Journal of Affective Disorders 193 (2016) 73–80

Contents lists available at ScienceDirect

Journal of Affective Disorders

journal homepage: www.elsevier.com/locate/jad

Research paper

Changes in causal attributions and relationship representations: Are they specific or common mechanisms in the treatment of depression?

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ARTICLE INFO

Article history:
Received 3 August 2015
Received in revised form
29 December 2015
Accepted 30 December 2015
Available online 31 December 2015

Keywords:
Psychodynamic therapy
Specific mechanisms
Common mechanisms
Relational representations
Attributional style
Depression

ABSTRACT

Background: The goal of the study was to examine two central theory-driven mechanisms of change, causal attributions and relational representations, to account for symptomatic improvement in psychodynamic treatment and supportive clinical management, combined with either pharmacotherapy or placebo, in a randomized control trial (RCT) for depression.
Method: We used data from an RCT for depression, which reported non-significant differences in outcome among patients ($N=149$) who received supportive-expressive psychotherapy (SET), clinical management combined with pharmacotherapy (CM+MED), or clinical management with placebo pill (CM+PBO) (Barber et al., 2012). Mechanism and outcome measures were administered at intake, mid-treatment, end of treatment, and at a 4-month follow-up.
Results: Improvements in causal attributions and in relational representations were found across treatments. Changes in causal attributions did not predict subsequent symptomatic level when controlling for prior symptomatic level. In contrast, decrease in negative relational representations predicted subsequent symptom reduction across all treatments, and increase in positive relational representations predicted subsequent symptom reduction only in SET.
Limitations: The study is limited by its moderate sample size. Additional studies are needed to examine the same questions using additional treatment orientations, such as cognitive treatments.
Conclusions: Findings demonstrate that changes in negative relational representations may act as a common mechanism of change and precede symptom reduction across psychodynamic therapy and supportive case management combined with either pharmacotherapy or placebo, whereas an increase in positive relational representation may be a mechanism of change specific to psychodynamic therapy.

1. Introduction

In the last decades, empirical findings have consistently shown that different therapies often yield similar treatment outcomes, particularly in the treatment of depression. Repeated meta-analyses have shown that treatments of depression based on different theoretical principles are often found equally effective (Barber et al., 2013; Barth et al., 2013; Cuijpers et al., 2008; Leichsenring, 2001). Such similarities raise the question of whether mechanisms common or distinct to different treatments account for patient improvement (Gelfand and DeRubeis, 2014). If common mechanisms exist, researchers should identify these to optimize treatments so that they include more strategies that trigger critical change processes (Coleman et al., 2010; Kazdin, 2007; Laska et al., 2014). If, however, distinct mechanisms account for patient improvement in different treatments, researchers must clarify these to further our understanding of the various causes of psychopathology and help us choose the most suitable treatment for each patient presentation (Barber and Muenz, 1996; DeRubeis et al., 2014).

The literature on common mechanisms focuses predominantly on therapeutic alliance (Castonguay et al., 2006). The scope of common mechanisms, however, has broadened in recent years to include theory-specific mechanisms that may change similarly across different treatment approaches (Crits-Christoph et al., 2013). The expansion of scope may be partially due to empirical evidence showing that many therapists are rather eclectic in their

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http://dx.doi.org/10.1016/j.jad.2015.12.073
0165-0327/

practice (Cook et al., 2010), even those in randomized controlled trials (RCTs) who are expected to adhere to a rather "pure/prototype" approach (Ablon and Marci, 2004; Barber et al., 2004, 2008). The expansion in scope may also be partially due to the possibility that techniques from distinct treatment orientations (e.g., identifying underlying dysfunctional interpersonal schemas in cognitive therapy vs. identifying core conflictual relationship themes in psychodynamic therapy) may work through a similar mechanism (DeRubeis et al., 2005). Despite the growing interest in common and specific mechanisms of change in different treatments for depression, few empirical studies demonstrate clearly which mechanisms may account for similar results across different treatments.

The current study aims to fill in some of the gaps by examining two theory-driven mechanisms of change in the treatment of depression. Both are considered to be key general psychological constructs for understanding the psychopathology and treatment of depression. The first mechanism focuses on changing dysfunctional causal attributions; the second on changing maladaptive relational representations. Both are described as important factors in the origin and persistence of depression (Lorenzo-Luaces et al., 2014; Luborsky and Mark, 1991), and are targeted in the practice of psychotherapy with the aim of assisting patients develop more adaptive perceptions, either of the world in general or of their interpersonal relationships. It is unclear, however, how common these factors are across various treatments, and especially whether they also apply to supportive clinical management (in which supportive techniques are allowed but techniques specific to a psychotherapeutic orientation are prohibited) and to supportive-expressive treatment (SET) of depression (Luborsky, 1984; Leichsenring and Leibing, 2007). Changes in maladaptive relational representations, which are at the heart of SET, are expected to show some specificity to this treatment, whereas changes in dysfunctional attributions, which are not the focus of either supportive clinical management or SET (but rather of cognitive treatments), are expected to demonstrate no specificity to either treatment.

Depressive attributional or explanatory style is a form of inaccurate and maladaptive information processing (Abramson et al., 1978), considered to play a causal role in vulnerability to depression. It reflects a tendency to attribute bad events to internal, stable, and global causes, and good events to external, unstable, and specific causes (Peterson et al., 1982). According to the cognitive model, when maladaptive thinking improves, depressive symptoms are reduced (Beck et al., 1979). Consistent with this theoretical assumption, studies suggest that negative thinking can prospectively predict the onset, relapse, and recurrence of symptoms of depression (Mathews and MacLeod, 2005; Scher et al., 2005; Wenze et al., 2010). Empirically, some evidence supports the claim that causal attributions may change through treatment (DeRubeis et al., 1990; Lorenzo-Luaces et al., 2014; Shirk et al., 2013; Vittengl et al., 2015). However, the few studies that have examined the temporal relationship between changes in cognition and outcome have produced mixed findings (Lorenzo-Luaces et al., 2014), and it is still an open question whether changes in causal attribution precede those in depressive symptoms (Crits-Christoph et al., 2013). Even less is known about changes in negative cognitions and their relation to outcomes *outside* of cognitive treatment (Barber et al., 2005; Oei and Free, 1995; Quilty et al., 2008), although it has been argued repeatedly that effective treatment for depression should include changes in causal attribution owing perhaps to the nearly-universal depressive cognition in patients suffering from depression (Coleman et al., 2010; Garratt et al., 2007; Quilty et al., 2008). It is therefore an open question whether modification of maladaptive cognition is a necessary requirement for any successful treatment of depression (Dimidjian et al., 2006).

The second theory-driven mechanism of change on which we focus concerns relational representations. Conceptualized in the context of the relational/interpersonal perspectives on depression, they explore patients' internalized representations of their relationships with significant others as a vehicle of therapeutic change (Bowlby, 2005; Freud, 1958; Luborsky, 1984; Luyten and Blatt, 2013; Mikulincer et al., 2013). According to these perspectives, relational themes are carried over from a patient's interpersonal experiences in childhood, and tend to be applied repeatedly later in life in different relationships, becoming rigid representations of others. Rigid, malevolent representations are considered to play a causal role in the origin and maintenance of depression. Based on this perspective, one of the main goals in the treatment of depression is to explore and rework these representations to develop more adaptive ways of perceiving and experiencing interpersonal relationships. Changes in interpersonal internal representations are expected to apply to real life interactions with others, and ultimately lead to symptom reduction (Book, 1998; Shedler, 2010). Most studies conducted so far examined change in relational representations in long-term dynamic treatments and produced mixed results (Blatt et al., 1996; Grenyer and Luborsky, 1996; Luborsky and Crits-Christoph, 1998; Wilczek et al., 2004). Much less is known about the change in relational representations and their associations with symptomatic change in short-term dynamic treatment.

Although both general causal attributions and relational representations form a central part of most theories on the causes of depression and on the mechanisms of change underlying symptom reduction, few studies have addressed the question whether changes in these mechanisms are treatment-specific or common across treatments, and whether improvement in these theory-driven mechanisms is associated with greater benefits in various treatments for depression. To address this issue, in the current study we first examined whether the two theory-driven mechanisms changed significantly over the course of treatment in different treatment conditions. We used data from an RCT for depression (Barber et al., 2012), comparing dynamic supportive-expressive therapy (SET) and supportive clinical management combined with pharmacotherapy (CM+MED) or with placebo (CM+PBO). In previous analyses on these data, no significant differences were found between the three treatment conditions in their efficacy, and patients in all treatment conditions experienced a significant reduction in depressive symptoms (Barber et al., 2012) and significant increases in quality of life and life-satisfaction (Zilcha-Mano et al., 2014b). Data from this RCT enable examining whether specific or common mechanisms are underlying similar outcomes in the treatment of depression. The most ideal design also includes a treatment condition aimed at working on attributional style, like cognitive-behavioral therapy. These data were not available in the current study.

We hypothesized that the two potential mechanisms of change, attributional style and relationship representations, show significant change in all three treatments because both are assumed to be central constructs in the psychopathology of depression. Although other specific and common mechanisms for placebo response (e.g., classical conditioning, in which individuals associate improvement in symptoms with taking a pill, or expectancy in which placebo instills a positive expectation of improvement), pharmacotherapy (a physiologic effect of the medication being studied on the target disorder, e.g., the effect of serotonin reuptake inhibition), and case-management can be proposed (Constantino et al., 2011; Imber et al., 1990; Rutherford and Roose, 2013; Stahl, 1998; Stewart-Williams and Podd, 2004; Vaswani et al., 2003; Zilcha-Mano et al., 2015), these were not measured in the original RCT.

The prediction that both general causal attributions and relational representations will change over treatment does not