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Transdiagnostic versus disorder-specific internet-delivered cognitive behaviour therapy for anxiety and depression in primary care

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ABSTRACT

Background: Disorder-specific and transdiagnostic internet cognitive behaviour therapy (iCBT) programs are effective for anxiety and depression, but no studies have compared their effectiveness in primary care.
Methods: Patient characteristics, adherence and effectiveness of Transdiagnostic iCBT (n = 1005) were compared to disorder-specific programs for generalized anxiety disorder (GAD) (n = 738) and depression (n = 366) in a naturalistic non-randomised comparison study. Patients completed their iCBT program in primary care. The PHQ-9 (depression), GAD-7 (generalized anxiety), K-10 (distress), and the WHODAS-II (disability) were measured at pre- and post-treatment.
Results: Patients in the Transdiagnostic program had higher comorbidity rates and baseline distress. All programs were associated with medium to large within-group effect sizes for improving anxiety, depression and distress between pre- and post-treatment (d's = 0.64–1.39). Controlling for baseline group differences in severity, we found small effect sizes favoring the Transdiagnostic program over the GAD program in reducing PHQ-9 (d = 0.44, 95%CI: 0.34–0.53), K-10 (d = 0.21, 95%CI: 0.16–0.35) and WHO-DAS scores (d = 0.20, 95%CI: 0.10–0.29), and small effect sizes favoring the Transdiagnostic program over the Depression program in reducing GAD-7 scores (d = 0.48, 95%CI: 0.36–0.60). A smaller proportion of patients completed the Transdiagnostic program (44.9%) compared to the depression (51.6%) and GAD (49.2%) programs, which was attributable to baseline differences in age and symptom severity.
Conclusions: Both Transdiagnostic iCBT and disorder-specific iCBT programs are effective in primary care, but there appears to be small effects favoring Transdiagnostic iCBT. Methods to increase adherence are needed to optimize the benefits to patients, and these findings await replication in a RCT.

1. Introduction

Unipolar major depression and the anxiety disorders together account for half the total burden of mental disorders (World Health Organization, 2008), and are two of the top 10 causes of disability worldwide (Vos et al., 2015). These disorders share symptoms, features and maintaining factors (Harvey et al., 2004), underlying core structure (Watson, 2005; Andrews et al., 2009), and respond to similar pharmacological and psychological treatments (Hofmann, Asnaani, Vonk, Sawyer, & Fang, 2012). Cognitive behavior therapy (CBT) is an efficacious treatment, and can be successfully delivered online at a fraction of the cost of face-to-face CBT (Andrews, Cuijpers, Craske, Mcevoy, & Titov, 2010). Meta-analyses suggest that clinician-guided internet CBT (iCBT) programs and face-to-face treatments produce similar overall effects (Andersson, Cuijpers, Carlbring, Riper, & Hedman, 2014). Both 'disorder-specific' iCBT programs that are designed to target a specific diagnosis (e.g., major depressive disorder; MDD), and 'transdiagnostic' iCBT programs that target more than one disorder or problem (e.g., multiple anxiety disorders, or depression *and* anxiety) have been shown to be efficacious (Andrews et al., 2010; Carlbring et al., 2011; Newby, Twomey, Yuan Li, & Andrews, 2016; Spek et al., 2007; Titov et al., 2011; Nordgren et al., 2014).

In primary care, there is a strong temptation to use transdiagnostic rather than diagnosis-specific iCBT programs, especially if the clinician has difficulty discriminating within and between depressive and anxiety disorders (Wittchen et al., 2002). Transdiagnostic iCBT programs are a particularly appealing treatment option

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for patients with comorbid and complex conditions, because they teach patients the tools to address symptoms of both depression *and* anxiety, and their shared causes and maintaining factors, in the one program (Mewton, Hobbs, Sunderland, Newby, & Andrews, 2014). However, it could also be argued that disorder-specific iCBT programs offer advantages over transdiagnostic iCBT: because they target one main problem, they may be less overwhelming for the individual, more engaging, lead to higher completion rates, and therefore produce better outcomes.

There are several published randomised controlled trials (RCTs) comparing transdiagnostic to disorder-specific iCBT programs (Dear et al., 2015; Titov et al., 2015; Berger, Boettcher, & Caspar, 2014; Johansson et al., 2012). These studies have generally failed to find any substantive differences between the two approaches in outcomes for both the primary disorder and comorbid symptoms (e.g., Berger et al., 2014; Titov et al., 2015). However, there are a few discrepancies in the literature: in a recent meta-analysis of 4 individual RCTs, we found preliminary evidence for small but superior outcomes resulting from transdiagnostic iCBT programs in reducing depression symptoms (between-groups Hedges $g = 0.2$) compared to disorder-specific iCBT (Newby et al., 2016). It is unknown whether these differences are clinically important, but it is unlikely the individual RCTs would have detected these differences due to lack of power. In another study, Johansson et al. (2012) compared a standardised iCBT program for depression with a tailored/transdiagnostic iCBT program to treat depression and comorbid anxiety symptoms, and found that the tailored/transdiagnostic approach was more effective for individuals with higher baseline depression severity and those with more comorbidity (Johansson et al., 2012). These results suggest further work is needed to establish how the two approaches compare, especially for those with comorbid symptoms.

Ideally any new intervention would be validated by the results of independently replicated RCTs, effectiveness RCTs, and evaluation of the effectiveness of the treatment as it is disseminated to the wider population. Although RCTs have provided a better understanding of how transdiagnostic and disorder-specific treatment approaches compare within tightly controlled research environments with motivated volunteers, effectiveness studies are also critically important to compare how these two iCBT treatment approaches perform in regular clinical care. Internet CBT programs are currently being rolled out on a large scale to disseminate evidence-based psychological therapies to the general population. This means that iCBT programs are now available to clinicians with little or no training or expertise in the delivery of iCBT, and who have a great degree of variability in their training in the diagnosis and treatment of psychological disorders.

It is currently unclear how transdiagnostic iCBT programs are being used in primary or routine clinical care settings, what type of patients choose to undergo transdiagnostic iCBT instead of disorder-specific iCBT, and whether transdiagnostic iCBT programs produce equivalent results to disorder-specific iCBT programs when they are delivered in routine care settings rather than developer-led RCTs. Past effectiveness studies have shown that patients who complete iCBT within routine care, under the supervision of primary and allied health care practitioners, achieve similar pre- to post-treatment improvements in depression and anxiety as those found in RCT settings, but adherence rates are reduced (Williams and Andrews, 2013; Newby, Mewton, Williams, & Andrews, 2014). Whether or not there are differences in adherence rates between transdiagnostic iCBT and disorder-specific iCBT completed in primary care remains to be evaluated.

In the current non-randomised effectiveness study in primary care, we conducted clinical audits of people with anxiety and depression undertaking an iCBT course on the recommendation of their clinician. Our first aim was to compare the demographic and clinical characteristics of patients who took part in a Transdiagnostic iCBT program for mixed anxiety and depression (the *Depression and Anxiety Program*) (Newby et al., 2013), versus two disorder-specific iCBT programs: the Depression program (Perini, Titov, & Andrews, 2009), and the generalized anxiety disorder (GAD) program (Robinson et al., 2010). We also sought to compare the adherence rates and effectiveness of the three iCBT programs.

We hypothesized that clinicians would be more likely to prescribe the Transdiagnostic iCBT program to patients who had more comorbidity and more severe symptoms. Therefore, we expected that compared to the disorder-specific programs; patients undergoing the Transdiagnostic iCBT program would have higher psychological distress and functional impairment at baseline, and greater rates of depression and anxiety comorbidity (as defined by scores above clinical cut-off on the primary outcome measures, the PHQ-9, and the GAD-7). We expected that the overall effectiveness of the Transdiagnostic iCBT program would be similar to the disorder-specific iCBT programs, and that the Transdiagnostic program would be more effective in reducing symptoms of depression and anxiety for those with comorbidity.

2. Method

ThisWayUp Clinic is an online clinic which delivers iCBT programs for depression and anxiety disorders. Clinicians (e.g., general practitioners, psychologists, nurses and other allied health professionals) who are registered to use the website (90% in primary care) provide their patient with a written prescription for an iCBT program, telling the patient how to enroll, and providing a secure passcode linking the patient to the supervising clinician.[1] Automated emails are sent to the patient's supervising clinician once a) the patient has completed a lesson (the email includes a lesson-by-lesson summary of the K-10 scores; a diagnosis-independent measure of distress administered before each lesson) b) if the patient's score on the K-10 rises 0.5*SD* between lessons, c) if their K-10 score rises above 30 (severe range), or d) if the patient misses their nominated lesson date.

Because of evidence showing that clinician contact encourages adherence, all clinicians who register with This Way Up are provided written recommendations from This Way Up to contact their patient at least twice during the iCBT program to encourage engagement with the program, and also to contact their patient if they have high distress scores or a rise in distress between lessons. Despite these recommendations, there is a large degree of variability in the number and type of contacts made by the clinician to their patient throughout iCBT, with one contact the median number, and more than half of patients reporting that they have not contacted at all from their supervising clinician during their iCBT program (Newby et al., 2014).

The current study was conducted as part of the routine Quality Assurance activities of the Clinical Research Unit for Anxiety and Depression (CRUfAD) at St. Vincent's Hospital, Sydney. All measures are required for the safe conduct of this program. Prior to enrolment in any of the This Way Up programs, all individuals provided electronic informed consent that their pooled data could be collated and used for quality assurance/research purposes.[2]

[1] Because this was a study of patients prescribed iCBT in routine care, we do not have any information about how clinicians assigned patients to the three iCBT programs, or about patients who were offered alternative treatments.

[2] Prior to enrolment, participants were provided the following information. 'Data are collected on your progress for quality assurance purposes, namely alerting your clinician as to your progress and, when pooled with scores from other patients, informing us of the effectiveness of the course. We may use pooled data for quality assurance reports that may be published in scientific journals. In any publication, information will be published in such a way that you cannot be identified. Please

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