Behaviour Research and Therapy 77 (2016) 170–176

Contents lists available at ScienceDirect

Behaviour Research and Therapy

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

Sudden gains in Cognitive Therapy and Interpersonal Psychotherapy for adult depression

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ARTICLE INFO

Article history:
Received 8 June 2015
Received in revised form
15 December 2015
Accepted 20 December 2015
Available online 23 December 2015

Keywords:
Sudden gains
Cognitive Therapy
Interpersonal Psychotherapy
Depression
RCT

ABSTRACT

Objective: We examined the rates, baseline predictors and clinical impact of sudden gains in a randomized comparison of individual Cognitive Therapy (CT) and Interpersonal Psychotherapy (IPT) for adult depression.
Method: 117 depressed outpatients received 16–20 sessions of either CT or IPT. Session-by-session symptom severity was assessed using the BDI-II. Sudden gains were examined using the original criteria as defined by Tang and DeRubeis (1999b). Furthermore, we examined whether the duration of the between-session interval at which sudden gains were recorded affected the results.
Results: There were significantly more patients with sudden gains in CT (42.2%) as compared to IPT (24.5%). The difference appeared to be driven by the criterion representing the stability of the gain. No between-group differences were found with regard to the magnitude, timing and predictors of the gains. Those with sudden gains were less depressed at post-treatment and follow-up. After controlling for the duration of the between-session interval, the difference in rates between the two conditions became a non-significant trend. Other sudden gains characteristics were similar to those observed when allowing for longer intervals as well.
Conclusions: The current study indicates differences in occurrence of sudden gains in two treatment modalities that overall showed similar results, which might reflect different mechanisms of change.

For a long time in investigations of the course of change during psychotherapy it had been assumed that the typical trajectory of change was gradual and linear (Kazdin & Nock, 2003; Kraemer, Wilson, Fairburn, & Agras, 2002; Laurenceau, Hayes, & Feldman, 2007). However, studies of the temporal course of change during treatment have revealed that a substantial portion of a patient's total reduction in symptom intensity often occurs suddenly, rather than gradually over the course of treatment. Analyses of individual change patterns in two large trials of Cognitive Therapy (CT) for depression (Elkin, Shea, Watkins, & Imber, 1989; Hollon et al., 1992) showed that almost 50% of the patients experienced half of their total symptom improvement between two consecutive therapy sessions (Tang & DeRubeis, 1999a). These large improvements in symptoms during a single between-session interval were termed "sudden gains" (Tang & DeRubeis, 1999b). In the initial study that described this phenomenon, Tang and DeRubeis found that patients who experienced sudden gains showed more therapy improvement and had higher rates of recovery compared to those without sudden gains, and they remained so 18 months later. Further research showed that patients with sudden gains were up to 75% less likely to experience relapse and recurrence in the 24 months after treatment termination (Tang, DeRubeis, Hollon, Amsterdam, & Shelton, 2007). The finding that sudden gains during treatment are associated with more favorable treatment outcomes, both in the short run and in the long term, has important implications for the prognosis of depression, given that for many patients it can follow a chronic or recurrent course.

Since its introduction in 1999, sudden gains have been

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http://dx.doi.org/10.1016/j.brat.2015.12.014
0005-7967/

examined in at least 10 studies, covering at least 7 forms of psychotherapy for depression (see meta-analysis of Aderka, Nickerson, Bøe, & Hofmann, 2011 for an overview). In the six studies that focused on individual CT for adult depression, sudden gain rates ranged from 33% to 45%. In each study, those with sudden gains showed lower levels of depressive symptomatology at post-treatment and/or follow-up as compared with those who did not experience sudden gains (Busch, Kanter, Landes, & Kohlenberg, 2006; Hardy et al., 2005; Tang & DeRubeis, 1999b; Tang, DeRubeis, Beberman, & Pham, 2005; Tang et al., 2007; Vittengl, Clark, & Jarrett, 2005). It should be noted, however, that the criteria for identifying sudden gains differed across the studies, making between-study comparisons of the rates problematic.

Interpersonal Psychotherapy (IPT) is, next to CT, the most commonly practiced and extensively researched psychotherapy for depression (Cuijpers et al., 2011; Hollon, Thase, & Markowitz, 2002). Kelly, Cyranowski, and Frank (2007) examined the occurrence and impact of sudden gains during IPT in female patients with recurrent depression. They observed sudden gains at a similar rate as has been reported in CT (34%), but found no evidence that sudden gains were associated with better outcomes at post-treatment or during follow-up. This is, to our knowledge, the only study of sudden gains during IPT for depression.

Furthermore, patient pre-treatment characteristics that distinguish those who will go on to have sudden gains from those who will not, have only been explored in a few studies in the context of CT and Behavioral Activation. In these studies, variation in depressive symptom severity, and measures of negative cognitions and interpersonal functioning at baseline have not been found to predict the occurrence of sudden gains (Hunnicutt-Ferguson, Hoxha, & Gollan, 2012; Kelly, Roberts, & Ciesla, 2005; Vittengl et al., 2005). The pre-treatment characteristics that might predict sudden gains in IPT however, have yet to be examined, as has the possibility that different characteristics would be associated with sudden gains in CT versus IPT.

The aim of the present study was to replicate and extend previous research on sudden gains in individual psychotherapy for adult depression. Data come from a recently published randomized comparison of CT and IPT for depression in which we found no significant differences on outcome in the acute phase (Lemmens et al., 2015). We identified the patients who met criteria for sudden gains and examined the relation between sudden gain status and end of treatment symptom severity, as well as symptom severity at five-months follow-up. In addition, we explored baseline patient characteristics that might predict the occurrence of sudden gains, both within each treatment as well as across the two treatments. In a series of secondary analyses, we examined whether the duration of the between-session interval at which sudden gains were recorded affected the results obtained.

We expected that sudden gains would appear in both CT and IPT at a similar rate as in other studies of treatment for depression (approximately 40%: Busch et al., 2006; Hardy et al., 2005; Kelly et al., 2007; Tang & DeRubeis, 1999b; Tang et al., 2005; Tang et al., 2007; Vittengl et al., 2005). Also in line with previous research, we expected that individuals who experienced sudden gains would experience superior outcome, both at treatment termination and through the follow-up period (Tang & DeRubeis, 1999b; Tang et al., 2007). Given the exploratory nature of our predictor analysis, there were no clear *a priori* hypotheses regarding the pre-treatment factors associated with sudden gains. In general, we expected that lower levels of depressive symptomatology and dysfunctional processes would be predictive of sudden gains. Previous research on how CT and IPT for depression compare in terms of frequency, magnitude, timing, and predictors of sudden gains is lacking. However, analogous to work on sudden gains in CT *versus* IPT in the field of social anxiety disorder (Bohn, Aderka, Schreiber, Stangier, & Hofmann, 2013) one would expect no differences between the two conditions.

1. Method

1.1. Data source

The study sample consisted of 151 adult outpatients, aged 18–65, who participated in an RCT examining the effectiveness and mechanisms of change of individual CT ($n = 76$) and IPT ($n = 75$) for depression (Lemmens et al., 2011).[1] Participants' primary diagnosis was Major Depressive Disorder, as determined by the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-I; First, Spitzer, Gibbon, & Williams, 1997). Potential participants were excluded if they were currently taking antidepressant medication, if the duration of their current episode of depression exceeded 5 years, and/or if they met criteria for Bipolar Disorder, Substance Abuse or Dependence, or Mental Retardation (IQ < 80). All participants provided written informed consent before entering the study. Treatment consisted of individual sessions, each lasting 45 min. Depending on the patient's progress, 16 to 20 sessions were provided. The CT protocol followed Beck, Rush, Shaw, and Emery (1979). The IPT protocol was based on Klerman, Weissman, Rounsaville, and Chevron's (1984) manual. The primary outcome measure, the Beck Depression Inventory-II (BDI-II: Beck, Steer, & Brown, 1996), was completed by patients immediately prior to each therapy session, at the end of the treatment phase (7 months), and monthly throughout the 5 month follow-up period (8–12 months). Further details concerning the design of the study, measures, interventions, and participants flow can be found in Lemmens et al. (2011; 2015). The Medical Ethics Committee of Maastricht University approved the study protocol. The study is registered at the Dutch Cochrane Centre through the Netherlands Trial Registry (ISRCTN67561918).

1.2. Data preparation

Similar to Tang and DeRubeis (1999b), we included for the purpose of examining sudden gains only those patients who received 8 or more sessions of therapy and whose BDI-II score at the first session was available, and was 15 or higher. Of the 76 CT patients, 12 were excluded (6 received fewer than 8 sessions, 2 had BDI-II scores that were missing, and 5 had BDI-II scores that were lower than 15 at the first session). In the IPT group, 23 out of 75 patients were excluded (9 received fewer than 8 sessions, 4 had missing BDI-II scores, and 10 had a first-session BDI-II score lower than 15). As some patients were excluded for more than one reason, this resulted in sample sizes of 64 in the CT condition and 53 in the IPT condition.

Patients in this sample ranged in age from 18 to 63 (M = 41.8, SD = 12.1). Two-thirds (66.7%) were female, 59.8% were educated at intermediate vocational level (lower: 18.8%, higher: 21.4%), and 60.7% were married or in a committed relationship. The average score on the BDI-II at baseline was 30.6 (SD = 8.5), and 47.0% of the sample was diagnosed with recurrent depression. More than half of the patients (58.1%) suffered from severe depression (BDI-II score $\geq$ 29; Beck et al., 1996) but the majority (59.0%) was still actively employed. The 34 patients who were excluded from

[1] As outlined in Lemmens et al. (2011), the full design also includes a third arm; a 2-month waiting list control (WLC) condition followed by treatment of choice ($n = 31$). However, for the purpose of the present paper, we focused our attention only on sudden gains occurring in the two active conditions CT and IPT.