Shape of change in internet based behavioral activation treatment for depression

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ABSTRACT

Shape of change, sudden gains and depression spikes were examined in an online 12-session Behavioral Activation (BA) treatment for depression. Client and therapist factors related to sudden gains were examined to investigate processes associated with outcome. Methods: Participants were postpartum Women with Major Depressive Disorder (n=42) who received online BA supported in 30-minute telephone sessions by a mental health worker. Depression symptoms were assessed at each session and number of sessions completed were recorded by the online program. Therapist records were rated for client stressful life event and therapist concrete focus. A quadratic pattern provided the best fit with the data; a cubic pattern was a poor fit. Sudden gains, but not depression spikes, predicted lower depression scores at 17-week outcome. Women who had higher baseline social functioning, did not experience a stressful life event during therapy, and completed more online modules, but not more telephone sessions, were more likely to have a sudden gain. A concrete therapist focus was associated with sudden gains. These results extend research on trajectories of change and sudden gains to an online BA treatment and to postpartum depression, and suggest important client and therapist factors associated with sudden gains.

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1. Introduction

Despite the efficacy of treatments for depression, the global burden of depression is unremitting. Depression is predicted to be the 2nd leading cause of disability by 2020 (Murray & Lopez, 1997). However, in industrialised countries, only 35—50% of individuals will receive treatment. Rates of help-seeking are even lower in specific sub-populations of individuals suffering from depression (e.g., perinatal 15—30%, O'Mahen, Flynn, Chermack, & Marcus, 2009). Further, of those that do receive treatment, only 50—60% will recover. Accessible, efficacious, efficient treatments are needed to improve rates of both treatment receipt and response.

Remotely based treatments, which are often delivered in a more anonymous format that may be more acceptable to individuals worried about mental health stigma, and are widely available across broad geographic locations, are one option to addressing this problem. However, although a number of meta-analyses have demonstrated that remote forms of treatment delivery produce similar effect sizes to face-to-face treatments (Andrews et al., 2010), recent meta-analyses have demonstrated that the effects of remotely based treatments may not be as enduring as face-to-face treatments, and there is some evidence that this may be particularly true when therapist input is not provided alongside the online content (Mogoase, Cobeanu, David, Giosan, & Szentgotai, 2016). Efforts to explore the reasons for these results are needed.

Therapy process research has the potential to examine the mechanisms through which therapies work and have lasting effects. In doing so, it may inform efforts to improve the efficacy and efficiency of treatment (Lorenzo-Luaces, German, & DeRubeis, 2015). By isolating specific therapeutic processes that support client change, treatments could be streamlined to focus on particularly effective elements of treatment. This may reduce dropout and maximise the probability of client change.

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One approach to accomplishing this goal is to examine trajectories of symptom change and pinpoint either upwards or downwards shifts in symptoms in an effort to highlight key moments of change. This trajectory approach has been used successfully in other studies of CBT for both anxiety and depression (Aderka, Nickerson, Bøe, & Hofmann, 2012; Hayes, Yasinski, Barnes, & Bockting, 2015; Vittengl, Clark, Thase, & Jarrett, 2013). At least three trajectories of change have been identified: linear, quadratic, and cubic (Hayes, Laurenceau, Feldman, Strauss, & Cardaciotto, 2007). Within these patterns, two specific moments of change have been identified in the therapy process literature that are of interest for this paper: sudden gains and depression spikes (see Fig. 1).

1.1. Sudden gains

In a seminal paper, Tang and DeRubeis (1999) demonstrated that up to (39%) of individuals receiving CBT for depression experienced a sudden gain, defined as a large and stable drop in symptoms from one session to the next, and typically occurring early in treatment. Sudden gains were associated with better symptom improvement at the end of treatment compared to those without sudden gains, and were preceded by change in cognitions. Other studies of CBT have failed to find a relationship between cognitions and sudden gains, even when the sudden gain was related to better outcome (Kelly, Roberts, Ciesla, 2005). Subsequent studies have also found evidence of sudden gains with associated improved therapeutic improvement across a range of other treatments, such as supportive expressive (SE) therapy (Tang, Luborsky, and Andrusyna, 2002), face-to-face behavioral activation BA; (Hopko, Robertson, & Carvalho, 2009; Hunnicutt-Ferguson, Hoxha, & Gollan, 2012), general psychotherapy for depression (Kelly, Cyranowski, & Frank, 2007) and CBT for recurrent depression (Abel, Hayes, Henley, & Kuyken, 2016). However, other studies have failed to find an association between sudden gains and outcome in both IPT (Kelly et al, 2007) and CBT (Ryan, 2012). At the client level, it is as yet unclear whether client or therapist factors are associated with sudden gains. Critically, both therapist interpretation accuracy and case conceptualization have been found to be related to sudden gains in CBT and SE therapy (Abel et al., 2016; Aderka et al., 2012). It is unclear whether these factors are both necessary and sufficient to produce a sudden gain. Further, it is not yet known if internet-based treatments, which have less therapist contact time and less of an emphasis on case conceptualisation, will produce sudden gains. Likewise, it is unclear if the limited time therapists have to act in internet-based treatments renders those actions more potent.

Indeed, only one study has investigated sudden gains in a remotely delivered treatment. That study found evidence of sudden gains in a CBT treatment for health anxiety; those with sudden gains had better clinical outcomes than those without sudden gains and those with gradual gain patterns (Hedman et al., 2014). Neither client nor therapist factors were examined in that study. There has been no study we are aware of that has examined these factors in an internet-based treatment for depression.

1.2. Depression spikes

Depression spikes are a temporary increase in distress that theoretically occur when individuals confront depressive thoughts and emotions they previously avoided. Depression spikes are conceptually similar to the relatively short-lived increases in distress that occur during exposure in treatments for anxiety disorders (Hayes et al., 2007). Depression spikes have been linked to improved symptom outcome in a CBT-based treatment that involved emotional exposure approaches to depressogenic material (Hayes et al., 2005; Hayes, Feldman et al, 2007, Hayes, Laurenceau, 2007). In that trial, a cubic pattern of change that was characterised by a rapid early improvement in symptoms, followed by a transient increase (spike) in symptoms during the exposure-based portion of the treatment. Both the early drop in symptoms and the spike predicted better treatment responses. This cubic pattern of change has been replicated in two other trials of this exposure-based cognitive therapy for depression (Grosse Holtforth et al., 2012, 2016). However, it is unclear whether intensive client processing is necessary to produce a therapeutic depressive spike, or if a treatment (such as Behavioural Activation) that involves experientially approaching avoided behaviours will also create depression spikes that are related to improved symptom outcomes.

1.3. The current study

In this study, we aimed to examine which trajectories of change characterised an internet-based Behavioral Activation (BA) treatment for postpartum depression (PPD). Identifying whether a specific trajectory of change characterises a particular treatment (i.e., BA) can help to identify discontinuities where change occurs and the processes associated with that change. We therefore also sought to examine whether sudden gains and depression spikes that are associated with different trajectories of change predicted better depression outcomes. By identifying overall trajectories, it may also be possible to compare patterns of change across treatments.
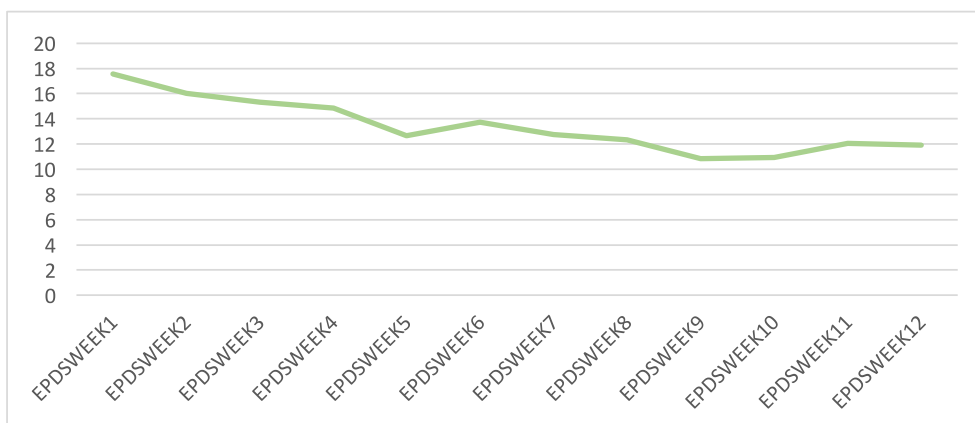

Fig. 1. Average change in EPDS score by week.