmann, Williams & Williams, 2010), bipolar disorder (Holmes et al. , 2011), major depressive disorder and anxiety disorders (Morina, Deeprose, Pusowski, Schmid & Holmes, 2011). The powerful impact on emotion can cause distress and can have a role in the maintenance of psychopathology (Holmes & Mathews, 2010).

Holmes and Mathews (2010) have presented a cognitive model of imagery versus verbal representations. Including the impact of imagery and verbal representation on emotion, perceived reality and behavior. In this model two ways are distinguished in which images can be initiated: 1. a bottom-up process leading to intrusive involuntary imagery as a result of a sensory cue matching with a representation in episodic memory associated emotion and 2. a top-down controlled process leading to the construction of an image. Imagery that is emotional in content is hypothesized to activate emotional information processing in the brain similar to real perceived events which has an influence on action readiness. Verbal representations are less likely to have an emotional impact and to be treated as "real" compared to imagery. Verbal therapies, such as CBT, do not seem to be able to address fully the intrusiveness and emotionality of the images .
Compared to verbal representations imagery evoked greater emotional responses in an experimental study (Holmes & Mathews, 2005). Therefore, it could be

hypothesized that in eating disorders imagery might play a role in the persistence of feeling fat. This imagery is overruling the cognitive knowing of not being fat.

As stated earlier by Hackmann & Holmes (2004) verbal thoughts have been the major focus of cognitive therapy and the importance of imagery in psychopathology and thereby in psychotherapy is not fully recognized or acknowledged. Imagery itself can also be apositive factor in treatment (Holmes & Mathews, 2010). The use of imagery as a therapeutic technique possibly could enhance treatment outcome and offers a non-verbal approach as an addition to the already existing verbal therapies. As in fact it is already for PTSD. Two techniques which are based on mental imagery appear to be effective in patients with PTSD (NICE, 2005): imagery and rescripting (Brewin et al., 2010) and Eye Movement Desensitisation and Reprocessing (EMDR; Shapiro, 1989).

The emotional impact of images is influenced by the perspective from which an image is viewed and the vividness (Holmes & Mathews, 2010) The observer perspective images (as seeing one-self from a distance) are supposed to be more negative and unrealistic than the field perspective (seeing the image as through one's own eyes) (Hackmann, Suraway & Clark). But the opposite with observer perspective leading to a reduction of emotional arousal is also stated (Brewin, et al., 2010). Hackmann, Suraway and Clark (1998) found that people with social phobia reported significantly more spontaneously occurring negative images in social situations compared to a control group. The images reported by the individuals with social phobia were dominated by the observer perspective but also contained field perspective. Observer perspective was related to more negative emotions. Later research by Hackmann and colleagues (2000) showed that in fear evoking social situations patients experience spontaneous recurrent images with negative content involving several sensory modalities such as vision and sound. Most recurrent images were linked to memories of unpleasant experiences at the time of the onset of the disorder.

Research has shown that people with agoraphobia experience recurrent distressing visual images often accompanied by body sensations in so called agoraphobic situations, such as traveling by train or being in a supermarket (Day, Holmes & Hackmann, 2004). Two third of the participants reported that the images are related to memories of unpleasant events in childhood, such as an abusive event at home or an threat or attack by a non-family member, and negative self-beliefs. Interestingly these participants were not diagnosed with PTSD. Osman, Cooper, Hackmann and Veale (2004) investigated the role of spontaneously occurring images and their linkage to early memories in people with body dysmorphic disorder (BDD). Interestingly, compared to the control group no difference was found in the frequency of spontaneous appearance related images. But the quality of the images differed significantly. People with BDD had significantly more negative spontaneous occurring images or impressions related to their appearance. This images had a negative content, were viewed from an observer perspective and were more vivid and with greater

detail and involved more sensory modalities.

There are only a few studies on imagery in eating disorders. Somerville, Cooper and colleagues(2007) used a semi-structured interview to investigate the presence, content and characteristics of spontaneously occurring images in women with bulimia nervosa compared to control participants. The control participants were divided in dieting and non-dieting participants. Compared to non-dieting controls, women with bulimia nervosa and the dieting controls reported more spontaneous images when worrying about eating, weight or shape. The emotional tone of the images of the women with bulimia nervosa was more negative and anxiety provoking. Another intriguing finding was that the vividness of the images increased with dietary restraint with women with BN and dieting controls significantly differing from non-dieting controls. The authors suggest that the meaning of the images might be more catastrophic and linked to underlying assumptions and negative core beliefs. Such as was found by Cooper, Todd & Wells (1998): the beliefs were linked to images of unpleasant experiences in childhood or young adolescence of which some explicit related to situations about weight and shape. All patients believed that restricting their food intake helped with this negative self-beliefs. However, this study focused more on exploring the core beliefs than on the images self.
In a sample of 30 patients with bulimia nervosa 57% reported to have images prior to vomiting. These images were often recurrent and linked to past events in which they were humiliated, abused or abandoned (Hinrichsen, Morrison, Waller & Schmidt, 2007).

It is not surprising that images found in eating disorder patients are linked to past negative events knowing that PTSD common is a comorbid disorder. Since the comorbidity of PTSD in eating disorders is high: ranging from 21% up to 62% (Brewerton, 2007). A history of trauma is a non-specific risk factor for the development of eating disorders (Swinbourne & Touyz, 2007) The nature of the reported images (Somerville et al., 2007; Cooper et al., 1998) might be symptoms of a comorbid PTSD and not a specific feature of the eating disorder. Distinguishing between images related to PTSD or images related to eating disorders might be of importance in understanding and treating eating disorders.

Not only images of past events are associated with psychopathology, also images of the future have a role in the maintenance of psychopathology.
Holmes, Crane, Fennell and Williams (2007) found in a small sample of people recovered of depression and suicidality that all of them reported mental images of acting out future suicidal plans of being dead during crisis. These prospective imagery is described as vivid and detailed and intrusive. There is evidence that people with major depressive disorder or an anxiety disorder had more problems with imagining positive events happening in the future and that people with an anxiety disorder had a greater ability to imagine vividly negative events in the future than patients with a depression (Morina, Deeprose, Pusowski, Schmid & Holmes, 2011).
Patients with a bipolar disorder reported more general and prospective imagery

than the control group. The patients with an unstable mood pattern (i.e. higher levels of anxiety and depression) reported the highest levels of involuntary intrusive prospective imagery (Holmes et al., 2011).
This research shows that prospective mental imagery can play an important role in the maintenance of psychopathology. It might be hypothesized that the fear of becoming fat or gaining weight can be seen as future oriented. Patients with eating disorders might experience prospective negative mental imagery similar to patients with an anxiety disorder or depressive disorder.

Summarizing the above, eating disorders are complex disorders with long duration of treatment, limited positive treatment outcome and high relapse rates. Treatments are characterized by a verbal and behavioral approach. Imagery is a factor of importance in a variety of psychiatric disorders.
If imagery also plays a role in the maintenance of eating disorder pathology, adding these imagery based techniques maybe could enhance the effectiveness and outcome of treatment. In eating disorders there are three domains that are potentially valuable with respect to imagery based techniques: negative core beliefs, emotional regulation difficulties and disturbed body image (Tatham, 2011).

Study objective

Primary Objective:
First we need to establish that patients with an eating disorder and healthy controls differ in mental imagery. So, the first aim of our research is to compare the nature and characteristics (emotionality, vividness and perspective) of spontaneously occurring mental imagery in women with eating disorders and healthy controls. Do women with eating disorders differ from healthy controls with respect to recurrent spontaneously occurring mental imagery? We expect that patients with an eating disorder, have a higher frequency of occurring mental imagery which are more emotional and vivid compared to the healthy control group.

The second aim is to investigate the characteristics and impact of intrusive prospective mental imagery in women with eating disorders and healthy controls. Do women with eating disorders differ from healthy controls with respect to intrusive prospective mental imagery? We hypothesize that patients with an eating disorder report a higher impact of intrusive prospective and personally relevant imagery and more negative prospective events than healthy controls.

Secondary Objective:
The third aim of our research is to explore whether there is an association between differences in mental imagery and PTSD-symptoms, BMI and severity of eating disorder. Are there underlying factors that explain for differences in intrusive prospective imagery? We expect that a higher impact of intrusive prospective imagery is associated with more PTSD symptoms, a lower BMI and more

severe eating disorder psychopathology.

Study design

This study is a cross-sectional observational study with a semi structured interview and three questionnaires.

Participants with eating disorder diagnosis will be recruited from Centre for Eating Disorders Ursula. All eligible participants in this treatment centre will be asked to participate at the beginning of their treatment. The assessment will be part of the Routine Outcome Monitoring (ROM) at the begin of treatment.
Participants for the control group will be asked to participate through advertisements in the local newspaper, women magazines and at Leiden University and Hogeschool Leiden.
The participants have to fill out three questionnaires (paper and pencil) and will be interviewed. The total duration is approximately one hour and will take place at Centre for Eating Disorders Ursula.

Study burden and risks

The risk and the burden of this research proposal can be considered relatively low and involves assessment by means of a semi structured interview and questionnaires. The semi structured interview is already used in patients as well in healthy controls and questionnaires are already used in patients. Previous studies using these measurements did not report any negative side effects or risks. For patients the assessment will be additional to the Routine Outcome Monitoring so they do not need to travel an extra time. Patients are in treatment at the centre and if necessary a psychologist or psychiatrist is available. People in the healthy control group need to travel once to the research location.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

Patients: current diagnosis of eating disorder, BMI < 25
Healthy controls: no current psychiatric diagnosis, BMI < 25

Exclusion criteria

Psychotic disorder, bipolar disorder, BMI >25.

Study design

Design

Study type:	Observational non invasive
Intervention model:	Other
Allocation:	Non-randomized controlled trial
Masking:	Open (masking not used)
Control:	Active
Primary purpose:	Basic science

Recruitment

NL

Recruitment status:	Recruiting
Start date (anticipated):	30-05-2016
Enrollment:	52
Type:	Actual

Ethics review

Approved WMO

Date:	18-04-2016
Application type:	First submission
Review commission:	METC Leiden-Den Haag-Delft (Leiden) metc-ldd@lumc.nl

Approved WMO

Date:	13-07-2016
Application type:	Amendment
Review commission:	METC Leiden-Den Haag-Delft (Leiden) metc-ldd@lumc.nl

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
CCMO	NL55254.058.15