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Disorder-specific versus transdiagnostic and clinician-guided versus self-guided treatment for major depressive disorder and comorbid anxiety disorders: A randomized controlled trial

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ABSTRACT

Disorder-specific cognitive behavior therapy (DS-CBT) is effective at treating major depressive disorder (MDD) while transdiagnostic CBT (TD-CBT) addresses both principal and comorbid disorders by targeting underlying and common symptoms. The relative benefits of these two models of therapy have not been determined. Participants with MDD ($n = 290$) were randomly allocated to receive an internet delivered TD-CBT or DS-CBT intervention delivered in either clinician-guided (CG-CBT) or self-guided (SG-CBT) formats. Large reductions in symptoms of MDD (Cohen's $d \geq 1.44$; avg. reduction $\geq 45\%$) and moderate-to-large reductions in symptoms of comorbid generalised anxiety disorder (Cohen's $d \geq 1.08$; avg. reduction $\geq 43\%$), social anxiety disorder (Cohen's $d \geq 0.65$; avg. reduction $\geq 29\%$) and panic disorder (Cohen's $d \geq 0.45$; avg. reduction $\geq 31\%$) were found. No marked or consistent differences were observed across the four conditions, highlighting the efficacy of different forms of CBT at treating MDD and comorbid disorders.

1. Introduction

Major depressive disorder (MDD) is a chronic and disabling disorder estimated to affect 5% of the world's population each year (Kessler et al., 2009). Both clinical and subclinical levels of depression are associated with considerable burden and economic costs for individuals and to the broader society (Üstün et al., 2004). MDD is frequently comorbid with anxiety disorders and comorbidity is associated with greater distress, disability (Andrews et al., 2002), increased service utilisation (Burgess et al., 2009), and a greater risk of suicide (Norton et al., 2008).

Psychological treatments such as cognitive behavioural therapy (CBT) are effective at treating MDD and anxiety disorders (Butler et al., 2006; Cuijpers et al., 2008; Stewart & Chambless, 2009). CBT interventions are generally designed to be disorder-specific (DS-CBT) and to target the cognitive and behavioural symptoms of the principal disorder with which a patient presents. Although DS-CBT is known to reduce the severity of comorbid anxiety and depressive disorders (Brown et al., 1995; Tsao et al., 2002; Craske et al., 2007; Titov et al., 2009), it is unclear whether this is the most efficient treatment approach.

Several alternative approaches have been developed to address comorbid symptoms, including tailored and transdiagnostic treatments. Tailored approaches modify the treatment according to patient characteristics and comorbidities (Carlbring et al., 2011). The first empirical study of a tailored approach demonstrated treatment superiority over control conditions across several measures of anxiety, depression, and quality of life, in participants with anxiety disorders, with results sustained at two year follow-up (Carlbring et al., 2011). A subsequent study extended these results by demonstrating that a tailored approach produced at least equivalent results to a standard approach in the treatment of depression comorbid with anxiety disorders (Johansson et al., 2012).

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Transdiagnostic CBT (TD-CBT) is an alternative treatment approach that aims to simultaneously address both principal and comorbid disorders by targeting underlying and common symptoms (Mansell et al., 2009; Wilamowska et al., 2010). This approach is based on the notion that many of the common psychological disorders share characteristics including common symptoms, overall course, response to treatment and temperamental antecedents (Barlow et al., 2004; Goldberg, 2010; Murray et al., 2014; Talkovsky & Norton, 2014), and therefore may respond to treatment that is not tailored to each specific diagnosis (McEvoy et al., 2009).

By virtue of involving a single treatment protocol TD-CBT offers advantages of efficiency over DS-CBT. Emerging evidence from uncontrolled trials and randomised controlled trials (RCTs) indicates that TD-CBT is clinically effective (Dear et al., 2011; Johnston et al., 2011; Farchione et al., 2012; Titov et al., 2013) relative to control conditions. However, to date, only one RCT has directly compared TD-CBT with DS-CBT (Norton & Barrera, 2012). In that study, 46 people were randomly allocated to receive a TD-CBT group treatment, or to different DS-CBT treatments specifically for social phobia (SP), generalized anxiety disorder (GAD), or for panic disorder (PD) also administered in group format, with the specific treatment group determined by the person's principal disorder. Using non-inferiority analyses, no differences were found in benefits from either approach at post-treatment, indicating the potential of the TD-CBT approach. Importantly, while these preliminary results are promising, the conclusions that can be drawn from the existing evidence base are constrained by small sample sizes, and limited availability of follow-up data. Large sample sizes will facilitate a more reliable evaluation of the relative impact of TD-CBT and DS-CBT on principal and comorbid disorders, while longer term follow-ups provide the opportunity to explore the stability of gains and the relative benefits of each approach in reducing subsequent vulnerability to emotional disorders.

The present study is the first in a series of RCTs that aim to systematically explore the relative benefits of TD-CBT vs. DS-CBT for people with symptoms of four common mental disorders, by targeting one disorder in each RCT, in the case of the present study, MDD. The disorders of interest in these RCTs include MDD, generalized anxiety disorder (GAD), social anxiety/phobia disorder (SP), and panic disorder (PD). To facilitate comparison, the TD-CBT and DS-CBT interventions were designed to comprise a similar structure, present similar amounts of information, and require a similar amount of therapist contact. However, where the DS-CBT intervention focussed explicitly and solely on treatment of MDD with MDD-specific content, skills, examples and vignettes, the TD-CBT intervention focussed on the management of both anxiety and mood symptoms generally without reference to any specific disorder or symptoms. The secondary aim of the present study was to explore how such interventions may be most efficiently delivered. To date, most studies of TD-CBT interventions have evaluated treatment protocols comprising $\geq$10 treatment sessions. It is questionable, however, whether public health services have the resources and capacity to routinely deliver psychological treatments in this way.

Several lines of research have explored alternate delivery methods for psychological treatments. One line of research has reported that online psychological treatments may be effectively delivered by a technician, who is supervised and supported by a registered therapist. Several studies have empirically evaluated this model, and have found clinically significant improvements when treatment is delivered by technicians in iCBT interventions for depression (Titov et al., 2010), GAD (Robinson et al., 2010), and anxiety disorders (Johnston et al., 2011; Johnston et al., 2013). Another promising line of research has reported that self-guided delivery of TD-CBT and DS-CBT can result in significant clinical improvements (Meyer et al., 2009; Berger et al., 2011; Titov et al., 2013). However, to date, the relative benefits of the therapist and self-guided approaches have not been directly compared. It should be noted that the use of the term self-guided treatment in the present study refers to treatment which is preceded by an initial interview with a therapist, and may involve subsequent interviews, although no planned contact during treatment. There is evidence to indicate that this model of self-guided treatment should be differentiated from fully automated self-guided treatments (Christensen et al., 2006; Klein et al., 2011), which may not include interviews or monitoring, and may result in more modest outcomes (Johansson & Andersson, 2012).

To explore these aims, we compared clinician-guided (CG-CBT) vs. self-guided (SG-CBT) versions of TD-CBT and DS-CBT interventions, delivered over eight weeks. Based on evidence indicating that those seeking treatment via the internet have similar characteristics to people with similar disorders identified in national epidemiological studies (Titov et al., 2010) and evidence indicating that outcomes of internet and face-to-face treatments are similar (Andersson & Hedman, 2013) the recruitment of the sample and delivery of the interventions occurred via the internet with people across Australia. This methodology also reflects growing recognition of the benefits of internet-delivered psychological treatments as evidenced by the public funding of national internet-delivered mental health services (Andrews et al., 2010; Andersson & Titov, 2014; Titov et al., in press). It was hypothesized that TD-CBT and DS-CBT would be associated with significant reductions in principal symptoms of MDD, but that TD-CBT would be superior at reducing symptoms of comorbid GAD, SP and PD at each time point. It was also hypothesised that CG-CBT would be superior to SG-CBT at every time point for symptoms of the four target disorders.

2. Method

2.1. Participants

The study was approved by the Human Research Ethics Committee (HREC) of Macquarie University, Sydney, Australia, and the trial was registered on the Australian and New Zealand Clinical Trials Registry (ANZCTR) as ACTRN12612000421831. The study was promoted via advertisements in major newspapers across Australia and via unpaid general advertisements by a broad range of non-governmental organisations providing services to people with mental health difficulties. This study was advertised alongside three other studies with the same design, with each RCT targeting people with one of four principal diagnoses, that is, MDD, GAD, PD or SAD. Participants read about the study and applied to participate via the website of the eCentreClinic (www.ecentreclinic.org), which is a specialist research unit offering the opportunity to receive free treatment via the internet. Interested individuals were invited to submit an online application to participate in the trial, which involved completing several symptom questionnaires, and providing basic demographic information and contact details.

The inclusion criteria for the study were: (i) resident of Australia aged 18–64 years of age; (ii) a principal complaint of depression symptoms; (iii) total score $\geq$5 on the Patient Health Questionnaire-9 (PHQ-9) (Kroenke et al., 2001); and (iv) if taking medication for anxiety or depression, being on a stable dose for at least one month. The exclusion criteria were: (i) experiencing an unmanaged psychotic illness; (ii) experiencing very severe symptoms of depression i.e., defined as a total score >22 or endorsing a score >2 to item 9 of the Patient Health Questionnaire 9-item (PHQ9); (iii) having a history of self-harm or suicide attempts within the last 12 months; or (iv) currently participating in CBT.

The CONSORT flowchart for this trial is shown in Fig. 1. A total of 568 people applied to participate in the trial and indicated that