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A pilot study of processes of change in group-based acceptance and commitment therapy for health anxiety

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ABSTRACT

Background: Health anxiety or hypochondriasis is a disabling and persistent disorder with a high prevalence in primary care, and insufficient treatment opportunities and knowledge of treatment processes. Acceptance and Commitment Therapy (ACT) is a third-wave behavioral therapy, which has shown positive treatment effects in a variety of mental disorders. ACT is proposed to work through the process of 'psychological flexibility', but no studies have yet examined possible processes of change in an ACT-based treatment of health anxiety.

Aim: The pilot study investigated whether changes in 'psychological flexibility' and 'mindfulness' mediated treatment outcome in health anxiety symptoms.

Methods: 34 Danish patients with severe health anxiety were allocated to 10 sessions of group-based ACT. The patients completed self-report questionnaires at baseline, at end of treatment and at 6-month follow-up, measuring health anxiety symptoms (Whiteley Index), psychological flexibility (AAQ-II) and mindfulness (FFMQ).

Results: Paired *t*-tests showed that psychological flexibility and mindfulness increased significantly during treatment (effect sizes ranged from SRM = .55–.76, $p < .05$). Regression analysis and Likelihood Ratio Tests showed that in particular psychological flexibility was significantly associated with the previously reported 49% reduction in health anxiety symptoms at 6-month followup.

Conclusions: Findings from the uncontrolled study indicated that the decrease in health anxiety symptoms at 6-month follow-up was associated with the change in psychological flexibility and mindfulness during treatment. These findings support the processes of change proposed in ACT.

1. Introduction

Health anxiety (hypochondriasis) or *Illness Anxiety Disorder* (*Diagnostic and Statistical Manual of Mental Disorders*; 5th ed., or *DSM-5*; APA,2013) is characterized by preoccupation with fear of having a serious illness, which interferes with daily functions and persists despite medical reassurance. Severe health anxiety is a disabling and persistent disorder (Fink, Ørnbøl, & Christensen, 2010; Noyes et al., 1994) with a prevalence of .8–9.5% in primary care (Creed & Barsky, 2004; Fink et al., 2004; Gureje, Üstün & Simon, 1997), and a lifetime prevalence of 5.7% in the general population (Sunderland, Newby, & Andrews, 2013). Despite the high prevalence, health anxiety is rarely diagnosed and has been considered a chronic disease with poor treatment outcomes (Barsky & Ahern, 2004). In addition to the suffering health anxiety inflicts on the patients, the disorder is costly in terms of the patients' extensive use of health care services (Barsky, Ettner, Horsky, & Bates, 2001; Fink et al., 2010) and occupational disability (Mykletun et al., 2009).

Health anxiety patients have been found to prefer psychotherapeutic treatments rather than drug treatments (Walker, Vincent, Furere, Cox, & Kjernisted, 1999), but research regarding psychological treatment effects on health anxiety is limited. At this point cognitive-behavioral therapy (CBT) has shown the best treatment effects according to the latest review (Thomson & Page, 2007). Acceptance and Commitment Therapy (ACT) (Hayes, Strosahl, & Wilson, 2012) is a third-wave cognitive-behavioral therapy which has shown similar treatment effects as CBT (Levin & Hayes, 2009; Powers, Vording, & Emmelkamp, 2009). ACT is considered a transdiagnostic treatment approach, and has shown effect on a variety of disorders with moderate research support for depression, mixed anxiety, obsessive-compulsive disorder and psychosis, and strong research support for chronic pain (American Psychological Association, 2013). This open trial is the first to investigate ACT for health anxiety. The uncontrolled results on the outcome measures have been analyzed and reported elsewhere, suggesting that group-based ACT may be a feasible treatment for health anxiety (Eilenberg, Kronstrand, Fink, & Frostholm, 2013).

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Additional data from the same study are further investigated in this article.

Attention to physical health, and even a certain degree of concern about it, is adaptive to reduce the risk of overlooking signs of illness. But the risk of getting a serious illness and eventually dying is part of the human condition and cannot be avoided. Therefore, the treatment aimed to increase patients' ability to accept thoughts and feelings regarding illness and change behavioral patterns tied to avoiding aversive private events (e.g., repeatedly seeking medical reassurance, or avoiding contact to sick relatives).

'Psychological flexibility' is the ability to freely change behavior in contexts of different demands and values, which include the capacity to stay in contact with unpleasant thoughts, feelings and bodily sensations that normally cause experiential avoidance (Hayes et al., 2012). Experiential avoidance is considered a core mechanism in psychopathology (Boulanger, Hayes, & Pistorello, 2010; Chawla & Ostafin, 2007), and enhanced psychological flexibility is hypothesized to reduce experiential avoidance through the training of mindfulness and acceptance processes and behavior change processes (Ciarrochi, Bilich, & Godsel, 2010). Research has repeatedly shown that ACT increases psychological flexibility across a wide range of psychological disorders and health conditions (Ruiz, 2010), and that psychological flexibility is associated with treatment outcomes.

The term 'mindfulness' originates from the Pali word *Sati* in the Buddhist scriptures, and is part of a 2500 year old eastern meditation practice (Baer, 2003). Mindfulness is usually defined to include bringing one's complete attention to the experiences occurring in the present moment, in a non-judgmental or accepting way (Baer, Smith, Hopkins, Krietemeyer, & Toney, 2006, p. 27). In recent decades mindfulness has been adapted for secular use, and integrated into several psychological interventions to alleviate symptoms and improve mental health (Khoury et al., 2013). Mindfulness-Based Cognitive Therapy (MBCT) (Segal, Williams, & Teasdale, 2002) is another psychological intervention where meditation is practiced up to 45 min each day. A randomized clinical trial of MBCT for health anxiety (McManus, Surawy, Muse, Vazquez-Montes & Williams, 2012), found that mindfulness mediated reductions in health anxiety symptoms, suggesting that the 'mindful' ability to bring attention to the present moment in a non-judgmental and accepting way may be a process of change.

Psychological flexibility and mindfulness are interrelated but different processes (Baer et al., 2006; Hayes et al., 2012). The model of psychological flexibility involves six core processes: *acceptance, defusion, contact to the present moment, self as context, values* and *committed action* – all influencing the ability to choose actions freely, which is the core function of psychological flexibility. Mindfulness, in ACT terminology, is best understood as *contact to the present moment* where attention is shifted to the stimuli here and now internally (e.g., thoughts, feelings, and sensations) and externally (e.g., sounds and sights), instead of being inattentive or caught up in mental chatter. Mindfulness is thereby the ability to bring attention to the present moment, and differs from psychological flexibility which is the ability to align current behaviors with long-term goals and values. Both mindfulness and psychological flexibility emphasize acceptance as a core feature which is why an overlap between the processes exists.

Research in mediation has received growing attention in the psychotherapeutic literature (Kazdin, 2007). Several studies have investigated mediation in ACT, and the most supported process of change is psychological flexibility (Bond et al., 2011; Ruiz, 2012). The following studies have shown that psychological flexibility mediate treatment outcomes and that changes in the mediator occurred before symptom reduction, e.g. social phobia (Dalrymple & Herbert, 2007), tinnitus (Hesser, Westin, Hayes, & Andersson, 2009), and PTSD (Thompson & Waltz, 2010). Investigation and a better understanding of processes that lead to therapeutic change may help to specialize treatments and ultimately make treatments more effective.

The aims of this study were (1) to examine whether patients would report higher levels of psychological flexibility and higher levels of mindfulness following participation in group-based ACT, and (2) to examine whether changes in psychological flexibility and mindfulness would mediate treatment outcomes in health anxiety symptoms. The intervention being ACT and not a strictly mindfulness-based treatment, we expected in accordance with the theoretical outline of ACT that psychological flexibility would be a stronger mediator of outcome than mindfulness.

2. Method

2.1. Participants and procedure

Thirty-four patients with severe health anxiety were allocated to treatment (Fig. 1) based on a thorough clinical assessment using a modified version of the semi-structured psychiatric interview, *Schedules for Clinical Assessment in Neuropsychiatry* (SCAN) (WHO, 1998). Patients were consecutively referred from general practitioners or hospital departments, and psychologists and doctors certified in SCAN conducted the interviews. The trial was carried out in accordance with the rules of the Helsinki Declaration II and was approved by the Central Danish Region Committees on Biomedical Research Ethics and the Danish Data Protection Agency. The trial is registered at ClinicalTrials.gov Identifier no: NCT01158430. The study, conducted at the Research Clinic for Functional Disorders and Psychosomatics at Aarhus University Hospital, Denmark, was an open trial with no control group, and the eligibility criteria were: (1) Health anxiety score >21.4 (Whiteley Index scale 0–100 score points), which is established as a clinical relevant cut-off score (Eilenberg et al., 2013; Fink et al., 2010), (2) severe health anxiety (Fink et al., 2004), (3) age between 20 and 60 years, (3) of Scandinavian origin (reads and understands Danish), and (4) in case of comorbid mental disorder, health anxiety was dominant. Patients were excluded from the study if they: (1) were at risk for suicide, (2) had current or previous episodes of psychosis, (3) had current abuse of alcohol, drugs, or

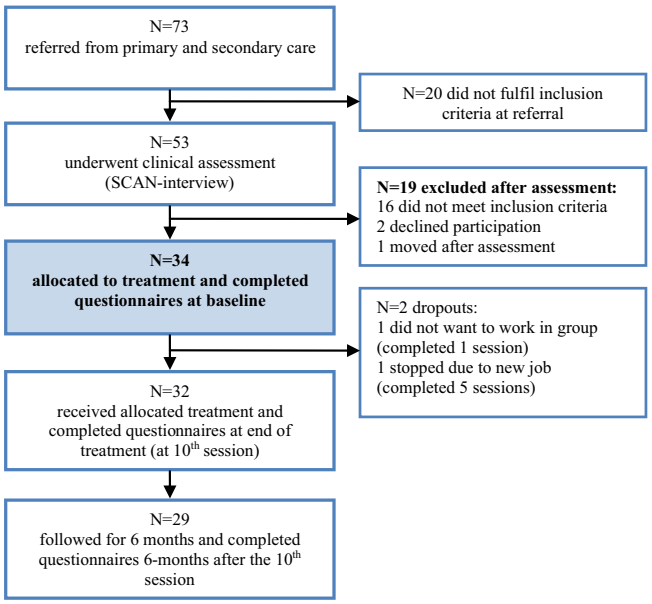

Fig. 1. Flowchart from referral through 6-month follow-up.