



**Karolinska
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Institutionen för klinisk neurovetenskap

Internet-based Cognitive Behaviour Therapy for Social Anxiety Disorder

-From efficacy to effectiveness-

AKADEMISK AVHANDLING

som för avläggande av medicine doktorsexamen vid Karolinska
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av

Erik Hedman

Leg. Psykolog

Huvudhandledare:

Professor Nils Lindefors
Karolinska Institutet
Institutionen för klinisk neurovetenskap

Bihandledare:

Professor Gerhard Andersson
Karolinska Institutet
Institutionen för klinisk neurovetenskap, samt
Linköpings Universitet
Institutionen för beteendevetenskap och lärande

Med dr. Christian Rück
Karolinska Institutet
Institutionen för klinisk neurovetenskap

Fakultetsopponent:

Dr. Nickolai Titov
University of New South Wales
Faculty of Medicine
School of Psychiatry

Betygsnämnd:

Professor Örjan Sundin
Mittuniversitetet
Institutionen för samhällsvetenskap

Professor Bo Melin
Karolinska Institutet
Institutionen för klinisk neurovetenskap

Docent Åsa Westrin
Lunds Universitet
Institutionen för kliniska vetenskaper

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ABSTRACT

Background: Cognitive behaviour therapy (CBT) is an effective, well-established, but not widely available treatment for social anxiety disorder (SAD). Internet-based cognitive behavior therapy (ICBT) has the potential to increase availability and facilitate dissemination of therapeutic services for SAD. However, research is needed to establish efficacy, effectiveness, long-term effects, cost-effectiveness and potential determinants of treatment outcome.

Aims: The present thesis aimed at investigating the following: a) The efficacy of ICBT for SAD in a university setting (Study I), b) the effectiveness of ICBT for SAD in a psychiatric setting (Study II), c) The effects of ICBT for SAD over 5 years (Study III), d) The cost-effectiveness of ICBT for SAD compared to conventional CBT (Study IV), and e) Clinical and genetic determinants of ICBT for SAD in relation to conventional CBT (Study V).

Methods: Two large scale randomised controlled trials (RCTs) were conducted. In the first RCT (Study I), ICBT (n=40) was compared to CBT bibliotherapy (n=40) and a waiting list control (n=40). The second RCT (Study II) was a non-inferiority trial comparing ICBT (n=64) to cognitive behavioural group therapy (CBGT; n=62) in a clinical setting. In Study III, a 5-year follow-up assessment was conducted of participants of Study I. In Study IV, a prospective cost-effectiveness and cost-utility analysis of ICBT compared to CBGT was conducted using a societal perspective. Based on clinical and genetic data collected in Study II, predictors and moderators of treatment outcome of ICBT in relation to CBGT were investigated in Study V.

Results: Study I: ICBT for SAD yielded large effect sizes on measures of social anxiety and demonstrated superiority to waiting list controls and a trend towards superiority of CBT bibliotherapy. Study II: ICBT for SAD was well within the non-inferiority margin compared to CBGT on the primary outcome measure. Study III: Participants receiving ICBT for SAD made further improvements from post-assessment to 1-year follow-up. These improvements were maintained at 5-year follow-up. Study IV: The incremental cost-effectiveness ratio was -7042 USD, suggesting that ICBT compared to CBGT leads to incremental gains to a lower cost. Study V: Demographic, clinical and therapy related factors predicted outcome of CBT. A few clinical factors moderated treatment outcome of ICBT in relation to CBGT. None of the investigated candidate genes had an impact on treatment outcome.

Conclusions: ICBT for SAD is efficacious, effective in a clinical setting, long-term effective and, compared to conventional CBT, cost-effective regardless of willingness to pay. In addition, treatment outcome can be predicted. ICBT for SAD is ready for implementation and dissemination.

Key Words: Cognitive behaviour therapy, Social anxiety disorder, Internet