A randomized controlled trial of Internet-Based Cognitive Behavior Therapy for perfectionism including an investigation of outcome predictors

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ABSTRACT

Being highly attentive to details can be a positive feature. However, for some individuals, perfectionism can lead to distress and is associated with many psychiatric disorders. Cognitive behavior therapy has been shown to yield many benefits for those experiencing problems with perfectionism, but the access to evidence-based care is limited. The current study investigated the efficacy of guided Internet-based Cognitive Behavior Therapy (ICBT) and predictors of treatment outcome. In total, 156 individuals were included and randomized to an eight-week treatment or wait-list control. Self-report measures of perfectionism, depression, anxiety, self-criticism, self-compassion, and quality of life were distributed during screening and at post-treatment. Intention-to-treat were used for all statistical analyses. Moderate to large between-group effect sizes were obtained for the primary outcome measures, Frost Multidimensional Perfectionism Scale, subscales Concerns over Mistakes and Personal Standards, Cohen's $d = 0.68-1.00$, 95% Confidence Interval (CI) [0.36—1.33], with 35 (44.9%) of the patients in treatment being improved. Predictors were also explored, but none were related to treatment outcome. In sum, guided ICBT can be helpful for addressing problems with clinical perfectionism, but research of its long-term benefits is warranted.

1. Introduction

Perfectionism describes the characteristics of an individual who sets high standards and strives "compulsively and unremittingly" towards achievement (Burns, 1980, p. 34). Albeit often regarded as desirable, perfectionism can also involve a set of assumptions and behaviors that are maladaptive (Stumpf & Parker, 2000). Stoeber and Otto (2006) differentiate between helpful and unhelpful perfectionism, where the latter is related to excessive worry, avoidance, procrastination, and self-criticism. Unhelpful, or, clinical perfectionism, is also assumed to be associated with stress and interpersonal difficulties (Chang, Watkins, & Banks, 2004), and contributing to many psychiatric disorders, such as, obsessive-compulsive disorder, major depressive disorder, and eating disorders (Shafran & Mansell, 2001). As such, Egan, Wade, and Shafran (2011) refer to perfectionism as a transdiagnostic issue as well as a feature that can impede treatment progress for psychiatric disorders. Clinical perfectionism was defined by Shafran, Cooper, and Fairburn (2002) as "the overdependence of self-evaluation on the determined pursuit of personally demanding, self-imposed, standards in at least one highly salient domain, despite adverse

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consequences" (p. 778). From this perspective, perfectionism becomes problematic if it is characterized by highly rigid standards, which the individual then strives to accomplish because failure has negative consequences for self-evaluation, e.g., being perceived as inadequate. Clinical perfectionism is related to cognitive biases, such as discounting the positive, as well as emotional arousal. It is also linked to counter-productive behaviors, for example, repetitive checking, and avoidance of specific tasks or activities (Shafran et al., 2002), thereby being maintained and often leading to distress.

Cognitive Behavior Therapy (CBT) is regarded as a promising treatment for clinical perfectionism, but few clinical trials have been performed. Notable exceptions do exist, such as, CBT being delivered individually face-to-face (Egan & Hine, 2008), CBT administered in groups (Handley, Egan, Kane, & Rees, 2015), guided self-help (Steele & Wade, 2008), and unguided self-help (Radhu, Daskalakis, Arpin-Cribbie, Irvine, & Ritvo, 2012). Lloyd, Schmidt, Khondoker, and Tchanturia (2015) evaluated the effects of eight studies, indicating an overall within-group effect size between pre and post-treatment assessment of Hedge's $g = 0.79$, 95% Confidence Interval (CI) [0.44, 1.12], and $g = 1.32$, 95% CI [1.02, 1.64], for two of the most frequently used outcome measures, the Frost Multidimensional Perfectionism Scale (FMPS; Frost, Marten, Lahart, & Rosenblate, 1990); subscales Concern over Mistakes and Personal Standards. Likewise, the average within-group effect sizes for self-report measures of anxiety, $g = 0.52$, 95% CI [0.23, 0.81], and depression, $g = 0.64$, 95% CI [0.35, 0.92], also suggest benefits for those patients receiving treatment and lending some support for the transdiagnostic perspective of clinical perfectionism.

However, access to the right type of care is often limited, making other treatment formats important to consider. Internet-Based Cognitive Behavior Therapy (ICBT) has been shown to be useful for many psychiatric disorders (Andersson, 2016), e.g., panic disorder, social anxiety disorder, and major depressive disorder. In terms of clinical perfectionism, investigations by Arpin-Cribbie, Irvine, and Ritvo (2012), Radhu et al. (2012) and Egan, van Noort et al. (2014) indicated that ICBT can be beneficial, both for clinical perfectionism and depression and anxiety. However, these studies included relatively small samples and did not involve any guidance from a therapist. As most research on ICBT suggests that the benefits of treatment are greater with support (Andersson, Cuijpers, Carlbring, Riper, & Hedman, 2014), i.e., larger effect sizes and fewer dropouts, this is an issue that also warrants further investigation in relation to clinical perfectionism. The aim of the current study was therefore to investigate the efficacy of guided ICBT in a large-scale clinical trial for treatment-seeking individuals from the general population. In addition, because no prior investigation of predictors of treatment outcome has been performed, an additional purpose was to explore if there were any variables that might be associated with benefitting from treatment.

2. Method

2.1. Participants

Patients were self-recruited through advertisements in the Swedish media and social media platforms. Individuals interested in participating visited a website created for the purpose of the current study in order to complete a screening process and submit a written informed consent form (www.iterapi.se/sites/devin). Inclusion criteria were fluency in Swedish as assessed during a clinical interview via telephone, minimum 18 years of age, and perfectionism as the primary concern. Cutoff on perfectionism scores was not used as an inclusion criterion. Exclusion criteria were ongoing psychological treatment or counseling, any change in psychotropic medication twelve weeks prior to entering treatment,

pregnancy, other conditions warranting more intensive care, e.g., psychosis, anorexia nervosa, and suicidal ideation, as determined using the MINI-International Neuropsychiatric Interview (Sheehan et al., 1998). Other psychiatric disorders were allowed as long as clinical perfectionism was deemed the principal problem.

2.2. Procedure

Individuals having registered their interest to participate completed an online screening process consisting of sociodemographic and self-report measures. In total, 163 fulfilled the inclusion criteria and were called up via telephone for a clinical interview using the MINI. All interviewed cases were then reviewed during a case management conference by the principal investigator (GA), who made the final decision about inclusion and was also clinically responsible for all patients in the study. In turn, 156 were deemed eligible for inclusion and randomized into one of two conditions; treatment or wait-list control. Randomization was performed by an individual external to the current study through a random numbers generator (www.random.org), according to a 1:1 ratio. Six individuals chose not to participate after the random allocation, but are included in the Intention-To-Treat (ITT) sample. The two conditions were analyzed on all primary and secondary outcome measures at pre-treatment assessment and their sociodemographics to check for any potential deviation from randomness. Those assigned to wait-list control were more likely to have had, or be on, psychotropic medication, $\chi^2(1) = 4.85$, and to have had prior psychological treatment or counseling, $\chi^2(1) = 4.11$. A flow chart can be obtained in Fig. 1, and the descriptive statistics of the patients in Table 1.

All communication between the therapists and patients, distribution of modules, and administration of self-report measures at pre- and post-treatment assessment were conducted through a secure online platform connected to the website of the current study. In order to log on, the patients had to use an auto generated identification code generated during the screening process, e.g., 1234abcd, a strong personal password, and a six-letter code sent via SMS. This type of electronic identification, i.e., SSL certificate, and two-step verification is similar to the systems used by many governmental agencies, ensuring anonymity and safety throughout the treatment period (Vlaescu, Alasjö, Miloff, Carlbring, & Andersson, 2016). Furthermore, because the patients completed the self-report measures directly online using their computer, the risk for data distortion or data loss was minimized. Ethics approval was received from the Regional Ethical Board in Linköping, Sweden (Dnr: 2015/419-31).

2.3. Measures

2.3.1. Primary outcome measures

A self-report measure of perfectionism was administered to the patients, the FMPS. Two of the subscales, Concern over Mistakes and Personal Standards, were used as the primary outcome measures. The first is comprised of nine items associated with worries over making mistakes, and the second consists of seven items that reflect setting high standards of performance, both being scored on a five-point scale, from "Strongly disagree" (1) to "Strongly agree" (5), range in scores 9–45 and 7–35, respectively. The two subscales have excellent internal consistency, Cronbach's $\alpha = 0.88$ and 0.83; in the current study Concern over Mistakes = 0.85 and Personal Standards = 0.65, and correlates well with other self-report measures of perfectionism (Frost et al., 1990).

2.3.2. Secondary outcome measures

The remaining subscales of the FMPS, i.e., Doubts about Action,