It is our great pleasure to welcome you to the 9th Swedish Congress on Internet Interventions (SWEsrii). The Congress is held at the Department of Behavioural Sciences and Learning at Linköping University, November 3, 2017.

We have invited researchers from Sweden and all over Europe to share their knowledge and experiences on using and developing Internet-based interventions. The aim of our conference is to contribute to the development and dissemination of best possible psychological interventions to help people in need.

The Organizing Committee

Gerhard Andersson
Professor, Linköping University

Kristin Silfvernagel
Lecturer, Linköping University

Per Carlbring
Professor, Stockholm University

George Vlaescu
Webmaster, Linköping University
Practical information

- Meeting location: The meeting will be held in the building Vallfarten of Linköping University, Campus Valla. See the map below.

- Go by bus from Linköping Travel Centre: Bus no 12 towards Lambohov (takes about 20 minutes) and bus no 20 towards Mjärdevi (takes about 10 minutes). Stops: Vallfarten.

- Taxi: Call +46 (0) 13 150 000 (approximately 150 SEK from the train station to the campus).
# Agenda

**08:00**  
*Registration and coffee*

**08:45**  
*Welcome and practical information*

09:00  
Tomas Nygren  
*Development of an internet-based CBT self-help program for Arabic-speaking immigrants in Sweden*

09:15  
Anton Käll  
*SOLUS - Internet-based CBT against loneliness*

09:30  
Hugo Hesser  
*Employing complier average causal effect analysis in internet-delivered treatments*

09:45  
Cecilia Svanborg  
*Dissemination and Implementation of Internet-Based Psychological Treatments: Challenges and possible solutions*

**10:00**  
*Coffee break & Poster session*

10:30  
Fredrik Holländare  
*Implementation of iCBT for depression in routine care*

10:45  
Matilda Berg  
*The role of knowledge in internet-based cognitive behavioural therapy for adolescent depression: results from two randomised controlled trials*

11:00  
Kristofer Vernmark  
*The role of therapeutic alliance in blended treatment for depression*

11:15  
Sara Pankowski  
*Multimedia-supported iACT for patients with bipolar disorder and residual symptoms*

11:30  
Martin Oscarsson  
*New Year’s Resolutions - A Large Scale Randomized Controlled Trial*
<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:45</td>
<td>Molly Zetteberg</td>
<td><em>Internet-Based Treatment of Perfectionism: A Randomized Controlled Trial Comparing Two Types of Self-Help</em></td>
</tr>
<tr>
<td>12:00</td>
<td></td>
<td><strong>Lunch</strong></td>
</tr>
<tr>
<td>13:00</td>
<td>Martin Kraepelien</td>
<td><em>Internet-based Cognitive Behavioral Therapy For General Function In Patients With Parkinson's Disease: A Randomized Controlled Trial</em></td>
</tr>
<tr>
<td>13:15</td>
<td>Johanna Sandborg</td>
<td><em>HealthyMoms - a smartphone application to promote healthy weight gain, diet and physical activity during pregnancy: a randomized controlled trial</em></td>
</tr>
<tr>
<td>13:30</td>
<td>Nils Gasslander</td>
<td><em>Tailored Internet-Delivered Cognitive Behavioral Therapy for Patients with Chronic Pain and Comorbid Psychiatric Distress</em></td>
</tr>
<tr>
<td>13:45</td>
<td>Britta Westerberg</td>
<td><em>Internet-based treatment for adults with autism spectrum disorder – a study protocol for a randomized controlled trial</em></td>
</tr>
<tr>
<td>14:00</td>
<td>Viktor Kaldo</td>
<td><em>Internet treatment as a methodological base to compare sleep compression and sleep restriction in the treatment of insomnia</em></td>
</tr>
<tr>
<td>14:15</td>
<td>Karin Hyland</td>
<td><em>Treatment of alcohol dependence in primary care</em></td>
</tr>
<tr>
<td>14:30</td>
<td>Per Carlbring</td>
<td><em>Internet-based vs. face-to-face cognitive behavior therapy for psychiatric and somatic disorders: An updated systematic review and meta-analysis</em></td>
</tr>
<tr>
<td>14:45</td>
<td></td>
<td><strong>Coffee break &amp; Poster session</strong></td>
</tr>
<tr>
<td>15:15</td>
<td>Mats Dahlin</td>
<td><em>Internet-delivered cognitive behaviour therapy for generalized anxiety disorder in psychiatric routine care: a randomized controlled trial</em></td>
</tr>
<tr>
<td>Time</td>
<td>Speaker</td>
<td>Title</td>
</tr>
<tr>
<td>-------</td>
<td>--------------------------</td>
<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>15:30</td>
<td>Lichen Ma</td>
<td><em>Attentional bias modification in virtual reality</em></td>
</tr>
<tr>
<td>15:45</td>
<td>Anne-Wil Kruijt</td>
<td><em>Treatment without target? No meta-analytical evidence for baseline bias towards threat in 860 clinically anxious individuals enrolled in Attention Bias Modification RCTs</em></td>
</tr>
<tr>
<td>16:00</td>
<td>Philip Linder</td>
<td><em>Therapist-led and at-home one-session Virtual Reality exposure therapy for public speaking anxiety using consumer hardware and software, with online maintenance: A randomized controlled trial</em></td>
</tr>
<tr>
<td>16:15</td>
<td>Max Rubinsztein</td>
<td><em>Introducing Learning Machines into ICBT</em></td>
</tr>
<tr>
<td>16:30</td>
<td>Robert Johansson</td>
<td><em>After the web we had the apps. Then came the robots.</em></td>
</tr>
<tr>
<td>16:45</td>
<td></td>
<td><strong>Closing discussions and awards</strong></td>
</tr>
<tr>
<td>17:15</td>
<td></td>
<td><strong>End of the Conference</strong></td>
</tr>
</tbody>
</table>
Posters

Erik Forsell
Internet delivered Cognitive Behavior Therapy for Antenatal Depression: A Randomized Controlled Trial

Magnus Johansson
Web-based treatment of harmful alcohol use: A randomized controlled trial and user-survey

Simon Fagernäs
Moderating effects of presence and adherence in internetbased CBT with virtual reality exposure therapy for public speaking anxiety.
Presentation Abstracts

**Speaker: Tomas Nygren, Linköping University**

*Development of an internet-based CBT self-help program for Arabic-speaking immigrants in Sweden*

Recent years have seen an increase in Arabic-speaking immigrants in Sweden with research showing this group to suffer from elevated levels of various forms of psychological distress. There currently exists a lack of treatment options for immigrants with mild to moderate mental health problems due to low availability of psychotherapy in Swedish primary care, especially given the fact that many recently arrived immigrants naturally lacks proficiency in the Swedish language.

This presentation aims to outline the process of developing an internet-based CBT self-help program aimed at Arabic-speaking refugees and immigrants living in Sweden with mild to moderate mental health problems. The program was developed at Linköping University on behalf of the Swedish Association of Local Authorities and Regions, (SALAR) and consists of nine relatively short modules containing information and exercises based on CBT for common mental health problems.

The basic structure of the modules will be displayed. There will also be a brief description on how the content of the different modules was developed as well as the process of translating and culturally attuning the material to fit the target audience. First impressions of the program based on evaluations from a pilot group of users will also be presented.

*Tomas Nygren, Matilda Berg, Ali Sarkohi, Gerhard Andersson*

---

**Speaker: Anton Käll, Linköping University**

*SOLUS – Internet-based CBT against loneliness*

Loneliness has been described as a common source of discomfort based on a subjective discrepancy between the actual and desired social situation. For some people this feeling may become a sustained state, a state associated with a wide range of psychiatric and psychosocial problems. Previous research on interventions designed to alleviate the condition is scarce, but interventions based on Cognitive Behavioral Therapy have shown promise.

The current study sought to investigate the efficacy of an eight-week internet-based treatment containing CBT interventions aimed at reducing the participants’ feeling of loneliness. Seventy-three participants were randomly allocated to treatment or a wait-list control condition. Participants completed standardized self-report measures of loneliness, depression, social anxiety, worry, and quality of life at pre- and post-treatment. Robust linear regression analysis of all randomized participants showed significant treatment effects on loneliness and secondary outcomes measuring quality of life and social anxiety relative to control at post-assessment. The results suggest that ICBT may be efficacious in alleviating loneliness, but more research on the long-term effects and the mechanisms underlying the changes are needed.

*Anton Käll*
Speaker: Hugo Hesser, Linköping University

Employing complier average causal effect analysis in internet-delivered treatments

Introduction: A significant proportion of participants in randomized trials of internet-delivered treatments do not comply, i.e., they dropout from the study before they have been exposed to the main treatment material. By mixing noncompliers with compliers, intention-to-treat analysis (ITT) can bias the causal estimate of the effect of treatment. Ad hoc methods for handling noncompliance (e.g. as-treated or per-protocol analysis) do not perform well and thus noncompliance constitutes a major threat to causal inferences in intervention studies.

Methods: The current presentation will focus on how causal effects of internet-delivered interventions can be estimated among individuals who actually receive the intervention (i.e., compliers) using complier average causal effect analysis (CACE). CACE estimation, within the growth mixture modeling framework, will be demonstrated using a randomized controlled dismantling study of internet-delivered exposure treatment for irritable bowel syndrome (Hesser et al., 2017, Psychological Medicine).

Results: Results will show that treatment effects vary substantially as a function of data analytic approach that was used in the estimation i.e., ITT vs. CACE. Data model specifications and assumptions for CACE will be clarified.

Conclusions: It will be argued that the format of internet-delivered interventions offers a unique opportunity to perform CACE analysis and that such a modeling approach will enable researchers to examine intervention effects specifically among those who receive the core treatment component as well as to explore characteristics that predict compliance status.

Hugo Hesser

Speaker: Cecilia Svanborg, Karolinska Institutet

Dissemination and Implementation of Internet-Based Psychological Treatments: Challenges and possible solutions

Introduction: Dissemination and implementation of internet-based treatments has important benefits but there are also some hindrances. In order to overcome the obstacles, it is important to investigate hindering factor. A National Quality Registry for Internet-delivered treatments in Sweden (SibeR) started 2015 in order to support orderly implementation.

Methods: County representatives for the implementation of internet-delivered treatment in Sweden were contacted for semistructured interviews about how they perform and perceive implementation of iCBT, while investigating the interest for joining the national quality registry for internet-based treatments (SibeR).

Results: A number of factors facilitating and hindering implementation were identified. Lack of structures for management, lack of informatics and confusion about ownership for programs and remuneration for digital health-care were some examples of hindering factors. These and other factors will be presented and discussed. Possible solutions will be outlined.
Conclusions: National cooperation is important for the implementation and further development of internet-based treatment in clinical care. Researchers can contribute in several ways, e.g. by consensus of measurements.

Svanborg C, Bjurner P, El Alaoui S.

**Speaker: Fredrik Holländare**, Örebro University

*Implementation of iCBT for depression in routine care*

iCBT has a large effect on depressive symptoms in several studies and meta-analyses, and it is now being implemented in several Swedish county councils and in private clinics. The implementation process and the day-to-day management of the treatment pose several challenges. iCBT for depression started as routine care in Region Örebro county in January 2017 and now just over a hundred patients has been accepted for treatment.

It is a collaboration between Primary care and Psychiatric care and the national platform for internet-treatments Stöd och Behandling is being used. Key issues like assessment, routines for feedback and reminders, accessibility and charging will be discussed. Preliminary outcome data will be shown.

Fredrik Holländare, Britta Westerberg, Linnea Niemi, Gustav Jonsson

**Speaker: Matilda Berg**, Linköping University

*The role of knowledge in internet-based cognitive behavioural therapy for adolescent depression: results from two randomised controlled trials*

Introduction: Internet-based psychotherapy is an effective and increasing part of the healthcare system. Patient’s knowledge about their current condition and treatment is considered crucial for general health-improvement and knowledge acquisition is an essential part in Internet-based CBT (ICBT). Yet, little is known about whether knowledge increase during treatment and how knowledge influence treatment outcome. The following two studies aimed to investigate the role of knowledge in the context of adolescent depression. Adolescents is a neglected target group requiring more effective interventions.

Method: In total, 70 (Study 1) resp. 71 (Study 2) adolescents with a primary diagnosis of depression were included and randomized to either ICBT or a wait-list control condition. ICBT consisted of an 8-week guided self-help program. A knowledge test dealing with depression, comorbid anxiety and its CBT treatment and a measure of adolescent depression (Beck Depression Inventory-II) were administered before and after treatment.

Results: The results from the two trials, (using analysis of co-variance) revealed significant improvements in knowledge following ICBT compared with the control group (d = 1.25 resp. d = 1.31). Initial knowledge level predicted negative change scores in depressive symptoms (pooled analysis; r = -.33). No relation between change in knowledge and change in depressive symptoms could be observed.
Discussion: The findings from the two trials indicate that knowledge increases following ICBT treatment. The results also suggest that patients who are more knowledgeable prior to treatment might benefit less from ICBT in its current form. Finally, knowledge didn’t relate to change in depressive symptoms, suggesting the need to improve how knowledge is measured. In sum, the results highlight the need to further examine the role of knowledge in ICBT.

Matilda Berg; Sofie Johansson; Lina Liljetörn; Ella Radvogin; Alexander Rozentahl; Naira Topooco; Gerhard Andersson

Speaker: Kristofer Vernmark, Linköping University

The role of therapeutic alliance in blended treatment for depression

Introduction: Blended Cognitive Behaviour Therapy (bCBT) uses a combination of face-to-face sessions and online material, such as self-help modules, and can be used in the treatment of depression. The blended format has the potential of integrating internet-based components into treatment without completely removing the traditional face-to-face setting. This way of delivery can lower the threshold when it comes to using digital components in CBT. The role of therapeutic alliance in this format is yet to be explored, specifically the role of therapist rated alliance, as most studies only include patient rated measurements of alliance.

Methods: Working alliance and depression ratings from 73 participants in a study on bCBT for depression (part of the E-COMPARED project) was analysed using growth curve models.

Results: High ratings for both patient- and therapist rated working alliance were found. Therapist rated alliance predicted a positive change (decreased PHQ-9 scores) in depression during treatment.

Discussion: Ratings of therapeutic alliance was similar to what have been seen in face-to-face and internet-based treatment. Patient rated alliance could not predict change rate in depression, which is a common finding in ICBT-studies. However, therapist rated alliance had a significant correlation with change rate and predicted a decrease in depression during treatment. These results sheds more light on the concept and role of therapeutic alliance in internet-based and blended treatments.

Kristofer Vernmark, Hugo Hesser, Naira Topooco, Thomas Berger, Heleen Riper, Liisa Luuk, Lisa Backlund, Per Carlbring & Gerhard Andersson, on behalf of the E-compared Consortium

Speaker: Sara Pankowski, Karolinska Institutet

Multimedia-supported iACT for patients with bipolar disorder and residual symptoms

Efforts are needed to identify suitable psychological interventions for patients with bipolar disorder (BD) and residual symptoms such as anxiety- and depressive symptoms and cognitive deficits. Residual symptoms are associated with a higher risk of relapse and suicide as well as illness severity. The results of our previous pilot study of group Acceptance and Commitment therapy (ACT) suggest that ACT has the potential to be an effective treatment for patients with BD and co-existing anxiety (Pankowski et al., 2017).
In order to adapt the ACT-treatment to the variety of residual symptoms that can occur and to make it more accessible, we have now done a subsequent refinement of the treatment manual and developed it into an internet-delivered program (iACT) supported by multimedia. The potential feasibility of the new treatment program will be examined in an open clinical trial in 2018.

Sara Pankowski, Maria Cassel, Gerhard Andersson, Viktor Kaldo, Nils Lindefors, Mats Adler, Cecilia Svanborg

**Speaker:** Martin Oscarsson, Stockholm University

*New Year's Resolutions - A Large Scale Randomized Controlled Trial*

Introduction: At the start of every new year, millions of people around the world pledge to change some aspect of their lives. More often than not, New Year's resolutions relate to positive behavior changes, such as quitting bad habits and forming new and more beneficial ones. Unfortunately, most people who try to lose weight, quit smoking or start exercising fail, most of them during the first three months. The aim of this ongoing study is to investigate the different categories of New Year's resolutions among Swedes, to what degree they succeed in keeping their resolutions, and whether internet-administered support based on cognitive behavior therapy may increase the participants' chances of keeping their resolutions.

Methods: The study is a three-arm randomized control trial comparing two different levels of support and one control condition. During the year, participants rate their perceived success in keeping their resolutions. Data from online questionnaires regarding subjective well-being, quality of life, procrastination and self-efficacy is also collected at baseline as well as at follow-up three weeks into the following year.

Results: A total of 1 066 participants were included in the study. Ten months in we have preliminary results regarding the categories of New Year's resolutions. More than 70% of the participants report one or more resolutions falling into the “physical health” category. The second largest category is “self-improvement” (10%), followed by “psychological health” (5%). A majority of resolutions, 64%, are phrased as approach-oriented goals and 34% as avoidance-oriented goals.

Discussion: We believe that this is the largest study of its kind to date. Smaller longitudinal studies of New Year's resolvers have been published, but none in Sweden. Furthermore, very few studies on positive behavior change have evaluated active interventions to increase participants’ chances of success. Future analyses will provide insight into New Year's resolutions among Swedes and whether short, non-personal information and exercises administered via email may increase their chances of success.

Oscarsson, M., Rozental, A., Andersson, G., & Carlbring, P.
**Speaker: Molly Zetterberg**, Stockholm University

*Internet-Based Treatment of Perfectionism: A Randomized Controlled Trial Comparing Two Types of Self-Help.*

Introduction: Perfectionism may be a clinically relevant problem on its own or as a part of other conditions. Internet-based cognitive behavioral therapy (ICBT) is a promising method for treating perfectionism. ICBT with guidance is recommended over unguided versions; still there remain questions concerning the importance of guidance in ICBT.

Methods: In this study, seventy-eight self-referred participants were randomized to either ICBT with support or ICBT with support on request in an eight-week treatment of perfectionism. Primary outcome measures included two subscales from Frost Multidimensional Perfectionism Scale, and the Clinical Perfectionism Questionnaire. In addition to this depression, anxiety and quality of life were assessed.

Results: A mixed effects model revealed significant pre-post reductions on all measures for both groups. Neither significant differences nor considerable effects were detected between groups (Cohen's $d = 0.01-0.33$).

Conclusion: This trial demonstrates that ICBT with or without regular therapist support may be helpful in treating perfectionism.

*Molly Zetterberg, Alexander Rozental, Per Carlbring, Gerhard Andersson*

**Speaker: Martin Kraepelien**, Karolinska Institutet

*Internet-based Cognitive Behavioral Therapy for General Function in Patients with Parkinson’s Disease: A Randomized Controlled Trial*

Objective: This study investigates the additive effect of an individually tailored therapist-guided internet-based cognitive behavioral therapy (ICBT) for general function specially adapted for people with Parkinson’s disease (PD), to standard medical treatment (SMT).

Method: 77 patients with PD and self-reported problems with general function (WSAS>15) were randomised to SMT plus 10 weeks of ICBT or to SMT alone plus waitlist (WL) to treatment. Change in general function, quality of life, depression, anxiety and insomnia symptoms were explored.

Results: Participants receiving ICBT reported better functioning and lower symptoms of anxiety, depression and sleep problems compared to SMT+WL. However, only one third of participants were classified as treatment responders.

Conclusions: The results suggest that ICBT could be a new way to increase daily functioning for some people with PD.

*Martin Kraepelien, Robert Schibbye, Kristoffer Månsson, Christopher Sundström, Sara Riggare, Gerhard Andersson, Nils Lindefors, Per Svenningsson, Viktor Kaldo*
**Speaker: Johanna Sandborg**, Karolinska Institutet

*HealthyMoms - a smartphone application to promote healthy weight gain, diet and physical activity during pregnancy: a randomized controlled trial*

Introduction: Excess gestational weight gain (GWG) is associated with negative health outcomes for mother and child, both in the short and long term. Previous studies have shown that it is possible to reduce the risk of excessive GWG through lifestyle interventions; however, these have relied on traditional face-to-face education which is cost- and time consuming. Mobile health (mHealth) programs have the potential to deliver individually-tailored behavior change programs at a low cost. Consequently, mHealth offers a potential solution to provide support for healthy GWG and lifestyle during pregnancy. In this study, we will examine the effectiveness of a new mobile phone application (HealthyMoms) to promote healthy GWG, dietary habits, physical activity, body fatness and glycaemia during pregnancy.

Methods/Study design: HealthyMoms trial is a parallel randomized control trial that will be conducted in Linköping, Sweden and initiated in October 2017. Inclusion criteria are a single pregnancy, ≥ 18 years of age, and being able to speak and read Swedish sufficiently well. A total of 600 women will be randomized to intervention or control groups at a 1:1 ratio. All participants will receive standard antenatal care provided by the maternal health care system. In addition, the intervention group will receive the HealthyMoms app (a 6-month program delivered through their smartphones) from baseline (gestational week 14) to gestational week 37. The primary outcome is GWG between gestational week 14 and 37. Secondary outcomes include diet, physical activity, body fatness, and gestational diabetes/glycaemia.

Discussion: This randomized controlled trial will evaluate if a novel mHealth app can promote healthy GWG and lifestyle during pregnancy. If proven effective, the HealthyMoms app could be implemented as a complement to standard antenatal care nationally.

*Pontus Henriksson, Johanna Sandborg, Marie Blomberg, Christina Alexandrou, Hanna Henriksson, Ralph Maddison, Kristin Silfvernagel, Marja H Leppänen, Francisco B Ortega, Jonatan R Ruiz, Marie Löf*

**Speaker: Nils Gasslander**, Uppsala University

*Tailored Internet-Delivered Cognitive Behavioral Therapy for Patients with Chronic Pain and Comorbid Psychiatric Distress*

Introduction: Patients suffering from chronic pain often experience comorbid psychiatric distress. Cognitive behavioral therapy (CBT) has been shown to be effective in treating both these problems. Delivering relevant treatment can present difficulties due to logistics, cost and lack of personnel with required competence. A possible solution could be delivering CBT through the internet (iCBT), thus sidestepping logistical issues while lowering costs. Though several studies have shown iCBT to be efficacious in treating pain and psychiatric conditions separately, research on a combined approach is scarce.

Methods: Randomized controlled trial to study efficacy of an iCBT treatment for patients with chronic pain and comorbid psychiatric distress. 186 participants were recruited from a local pain clinic and randomized to treatment or waiting-list. Treatment was tailored on the level of
individual participants, enabling patients suffering a wide range of pain- and psychiatric conditions to be recruited. Finally, 12-month follow up data will be collected, and an additional treatment program designed to improve initial effects after 12-months will be evaluated.

Results: Preliminary results show positive outcomes on several measures of mood, as well as acceptance, catastrophizing, disability, coping strategies and quality of life. Preliminary predictor analyses have shown treatment credibility to be an important predictor of outcome, and early module-completion as predicting treatment compliance.

Conclusions: Preliminary analyses suggest that iCBT is a promising approach for treating patients with chronic pain and comorbid psychiatric distress. Thus, tailored iCBT could be a useful alternative for patients for which logistics on other issues present barriers for traditional treatment. Improving treatment credibility and engaging participants early on is likely important for treatment outcome and compliance. Waiting-list comparison limits conclusions that can be made however, and further research should focus on comparisons with active controls.

Nils Gasslander

Speaker: Britta Westerberg, Region Örebro Län

Internet-based treatment for adults with autism spectrum disorder – a study protocol for a randomized controlled trial

Introduction: The group of patients diagnosed with Autism spectrum disorder (ASD) is increasing and so is the need for new and effective treatment methods. ASD is characterized, among other things, by difficulties in social interaction and communication. These difficulties often affects their quality of life and causes a risk of developing social anxiety or other forms of mental illness, which often leads to isolation and may cause difficulties in participating in regular face-to-face psychological treatment. Although research shows that group therapy is favorable for this group of patients, many with ASD refrain from group-treatment due to social anxiety or difficulties with public transport. In order to increase the availability of evidence based psychological treatment for these patients, it seems important to be able to offer a web-based treatment option, with the ability to participate in online group sessions.

Aim: The aim of the study is to investigate whether Internet-based CBT is an effective method of raising the quality of life and improving the mental health of adults with ASD.

Methods: A randomized controlled study design will be used. Assessment will be conducted through video interviews, recruiting 84 patients with ASD and normal intellectual abilities. Symptoms of depression and other forms of psychopathology will be assessed through MINI-7 interviews. Primary outcome measures are quality of life and symptoms of depression and anxiety. Participants in the intervention group receives a 37 session blended treatment combining individual ICBT delivered through a treatment platform Stöd och Behandling (SOB) with the opportunity to participate in regular group discussions delivered through a discussion forum online. Participants in the control groups are offered self-studies through psycho educative books about ASD. Data will be collected at baseline, mid-treatment, post-treatment and after six and 12 months.

Britta Westerberg
**Speaker: Viktor Kaldo**, Karolinska Institutet

*Internet treatment as a methodological base to compare sleep compression and sleep restriction in the treatment of insomnia*

Background: Insomnia is a highly prevalent disorder that affects quality of life and increase the risk of other mental health problems. Cognitive Behavior Therapy (CBT) is the treatment of choice and probably the most important part of CBT for insomnia is Sleep Restriction. This method abruptly restricts the allowed time in bed to the average time the patient actually sleep, in order to quickly establish a more robust sleeping pattern and higher sleep efficiency. However, it is also related to adverse events such as sleep deprivation and worry. Sleep Compression is considered to produce less adverse effects than Sleep Restriction, since it decreases the allowed time in bed more gradually.

Methods: Internet CBT (ICBT) is a highly standardized and time-efficient way to deliver CBT manuals. This makes it ideal to use in treatment component research when the content of a specific method needs to be very specific and the contamination effect between conditions eliminated. Thus, we include nationally recruited participants (n=180) to be randomized between two single-component internet-treatments: Sleep Restriction and Sleep Compression. Main outcome is self-rated insomnia symptoms measured each week during 10 weeks. The most important secondary outcome is self-reported and clinician-rated Adverse Events.

Results: Interim analysis for 94 participants will be presented.

Discussion: If Sleep Compression results in less Adverse Events and also provides the same reductions in insomnia symptoms, it could be put forward as a less difficult alternative for treatment of insomnia. This would most likely increase the possibility to disseminate CBT for insomnia more broadly, to reach also the patients and therapists that might be reluctant to initiate Sleep Restriction or bold enough to adhere to it properly during the course of treatment. Advantages of using ICBT as a basis for treatment component/process research will be briefly discussed.

Viktor Kaldo, Ann Rosen, Erik Forsell, Paolo d’Onofrio, Markus Jansson-Fröjmark, Torbjörn Åkerstedt, and Susanna Jernelöv

---

**Speaker: Karin Hyland**, Karolinska Institutet/Riddargatan 1, Mottagningen för alkohol och hälsa

*Treatment of alcohol dependence in primary care*

Introduction: Alcohol dependence is a common disorder and has a continuum regarding severity. Most alcohol dependent persons have a moderate level of dependence and live under socially orderly conditions. Nevertheless, the main part of morbidity and mortality as well as community costs related to alcohol consumption, occur in this large group. Treatment seeking in this group is low, mainly due to stigma and because treatment options are seen as
The overall aim with this project is to broaden the base for treatment of alcohol dependence by lowering the threshold for treatment seeking and to reach a larger part of the target group with evidence based treatment.

Alcohol is relevant to discuss in many primary care (PC) consultations and PC is less stigmatizing than addiction care units. But general practitioners (GP) are reluctant to engage in treating alcohol problems due to time constraints and lack of knowledge about how to ask about and how to treat alcohol problems. Screening and brief interventions with advice from a motivational interviewing perspective are effective for high consumers but there are few studies on dependence.

Internet based interventions are attractive to and are shown to reach people with alcohol problems. Yet there are no internet studies on alcohol dependence in PC.

In this study we hypothesize that Internet based Cognitive Behavioral Therapy, or iCBT, when added to treatment as usual (TAU) for alcohol dependence in PC, improve treatment outcome compared to TAU only.

Methods: This is an RCT designed to demonstrate statistical superiority and based on the power calculation 260 patients will be randomized to either iCBT+TAU or TAU only. This is a multicentre-study where we collaborate with a number of PC clinics and all adult patients that visit the PC clinic under a timeperiod are informed about the study through the leaflet “Feel better with less alcohol” at the registration desk. The personnel are told to encourage patients to logon to the web site where assessment and randomization take place. After randomization the patient provide a bloodsample for biomarkers and are scheduled for an appointment with the GP. All GPs are offered brief training in giving feedback on the assessment and biomarkers and the use of medication for treatment of alcohol dependence. This program serves as the base of TAU which is given in both study arms. The GPs design a treatment plan based on current routines at the PC clinic and the intervention group is given iCBT as well. iCBT is an adaptation of motivational enhancement therapy and CBT and includes five elements: motivation, goal-setting and self-control strategies, risk situations / behavior analysis, planning alternative options, relapse prevention and crisis plan.

Primary outcome is change in weekly alcohol consumption from baseline to 3 and 12 months post inclusion. 2nd outcomes: AUDIT score, ICD-criteria, EQ5D, HAD-score and biomarkers incl liverenzymes and PEth.

Results: The recruitment of patients has started at four PC clinics during this autumn and will continue during 2018.

Karin Hyland, Magnus Johansson, Anders Hammarberg, Sven Andreasson

Speaker: Per Carlbring, Stockholm University

Internet-based vs. face-to-face cognitive behavior therapy for psychiatric and somatic disorders: An updated systematic review and meta-analysis

During the last two decades, Internet-delivered cognitive behavior therapy (ICBT) has been tested in hundreds of randomized controlled trials, often with promising results. However, the control groups were often waitlist, care-as-usual or attention control. Hence, little is known about the relative efficacy of ICBT as compared to face-to-face cognitive behavior therapy
(CBT). In the present systematic review and meta-analysis, which included 1418 participants, guided ICBT for psychiatric and somatic conditions were directly compared to face-to-face CBT within the same trial.

Out of the 2078 articles screened, a total of 20 studies met all inclusion criteria. These included three studies on social anxiety disorder, three on panic disorder, four on depression, two on body dissatisfaction, two on insomnia, one on male sexual dysfunction, one on spider phobia, one on snake phobia, and one on fibromyalgia. Half of the face-to-face CBT treatments were administered in an individual format, and the other half were administered in a group format.

Results showed a pooled effect size at post-treatment of Hedges g = 0.05 (95% CI, -0.09 to 0.20), indicating that ICBT and face-to-face treatment produced equivalent overall effects. Study quality did not affect outcomes. While the overall results indicate equivalence, there have been few studies of the individual psychiatric and somatic conditions so far, and for the majority, guided ICBT has not been compared against face-to-face treatment. Thus, more research, preferably with larger sample sizes, is needed to establish the general equivalence of the two treatment formats.

Per Carlbring, Gerhard Andersson, Pim Cuijpers, Heleen Riper & Erik Hedman

Speaker: Mats Dahlin, Linköping University

Internet-delivered cognitive behaviour therapy for generalized anxiety disorder in psychiatric routine care: a randomized controlled trial

Generalized anxiety disorder (GAD) is characterized by an excessive and uncontrollable worry that is more or less constantly present and has negative effects on life and function. The disorder is often described as a chronic condition if not treated and is also associated with high rates of comorbid conditions such as depression, panic disorder, somatoform disorder, personality disorders and alcohol or drug abuse. The disorder is highly disabling and is associated with high levels of personal suffering as well as high economic burden for society.

Internet delivered treatments for GAD has been shown to be effective. Now it is vital that we evaluate how these treatments works in regular care. We have previously conducted two randomized controlled trials using a CBT treatment for GAD (called Origo) with good results. These studies were done with an open recruitment trough media. In this study, we used the same treatment in outpatient psychiatric care as a way to evaluate how well the treatment works in regular psychiatric care. 29 participants were included and randomized to treatment or waiting list control. The results will be presented and discussed in terms of implementation and psychiatric settings.

Mats Dahlin, Olof Johansson, Björn Paxling, Gerhard Andersson
**Speaker: Lichen Ma, Stockholm University**

*Attentional bias modification in virtual reality*

Introduction: It has been theorised that attentional biases (sensitivity and hypervigilance towards threat-related information) may play a causal role in the aetiology and maintenance of dysfunctional anxiety. Attentional bias modification (ABM) aims to directly modify the underlying attentional biases implicated in anxiety disorders, and consequently reduce anxiety symptoms.

We conducted two studies that examined the effectiveness of ABM training programs in reducing attentional bias and anxiety. Both programs were delivered via virtual reality (VR) technology. Study 1 utilised a traditional dot-probe ABM, and Study 2 utilised a Person Identity Match (PIM) ABM. In addition to the comparison of two different ABM programs, the studies also investigated whether the use of 3 dimensional stimuli has an impact on the outcome of the ABM training.

**Methods:**

**Study 1**

One hundred participants with elevated anxiety scores (LSAS > 30) were randomly assigned to 4 groups:

1. ABM with 2D stimuli (n = 25)
2. Mock-ABM with 2D stimuli (n = 25)
3. ABM with 3D stimuli (n = 25)
4. Mock-ABM with 3D stimuli (n = 25)

The participants first completed questionnaires that measured their anxiety and other factors of interest. After which the participants completed 100 trials of a dot-probe task to measure their pre-training attentional bias. The participants then completed 360 trials of ABM training. Following ABM, the participants carried out post-training bias measurement and anxiety measurement. Finally, the participants answered follow-up questionnaires 1 week and 3 months after the ABM training.

**Study 2**

Study 2 shares the exact same design as Study 1, but utilised a different version of ABM training.

**Results:** Data analysis is currently ongoing and results are pending.

The change in attentional bias and anxiety are the primary outcome measures. Both within-group comparisons (pre-training vs. post-training) and between-group comparisons (ABM vs. mock; 2D vs 3D; Dot-probe vs. PIM) will be carried out.

Some preliminary results will be presented at the conference.

**Conclusions:** Pending

*Lichen Ma, Elin Zetterlund, Sofia Nöjd, Anna-Karin Ek, Gustaf Åbyhammar, Anne-Wil Kruijt, Tomas Furmark, Gerhard Andersson, & Per Carlbring*
Speaker: Anne-Wil Kruijt, Stockholm University

Treatment without target? No meta-analytical evidence for baseline bias towards threat in 860 clinically anxious individuals enrolled in Attention Bias Modification RCTs

Background: Considerable effort and funding are spent on developing and assessing clinical efficacy of dot probe task (DPT) based Attention Bias Modification (ABM). ABM is regarded as a potential new (online) treatment for anxiety disorders especially. Anxiety disorders are commonly asserted to be characterised by ABM’s treatment target: preferential processing of threatening information. Yet the available meta-analytical evidence for this specific threat-bias in clinically anxious individuals is thin: the largest meta-analysis to date included DPT data for only n = 337 clinically anxious individuals. We reasoned that the baseline bias measures obtained in RCTs for ABM constitute a considerable, hitherto not assessed, body of data on the existence of DPT threat bias in clinically anxious samples.

Method: baseline ‘threat vs neutral’ DPT summary data for n=860 clinically anxious individuals enrolled in k=11 ABM RCTs were meta-analysed using REML. Additional Bayesian analysis was used to assess support for a series of 1 ms wide bias size intervals.

Results: REML analysis indicated no evidence that mean observed Bias Index (BI) differs from point zero (k= 11, n= 860, mean BI = 1.8, SE = 1.53, p = .229, 95% CI [-1.2 - 4.8]). Bayesian analyses indicated moderate support for the traditional ‘point-zero’ over the ‘not point-zero’ hypothesis (BF01 = 6.7). Interval-based Bayesian analysis suggest that BI most likely falls in the 0-1 ms interval (BFinterval/notinterval = 231) and is almost certainly not larger than +2 ms (towards threat), or -1 ms (away from threat).

Conclusion: Clinically anxious individuals enrolled in RCTs for Attention Bias Modification do not display attention bias towards threat at the start of their trials. This meta-analytical finding casts strong doubt on the common assumption that clinical anxiety is characterized by preferential attention allocation towards threatening information.

Anne-Wil Kruijt, Sam Parsons, Elaine Fox

Speaker: Philip Lindner, Stockholm Center for Dependency Disorders

Therapist-led and at-home one-session Virtual Reality exposure therapy for public speaking anxiety using consumer hardware and software, with online maintenance: A randomized controlled trial

Introduction: Exposure therapy is an effective treatment of public speaking anxiety (PSA), yet inherent logistic challenges prevent widespread dissemination. Previous research has revealed that Virtual Reality (VR) may be effectively used for realistic stimuli presentation, but past generations of VR hardware have been inaccessible and expensive. We reasoned that VR stimuli, delivered using modern consumer hardware and software, would enable one-session treatment of PSA, both in the form of traditional therapist-led treatment and as an internet intervention.

Methods: N=50 adult participants from the general public with clinically significant PSA were recruited and randomized to either therapist-led one-session treatment followed by online maintenance promoting in-vivo exposure, or waiting-list. The three-hour exposure session...
included psychoeducation and had participants conducting speech exercises, framed as behavioral experiments targeting idiosyncratic catastrophic beliefs, in front of virtual audiences, and listening to audio recording afterwards. Primary outcome measure was self-reported PSA, assessed using a validated instrument, measured before and after the treatment session, weekly during the four-week maintenance period, and at the end. After the first phase of the study, the waiting-list group received a simple VR headset by post and were given access to an online version of the same treatment (including the maintenance program), conducted their own one-session treatment followed by the same maintenance program, and reported PSA using the same intervals as before. Data were analyzed using mixed effects modeling.

Results: A significant time*group effect was found such that the treatment group reported a 6.92-point larger decrease in PSA symptoms per treatment step than the waiting-list, corresponding to a between-group $d=0.84$ after the one-session treatment, growing to $d=1.56$ after the maintenance period. Piece-wise modeling of the waiting-list group’s PSA scores before and after they received their at-home equivalent treatment revealed a 6.39-point difference in decrease (per step) after receiving treatment compared to before, corresponding to a within-group $d=1.22$ after the at-home one-session treatment, growing to $d=1.78$ after the maintenance period.

Conclusions: This trial demonstrates that simple, consumer VR hardware and software can be used to treat PSA using a one-session format, with large effect sizes. To our knowledge, this is the first study to evaluate the potential of internet-administered, at-home VR treatment, the results of which are promising.

Philip Lindner, Alexander Miloff, Simon Fagernäs, Joel Andersen, Martin Sigeman, Gerhard Andersson, Tomas Furmark, & Per Carlbring

**Speaker: Max Rubinsztein**, Karolinska Institutet

*Introducing Learning Machines into ICBT*

Background: The empirical support of ICBT for a range of psychiatric conditions is strong, however, it does not work for everyone and our understanding of why some patients improve and others do not is still limited. This lack of knowledge is not specific for ICBT but concerns all types of psychological treatment. Since previous research on treatment outcome predictors and traditional statistical methods have largely failed to find consistent results, new methods and approaches are needed.

Method: In a recent collaboration between Karolinska Institutet and Royal Institute of Technology (KTH), the aim is to use artificial intelligence (AI), or ”"Learning Machines"", to improve upon the level of predictive power concerning outcome in ICBT. This will be used to better guide important clinical decisions. The first phase in this project is concerned with choosing the most appropriate algorithms and machine learning method/methods for analyzing the ICBT data. After this the next step is to compare the predictive abilities of the Learning Machine with traditional statistical methods.

Results and Discussion: This presentation aims to clarify what the project is about and to discuss what methods might be best suited to analyze ICBT data with the purpose of outcome
prediction. It will also discuss whether Learning Machines can be applied in the domain of ICBT and what the potential benefits of this approach are.

Max Rubinsztein

**Speaker:** Robert Johansson, Stockholm University

*After the web we had the apps. Then came the robots.*

ICBT started out as delivering self-help material via the web. During the last decade, we have seen an explosion in app-based self-help programs. Lots of technologies are constantly being developed that open up for new kinds of psychological treatment services. One very recent development is social robots built on open standards that enable applications to be developed on such platforms.

Recently we have explored one such robot platform and its potential use in the field of e-health. During the talk we will give an introduction to the robot platform, provide a demo of an application developed, and provide data on clinical psychologists’ attitudes towards using a social robot as part of their practice. Future use of social robotics in the field of Internet interventions will be discussed.

Robert Johansson
Poster Abstracts

**Poster presenter:** Erik Forsell, Karolinska Institutet

*Internet delivered Cognitive Behavior Therapy for Antenatal Depression: A Randomized Controlled Trial*

Depression occurs in 5-10% of pregnancies. Treatment of psychiatric illness in this period requires special attention and expertise to be safe, efficacious and acceptable. Research on treatment for this group is sparse and to our knowledge no RCT (randomized controlled trial) on ICBT (internet delivered cognitive behavior therapy) for this group has been conducted before.

**Aim:** The aim of this RCT was to re-develop and test a previously established 10-week ICBT-program for depression that has now been adapted for pregnant women.

**Method:** A total of 42 pregnant women (gestational week 10-28) with ongoing major depression were randomized to either receive only regular treatment (treatment as usual, TAU) provided at their antenatal clinic and other health care instances or to receive an add-on of Primary outcome measure is symptoms of depression as measured by MADRS-S (Montgomery Åsberg depression rating scale-self report) at end of treatment. Secondary outcome is rate of remission of major depression.

**Results:** The ICBT group had significantly lower levels of depression post treatment (p<.001, Cohen's d =1.20 between groups and Cohen's d= 2.10 within treatment group. Difference in rate of remission was also significant with ICBT outperforming TAU (Chi²= 6.419 p<.01).

**Conclusion:** Pregnancy adapted ICBT for antenal depression is feasible, acceptable and efficacious in treating major depression during pregnancy. A new study is currently being conducted where this ICBT-protocol is being tested with an add-on of either sertraline or placebo pills. The aim of this second study is to examine long term effects of sertraline during pregnancy on offspring as well as determining whether adding sertraline to ICBT increases efficacy beyond placebo.


---

**Poster presenter:** Magnus Johansson, Karolinska Institutet

*Web-based treatment of harmful alcohol use: A randomized controlled trial and user-survey*

**Introduction:** Only few harmful or dependent drinkers ever seek professional help. Many are ashamed of their problem and of going to a clinic. Web-based interventions for alcohol-problems reach individuals who to a lesser extent come into contact with traditional services. The interventions have shown small to moderate effects in reducing alcohol consumption. The purpose of this project is to study effectiveness of a web-based program for harmful or dependent drinkers, with or without guidance.

**Method:** A 3-armed randomized controlled trial was conducted at a well-established Swedish website and discussion forum aimed at the general public. New users from March 2015 to
March 2017, with harmful use or dependence, were offered to participate. All participants answered a survey about reasons for using and preferences regarding web-based interventions. After submitting the survey they got randomized to one of three forms of support: (1) information, (2) iCBT program as self-help or (3) iCBT program with on-line contact with a therapist. Participants were blinded to what kind of support participants in the other groups received.

Results: Of 1175 participants with a mean age 45 years (sd=13), 56% were women and 89% alcohol dependent (ICD). Mean consumption previous week 26 (sd=17) drinks. Mean AUDIT score 22 (sd=6). Further, 37% showed symptoms of generalized anxiety (GAD-7) and 43% of depression (MADRS-S). Participants were more ready to reduce their drinking (m=8.4; sd=1.9, on a 0-10 VAS-scale) than to stop (m=5.7; sd=3.5). The most endorsed reasons for using web-based intervention were program content, anonymity and access. Preliminary data from 3 month follow-up showed small differences between groups. Women did not reduce their drinking as much as men.

Discussion: Program content, anonymity and access might be important reasons for choosing web-based intervention. An iCBT program with or without counsellor-support might not be more effective in changing alcohol consumption than brief information.

Magnus Johansson, Sven Andreasson, Anne H Berman, Kristina Sinadinovic, Ulric Hermansson

Poster presenter: Simon Fagernäs, Stockholm University

Moderating effects of presence and adherence in internetbased CBT with virtual reality exposure therapy for public speaking anxiety.

Introduction: Previous research has revealed that Virtual Reality Exposure Therapy (VRET) is an effective method for reducing symptoms of public speaking anxiety (PSA). Research about presence in the virtual environment indicates a moderating effect on physiological arousal, but more ambiguous effect on treatment effects where some research indicates a small effect while other indicate no effect. Furthermore, previous research has found adherence to home work assignments to moderate treatment outcome. In this treatment study which aimed for treating public speaking anxiety with VRET and a internetbased CBT-program, we investigated whether presence in the virtual environment and adherence to home work moderated treatment effects.

Methods: N=25 adult participants from the general public with clinically significant PSA were recruited to a wait-list to another study. After five weeks on waitlist, they started the treatment with a self-guided in virtuo exposure session followed by a four week online maintenance promoting in-vivo exposure. Participants got a simple VR headset by post. The three-hour exposure session included psychoeducation in text, and the participants conducted speech exercises, framed as behavioral experiments targeting idiosyncratic catastrophic beliefs, in front of virtual audiences, and listening to audio recording afterwards. Primary outcome measure was self-reported PSA. To measure moderating effects of presence on the primary outcome measure a self-reported validated scale with subscales for presence (iGroup Presence Questionnaire, IPQ) were used, and for adherence a score were manually calculated based on the number of completed home-work assignments in both a linear model and a binary model dividing participants in two groups: one with at least one completed home
work assignment and one with no completed home work assignment. The analysis on presence included both the effects of the VRET-session alone and in combination with the internetbased CBT-program. Data were analyzed using mixed effects modeling.

Results: No significant results were found in moderating effects of presence with its subscales on the primary outcome measure for either the VRET-session (p = .375-.616) nor in combination with the internetbased CBT-program (p = .454 -.877). Moderating effects of adherence on primary outcome measure neither revealed no significant results in the linear model (p = .368) nor the binary model (p = .113).

Conclusions: The findings of this study indicate, in line with some previous research, that presence in the virtual environment has no significant moderating effect on treatment outcome. Furthermore, in contrast to previous research, this study found no significant moderating effect on adherence to home work assignments on primary treatment outcome. Internal- and external validity and other potential explanations are discussed in detail in the poster.

S. Fagernäs, P. Lindner, A. Miloff, J. Andersen, M. Sigeman, T. Furmark, G. Andersson, P. Carlbring
**Wifi**
There will be free wifi for the conference participants. Either use Eduroam or get personal login from the registration desk.