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Stepped care versus face-to–face cognitive behavior therapy for panic disorder and social anxiety disorder: Predictors and moderators of outcome

Thomas Haug [a, b, *], Tine Nordgreen [a, b], Lars-Göran Öst [a, c, e], Gerd Kvale [a, b], Tone Tangen [a, f], Gerhard Andersson [d, e], Per Carlbring [c], Einar R. Heiervang [a, g], Odd E. Havik [a, b]

[a] Anxiety Disorders Research Network, Haukeland University Hospital, Postboks 1400, 5021 Bergen, Norway
[b] Department of Clinical Psychology, University of Bergen, Postboks 7800, 5020 Bergen, Norway
[c] Department of Psychology, University of Stockholm, SE-106 91 Stockholm, Sweden
[d] Department of Behavioural Sciences and Learning, Linköping University, SE-581 83 Linköping, Sweden
[e] Department of Clinical Neuroscience, Karolinska Institute, 171 77 Stockholm, Sweden
[f] Department of Psychiatry, University of Bergen, Postboks 7800, 5020 Bergen, Norway
[g] Institute of Clinical Medicine, University of Oslo, Postboks 1171 Blindern, 0318 Oslo, Norway

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ABSTRACT

Objective: To investigate predictors and moderators of treatment outcome by comparing immediate face-to-face cognitive behavioral therapy (FtF-CBT) to a Stepped Care treatment model comprising three steps: Psychoeducation, Internet-delivered CBT, and FtF-CBT for panic disorder (PD) and social anxiety disorder (SAD).
Method: Patients ($N = 173$) were recruited from nine public mental health out-patient clinics and randomized to immediate FtF-CBT or Stepped Care treatment. Characteristics related to social functioning, impairment from the anxiety disorder, and comorbidity was investigated as predictors and moderators by treatment format and diagnosis in multiple regression analyses.
Results: Lower social functioning, higher impairment from the anxiety disorder, and a comorbid cluster C personality disorder were associated with significantly less improvement, particularly among patients with PD. Furthermore, having a comorbid anxiety disorder was associated with a better treatment outcome among patients with PD but not patients with SAD. Patients with a comorbid depression had similar outcomes from the different treatments, but patients without comorbid depression had better outcomes from immediate FtF-CBT compared to guided self-help.
Conclusions: In general, the same patient characteristics appear to be associated with the treatment outcome for CBT provided in low- and high-intensity formats when treated in public mental health care clinics. The findings suggest that patients with lower social functioning and higher impairment from their anxiety disorder benefit less from these treatments and may require more adapted and extensive treatment.
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1. Introduction

The effects of cognitive behavioral therapy (CBT) are documented for both panic disorder (PD) and social anxiety disorder (SAD) when CBT is delivered as face-to-face (Butler, Chapman, Forman, & Beck, 2006; Hofmann & Smits, 2008; Norton & Price, 2007; Olatunji, Cisler, & Deacon, 2010) and as guided self-help (Haug, Nordgreen, Öst, & Havik, 2012). In guided self-help patients receive a CBT protocol through e.g. written books or the Internet and do the majority of the intervention on their own. Contact with a therapist is minimal and only facilitative or

* Corresponding author. Haukeland University Hospital, Department of research, Psychiatric division, Postboks 1400, 5021 Bergen, Norway.
E-mail address: Thomas.haug@psykp.uib.no (T. Haug).

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supportive in nature (Cuijpers & Schuurmans, 2007). In particular CBT-based self-help programs delivered over the internet (ICBT) have reported promising findings (Haug et al., 2012). This is reflected in the clinical guidelines for the treatment of anxiety disorders where CBT in the format of FtF-CBT or as guided self-help is the treatment of choice for a wide range of anxiety disorders (NICE, 2011a, 2011b, 2013). However, approximately one-third of patients receiving CBT do not achieve a clinically significant change (Taylor, Abramowitz, & McKay, 2012). In this context, more knowledge about baseline characteristics associated with treatment outcome is needed to optimize treatment choices and increase effectiveness.

In the literature, a distinction is made between baseline characteristics related to treatment outcome regardless of the type of treatment (i.e., *non-specific predictors*) and characteristics identifying subgroups of patients who are more likely to respond better or worse to one of two or more specific treatment programs (i.e., *moderators*) (Kraemer, Wilson, Fairburn, & Agras, 2002). Identification of non-specific predictors gives information of which patients that are likely to benefit from treatment in general, whereas moderators can also inform individual tailoring and matching of patients to specific treatments that optimize the outcome from treatment.

Several baseline characteristics have been investigated as possible predictors of treatment outcome in a large number of studies of FtF-CBT for PD and SAD. In summary, a high baseline symptom severity score has been found to be associated with worse post-treatment status for both PD and SAD but is less consistently associated with improvement (Eskildsen, Hougaard, & Rosenberg, 2010; McCabe & Gifford, 2008; M. G. Newman, Crits-Christoph, Gibbons, & Erickson, 2006). Some studies indicate that a longer duration of illness and a lower age at onset are related to worse treatment outcome for PD (Hendriks, Keijsers, Kampman, Hoogduin, & Voshaar, 2012), whereas others have not observed this (Clark et al., 1999; Sharp & Power, 1999). There is no evidence that duration of illness is a predictor of outcome in the treatment of SAD (M. G. Newman et al., 2006). There are some indications that having a comorbid anxiety disorder is related to a better outcome in FtF-CBT for PD (Brown, Antony, & Barlow, 1995; Olatunji, Cisler, & Tolin, 2010), but reviews have concluded that overall comorbid anxiety disorders are unrelated to the outcome of FtF-CBT for both PD and SAD (Eskildsen et al., 2010; McCabe & Gifford, 2008). Some studies have indicated that higher levels of comorbid depressive symptoms are associated with worse treatment outcome for both PD (Brown et al., 1995) and SAD (Chambless, Tran, & Glass, 1997). Others, however, have not found this relationship (Aaronson et al., 2008; Allen et al., 2010; Dow et al., 2007a; Kampman, Keijsers, Hoogduin, & Hendriks, 2008), and reviews of the literature are inconclusive regarding the effect of comorbid depression on treatment outcome for PD and SAD (Eskildsen et al., 2010; McCabe & Gifford, 2008). The results are also equivocal regarding the influence of comorbid personality disorders, which have been found to be a predictor of worse outcome in some studies (Steketee, Chambless, & Tran, 2001; Telch, Kamphuis, & Schmidt, 2011; Van Velzen, Emmelkamp, & Scholing, 1997) but not in others (Kampman et al., 2008). Anxiety disorders are associated with a number of secondary problems related to social, occupational, and family functioning. With some exceptions (Hedman et al., 2012; Myhr, Talbot, Annable, & Pinard, 2007), research have in general not indicated any relationship between factors reflecting social functioning (e.g. marital status, social network, being employed, having children) or secondary negative consequences of the anxiety disorder (e.g. disability, use of medications, previous treatment) and the outcome from CBT of PD and SAD (Aaronson et al., 2008; Chen et al., 2007; Eskildsen et al., 2010; Lincoln et al., 2006; M. G. Newman et al., 2006; Wade, Treat, & Stuart, 1998). Research on the predictors of treatment outcome of guided self-help for anxiety disorders is limited. Some studies have indicated that lower age and longer duration of the disorder (Nordgreen et al., 2010) and the presence of cluster C personality disorders (Andersson, Carlbring, & Grimund, 2008) are associated with a worse outcome of ICBT for PD. Hedman et al. (2012) reported that comorbid anxiety and depression were related to a worse outcome of ICBT for SAD, whereas another study did not find this association (Nordgreen et al., 2012). Thus, the most consistent findings in the research literature on non-specific predictors indicate that patients with more intense primary symptoms and comorbid disorders have a poorer end state from FtF-CBT of PD and SAD, but the results are in general equivocal and inconclusive, particularly for predictors of improvement from treatment. This trend appears to be similar for ICBT of these conditions.

At present, only a few studies have investigated potential moderators of outcome comparing two psychological treatments of anxiety disorders (Borge, Hoffart, & Sexton, 2010; Dow et al., 2007b; Hedman et al., 2012; Wolitzky-Taylor, Arch, Rosenfield, & Craske, 2012), of which two have compared different formats of CBT. Dow et al. (2007b) reported that higher severity, disability and comorbidity at baseline was associated with a worse outcome from brief (six weeks) but not standard (12 weeks) CBT of PD, and Hedman et al. (2012) reported that lower levels of anxiety and depression symptoms was associated with a better outcome from ICBT but not group CBT of SAD. In addition, Andersson et al. (2008) reported that cluster C personality symptoms was associated with a worse outcome from ICBT but not FtF-CBT in separate predictor analyses. These findings give some support to the assumption that patients with more severe primary symptoms and comorbidity may need treatment with more direct therapist contact than what is given in ICBT. However, clearly this needs further investigation.

One possible explanation for the inconsistent findings on predictors and moderators of treatment outcome may be that there are no robust predictors of the treatment outcome and that the previously reported positive findings are spurious. Another explanation may be differences in the size and composition of the study samples (Taylor et al., 2012). Many studies have been based on data from randomized controlled trials with strict inclusion criteria, homogenous samples and small sample sizes, all factors that may limit the power to detect a relationship between predictors and outcome. Moreover, many studies rely exclusively on self-report measures (Fernández-Ballesteros & Botella, 2008), despite recommendations for obtaining outcome assessments from different sources and perspectives (Kazdin, 2003). In summary, research on predictors and moderators of treatment outcome should be based head-to-head comparisons of different treatment formats, conducted on larger samples with sufficient heterogeneity, and assessment made from different perspectives.

Most studies on this issue have investigated the association between individual variables and the outcome. However, there may be a cumulative rather than an isolated effect on the treatment outcome from some of these variables. For example, being unmarried, unemployed and having no social network may in conjunction reflect an underlying factor related to different aspects of the individuals social functioning and adaptation. Similarly, factors such as previous failed treatment, use of medication and work disability as a result of the anxiety disorder are all consequences, which may reflect the severity or degree of impairment as a result of the anxiety disorder. One can assume that patients with conjunctions of these factors have more pervasive problems that interfere with various life spheres, and they may therefore be more challenging to treat. Thus, the cumulative effect on the treatment