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Empirical research

A multiple-baseline evaluation of a brief acceptance and commitment therapy protocol focused on repetitive negative thinking for moderate emotional disorders

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ABSTRACT

Repetitive negative thinking (RNT) in the form of worry and rumination has been identified as a particularly counterproductive experiential avoidance strategy implicated in the onset and maintenance of emotional disorders. The current study analyzes the effect of an individual, 2-session, RNT-focused, acceptance and commitment therapy (ACT) protocol in the treatment of moderate emotional disorders. Ten adults suffering from moderate to severe emotional symptoms according to the Depression Anxiety and Stress Scale-21 (DASS-21) and the General Health Questionnaire-12 (GHQ-12) participated in the study. Participants completed 5- to 7-week baselines without showing improvement trends in the DASS-21 or the GHQ-12. Afterwards, they received the ACT protocol, and a 3-month follow-up was conducted. A Bayesian approach to analyze clinically significant changes (CSC) for single-case experimental designs (SCED) was conducted, which required at least substantial evidence of the intervention effect and scores in the nonclinical range. Nine of the 10 participants showed CSC in the GHQ-12, and 7 participants in the DASS-21. The standardized mean difference effect sizes for SCED were computed, which facilitates comparison and integration of the results with group designs. Very large effect sizes were found for emotional symptoms (d = 2.44 and 2.68), pathological worry (d = 3.14), experiential avoidance (d = 1.32), cognitive fusion (d = 2.01), repetitive thinking (d = 2.51), and valued living (d = 1.54 and 1.41). No adverse events were found. RNT-focused ACT protocols deserve further empirical tests.

1. Introduction

The last decade has seen a growing interest in the identification and analysis of transdiagnostic processes involved in emotional disorders such as experiential avoidance (Hayes, Wilson, Gifford, Follette, & Strosahl, 1996; Luciano & Hayes, 2001), repetitive negative thinking (Ehring & Watkins, 2008; Harvey, Watkins, Mansell, & Shafran, 2004), emotional disturbances (Kring, 2008), selective attention (Harvey, Watkins, et al., 2004), etc. The identification of these processes has led to the proposal of transdiagnostic psychological treatments with acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999), metacognitive therapy (MCT; Wells, 2009), the unified protocol for transdiagnostic treatment of emotional disorders (Barlow et al., 2010), and rumination-focused cognitive-behavioral therapy (RF-CBT; Watkins, 2016), among others.

The research has been mostly focused on specific transdiagnostic processes, but not so much on their interrelation. Accordingly, it is difficult to state which transdiagnostic processes are more core than others in explaining the onset and maintenance of emotional disorders (Harvey, Watkins, et al., 2004). One recent research (Ruiz, Riaño-Hernández, Suárez-Falcón, & Luciano, 2016) has analyzed the link between two of the most analyzed transdiagnostic processes in emotional disorders from a functional contextual standpoint: experiential avoidance (EA) and repetitive negative thinking (RNT).

EA is a central construct in ACT and was conceptualized according to relational frame theory (RFT; Hayes, Barnes-Holmes, & Roche,

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2001), a functional-contextual approach to human language and cognition. EA is a pattern of verbal regulation based on deliberate efforts to either avoid or escape from discomfiting private experiences even when doing so leads to actions that are inconsistent with one's values and goals (Hayes et al., 1996). EA has been identified as playing a relevant role in the onset and maintenance of emotional disorders (Boulanger, Hayes, & Pistorello, 2010; Ruiz, 2010).

RNT has been identified as a core feature of emotional disorders (Ehring & Watkins, 2008; Harvey, Watkins, et al., 2004) such as depression (Nolen-Hoeksema, 2004), posttraumatic stress disorder (Michael, Halligan, Clark, & Ehlers, 2007), social anxiety (Kashdan & Roberts, 2007), and generalized anxiety disorder (Borkovec, 1994). Although RNT might have some adaptive functions (see a review in Watkins, 2008), worry and rumination have been robustly identified in prospective and experimental studies as common factors in the onset and maintenance of emotional disorders (e.g., Ehring & Watkins, 2008; Harvey, Watkins, et al., 2004; Nolen-Hoeksema, 2000). According to Watkins (2008), RNT becomes especially counterproductive when it is characterized by reduced concreteness and its main purpose is to reduce fear, sadness, or uncertainty (i.e., experiential avoidant functions).

Based on an RFT account of the self (Luciano, 2017), Ruiz, Riaño-Hernández et al. (2016) have highlighted several interrelations between EA and RNT: (a) triggers of RNT are built in the individual's learning history and usually become hierarchically related to the extent that one of the strongest triggers (i.e., the thought/emotion at the top of the hierarchy) symbolically contains the remaining ones; (b) unconstructive RNT is an especially maladaptive experiential avoidance strategy; (c) RNT tends to be the first reaction to fear, unattained goals, and incoherence; (d) RNT tends to prolong negative affect; which usually leads to (e) engagement in additional experiential avoidance strategies in an attempt to finally reduce discomfort; and (f) the repetition of this reinforcing cycle generates an inflexible and maladaptive repertoire in reaction to triggers. The practical implication of this account is that ACT protocols primarily focused on disrupting unconstructive RNT in response to the trigger at the top of the hierarchy should produce quick changes and be particularly effective for the treatment of emotional disorders (see further details in Ruiz, Riaño-Hernández, et al., 2016).

A first step in developing a RNT-focused ACT protocol was conducted by Ruiz, Riaño-Hernández et al. (2016). Specifically, these authors investigated whether a one-session, RNT-focused, ACT protocol could be sufficient to significantly reduce high levels of worry and rumination. This seemed a logical first step, as RNT-focused ACT protocols would only make sense if they reduce RNT rapidly. A two-arm, randomized multiple-baseline design with 11 participants suffering from mild to moderate emotional symptoms was implemented. The RNT-focused ACT protocol was designed following the RFT account of psychological flexibility (Luciano et al., 2011; Luciano, Valdivia-Salas, & Ruiz, 2012; Ruiz & Perete, 2015; Törneke, Luciano, Barnes-Holmes, & Bond, 2016; see further details in Ruiz, Riaño-Hernández et al., 2016). The results showed significant reductions in at least three out of the four RNT measures during the 6-week follow-up. Effect sizes were large in all RNT-related measures and in emotional symptoms.

Given that the one-session protocol was shown to be highly effective in reducing RNT in participants who experienced mild to moderate emotional symptoms, a second step could be to analyze the effect of a brief RNT-focused ACT protocol with participants suffering from emotional disorders. Accordingly, the aim of this study was to analyze the effect of a 2-session, RNT-focused, ACT protocol in participants suffering from moderate to severe emotional disorders defined by: (a) being entangled with thoughts, memories, and worries for at least 6 months, (b) experiencing significant interference in at least 2 life domains, and (c) suffering from stable and moderate to severe emotional symptoms during the period of baseline. A nonconcurrent multiple baseline design was conducted where the effect of the ACT protocol was directly replicated in 10 participants who met the inclusion criteria. The SCRIBE statement (Tate et al., 2016) was followed to guide the reporting of this single-case experimental design.

2. Method

2.1. Participants

Participants were recruited through advertisements on social media beginning with the questions: “Do you spend too much time distressed about the past or future? Do you want to be more focused on the things that are important to you?” Seventy-six individuals showed interest in the study and were asked to respond to an online survey. Initial inclusion criteria were: (a) over 18 years old; (b) at least 6 months entangled with thoughts, memories, and worries; (c) significant interference of thoughts, memories, and worries in at least 2 life domains; (d) not showing extremely severe scores on depression and/or anxiety in the Depression, Anxiety, and Stress Scale-21 (see the Outcome Measures section); and (e) showing scores between 15 and 25 on the General Health Questionnaire-12 (see the Outcome Measures section). The initial exclusion criterion was current psychological or psychiatric treatment, including taking psychotropic medication.

The application of the initial inclusion and exclusion criteria led to the rejection of 55 potential participants: 5 individuals were younger than 18 years, 13 were entangled with thoughts, memories, and worries for less than 6 months, 7 were receiving psychological or psychiatric treatment, 26 showed extremely severe scores on depression and/or anxiety (they were invited to an alternative study), and 4 showed scores below 15 on the GHQ-12. Of the remaining 21 potential participants, 10 did not respond to emails or did not attend the informative session. In summary, 11 participants met the initial inclusion criteria and attended an interview conducted by the second author. All individuals agreed to participate and provided informed consent. Participants were remunerated with 25,000 Colombian pesos (approximately 8 US dollars) for completing the study as compensation for the intensive measurement carried out in the study.

One participant showed significant improvement trends on the outcome measures across the baseline according to the Theil-Sen slope (see Data Analysis section). Accordingly, this participant was excluded from the study. In conclusion, the final sample consisted of 10 participants (4 men, mean age = 23.2, SD = 4.24). Table 1 shows demographic data of the participants, details of the problem, and the main triggers to engage in RNT and experiential avoidance strategies. Participants showed a range of affected life areas between 2 and 7 (among 8 areas; M = 3.9, SD = 1.45). Six participants had received psychological treatment in the past: 2 participants for general anxiety (P3 and P9), 1 participant for social anxiety (P8), 1 for insomnia and couple therapy (P1), and 2 for depression (P6 and P10).

2.2. Design and variables

A non-concurrent, multiple-baseline design across participants was conducted in which the effect of a 2-session, RNT-focused, ACT protocol was evaluated. Participants were randomly assigned to one of five therapists using the web-based tool Research Randomizer (Urbaniak & Plous, 2013). Following recent guidelines, the minimum number of data points for baseline was set at 5 (Kratochwill & Levin, 2014). All participants provided baseline data for 5–7 weeks depending on their availability to initiate the intervention. The sessions of the protocol were separated by one month so that the effect of the first session could be analyzed. A 12-week follow-up was conducted after implementing the first session of the protocol.

Dependent variables were divided into primary outcome and secondary measures. As the main aim of this study was to explore the effect of the ACT protocol on treating moderate emotional disorders, the primary outcome measures were scores on emotional symptoms and psychological distress. Secondary measures were scores on process