

ESRII 2013  
3rd to 4th Oct  
Linköping  
Sweden



### About ESRII

The European Society for Research on Internet Interventions (ESRII) is a non-profit organization committed to advancing the scientific approach to studying eHealth interventions.

ESRII is a group of researchers, clinicians and policy experts whose mission is to foster excellence in evidence-based eHealth interventions targeting behavioral and mental health. eHealth interventions comprise existing and emerging technologies, including the Internet, mobile devices, digital gaming, virtual reality, remote sensing and robotics.

## Welcome to the second european conference of ESRII

### Practical information

**Meeting location:** The main meetings will be held in Vallfarten and the symposium in the D-house in room D32, D34 and D36. See map on the next page.

**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).

**Conference dinner** will be held at hotel Ekoxen on Thursday evening at 19:00, and a three course meal will be served for the amount of 50 euro, pay on site. Klostergatan 68, Linköping. Map: <http://goo.gl/ZA0dzj>

Download the ESRII-app! Don't forget to download the ESRII conference app to your mobile phone. Download here: <http://my.yapp.us/ESRII2013>

**Wifi:** There will be free wifi for the conference participants, either use Eduroam or get personal login from the registration desk.

**Festival Patron:** H.M. Princess Madeleine of Sweden

## 2013 conference organising committee

Gerhard Andersson (Chair)

Per Carlbring (Co-chair)

Lava Fadhil (Schedule + smartphone app)

Kristoffer NT Månsson (Design)

Linda Snecker (Dinner organisation)

## The board of ESRII

Prof. Dr. Gerhard Andersson

Department of Behavioural Sciences and Learning,  
Linköping University, Sweden

Department of Clinical Neuroscience, Karolinska Institutet,  
Stockholm, Sweden

Prof. Dr. Pim Cuijpers

Department of Clinical Psychology, VU Amsterdam, The  
Netherlands

Department of eMental Health, Leuphana University  
Lüneburg, Germany

Prof. Dr. Heleen Riper

Department of Clinical Psychology, VU Amsterdam, The  
Netherlands

Department of eMental Health,

Leuphana University Lüneburg, Germany

Prof. Dr. Per Carlbring

Department of Psychology, Stockholm University, Sweden

Dr. David Daniel Ebert

Department of eMental Health, Leuphana University  
Lüneburg, Germany

Department of Clinical Psychology and Psychotherapy,  
Philipps University Marburg, Germany

Dr. Kate Cavanagh

School of Psychology, University of Sussex, United  
Kingdom

Assoc. Prof. Dr. Annemieke van Straten

Department of Clinical Psychology, VU Amsterdam, The  
Netherlands

Prof. Dr. Thomas Berger

Department of Clinical Psychology and Psychotherapy,  
University of Bern, Switzerland



- R Reception desk
- i Information board
- P Parking
- B Buss stop: Vallfarten
- T Taxi
- R Restaurant
- P Foot and cyclepath
- P Linköping university
- P ESRI conference 2013



## Thursday, October 3rd

09:00 - 13:00	Registration (Vallfarten)
10:00 - 12:00	Special interest groups (Vallfarten, D32, D34 and D36)
13:00 - 13:20	Opening speech (Vallfarten)
13:20 - 17:10	Poster session (Vallfarten)
13:30 - 14:30	Symposia 1 to 3
14:30 - 15:00	Break
15:00 - 16:00	Symposia 4 to 6
16:15 - 17:10	ESRll meeting (Vallfarten)
19:00	Conference dinner (Hotel Ekoxen)

## Friday, October 4th

09:00 - 10:00	Snapshots from the programs* (Vallfarten)
10:00 - 11:00	Symposia 7 to 9
11:00 - 11:30	Break
11:30 - 12:30	Symposia 10 to 12
12:30 - 14:00	Lunch
14:00 - 15:00	Symposia 13 to 15
15:00 - 15:30	Break
15:30 - 16:30	Symposia 16 to 18
16:30 - 17:00	ESRll farewell with prizes and diplomas! (Vallfarten)

## Poster session

Kien Hoa Ly

CBT treatment with smartphone support for live treatment of depression; a randomized controlled study

Carmen Wiencke

Internet-based self-compassion training program

Julia Rheker

Internet-based self-help for tinnitus: The role of support

Philip Lindner

Clinical validation of a non-heteronormative version of the Social Interaction Anxiety Scale (SIAS)

\* Snapshots from the programs - please volunteer and show us your program! Data and results are forbidden! Programs do not have to be in English. Everyone gets prizes!



Thursday, October 3rd

13:30 - 14:30

**Vallfarten**

**Symposia 1: Mobile-phone supported studies & smartphone apps**

*Chair: Elena Heber*

1. Leanne Morrison  
Mobile App "POWeR" & online program for weight management
2. Birger Moell  
ADHD
3. Stephanie Nobis  
Comorbid depression in diabetes mellitus (cost-) effectiveness of this web-based intervention & mobile phone support
4. Elena Heber  
Work-related stress

**D32**

**Symposia 2: Eating Disorders**

*Chair: Corinna Jacobi*

1. Ina Beintner  
Bulimia nervosa in women  
Internet-based aftercare program
2. Louise Högdahl  
Bulimia nervosa (BN) CBT-based guided self-help (CBT-GSH) via the Internet
3. Corinna Jacobi  
Anorexia nervosa "Parents Act Now – P@N"
4. Anna-Carlotta Zarski  
Vaginismus- Free

**D34**

**Symposia 3: Adherence to internet-based interventions**

*Chair: Brjánn Ljótsson*

1. Eirini Karyotaki  
Individual patient data metaanalyses
2. Wouter van Ballegooijen  
Meta-Analysis Depression
3. Brjánn Ljótsson  
Irritable bowel syndrome (IBS)
4. Saskia Kelders:  
Patient's adherence to Internet interventions

14:30 - 15:00

Break

15:00 - 16:00

**Vallfarten**

**Symposia 4: Mobile Apps**

*Chair: Peter Musiat*

1. Sally Sophie Kindermann  
Mobile App "SIMBA" Bipolar disorder
2. Peter Musiat  
Acceptability of internetbased interventions or mobile apps for mental disorders
3. Lara Ebenfeld  
Mobile App (GET.ON PAPP)  
Panic Disorder

**D32**

**Symposia 5: Work-related stress & mental health**

*Chair: Gerhard Andersson*

1. Anna Geraedts  
Internet-based prevention ("Happy@Work") for employees with depressive symptoms
2. Kate Cavanagh  
Mindfulness & stress
3. Renske Visscher  
Do you have the e factor?
4. Gerhard Andersson  
Depression internet treatment

**D34**

**Symposia 6: Depression**

*Chair: David Daniel Ebert*

1. Leif Boss (presented by Dir Lehr)  
Depression
2. David Daniel Ebert  
Web-based treatment of major depressive disorder
3. Jo Annika Reins  
Major Depression
4. Kristin Silfvernagel  
Anxiety symptoms & Depression

Don't forget to download the ESRII conference app to your mobile phone. <http://my.yapp.us/ESRII2013>



# Friday, October 4th

10:00 - 11:00

## Vallfarten

### Symposia 7: Health Issues

Chair: Cornelia Weise

1. Cornelia Weise  
Gender and iCBT
2. Denise v. Deursen  
Problem Drinkers
3. Renske Spijkerman  
Substance use disorder Internet-based interventions
4. Hanne Thiart  
Insomnia  
Work-related stress

## D32

### Symposia 8: Cancer

Chair: Cornelia v. Uden-Kraan

1. Marije v. d. Lee  
Cost-effectiveness of Mindfulness Based Cognitive Therapy (MBCT) Breast cancer patients
2. Sanne v. Helmond  
Cost-effectiveness Internet-based intervention Fear of cancer recurrence in breast cancer patients
3. Fieke Everts  
Mindfulness-Based Internet Cognitive Therapy Chronic Cancer-Related Fatigue
4. Cornelia v. Uden-Kraan  
eHealth portal for cancer care

## D34

### Symposia 9: Reviews

Chair: Lina Gega

1. Sven Alfnsson  
Inter Format Reliability of Questionnaires used in ICBT
2. Leontien Vreeburg  
Meta-analyses about internet-based interventions
3. Luca Palmili  
Systematic review of formulation-driven CBT
4. Lina Gega  
Computerized CBT

11:00 - 11:30

Break

11:30 - 12:30

## Vallfarten

### Symposia 10: Health

Chair: Viktor Kaldo

1. Jiaxi Lin  
Chronic pain
2. Anne-Marie v. Hasselaar  
Chronic skin diseases
3. Marije Wolvers  
Ambulant activity feedback therapy (AAF)
4. Viktor Kaldo  
Internet-based Cognitive Behavioral Therapy Chronic Nightmares

## D32

### Symposia 11: OCD + Blended therapy

Chair: Thomas Berger

1. Erik Andersson  
Internet-based cognitive behavior therapy  
Obsessive-compulsive disorder
2. Rosalie van der Vaart  
Blended Therapy
3. Thomas Berger  
Blended Therapy
4. Erik Hjalmarsson  
Blended Therapy

## D34

### Symposia 12: Depression

Chair: Ulrich Sprick

1. Filip Drozd  
Postpartum depression
2. Heather O'Mahen  
Postnatal depression (PND)
3. Ulrich Sprick  
Depression
4. Marie Kivi  
Internet therapy for Depression (iCBT) or treatment as usual (TAU)

12:30 - 14:00

Lunch

# Friday, October 4th

14:00 - 15:00

## Vallfarten

### Symposia 13: Depression

Chair: Jeroen Ruwaard

1. Harald Baumeister  
Effectiveness of internetbased interventions
2. Jeroen Ruwaard  
Depression
3. Maria Wolters  
Help4Mood
4. Nicole Koburger  
iFightDepression

## D32

### Symposia 14: Health

Chair: Fredrik Holländare

1. Wiebke Hannig  
Internet-based relapse prevention intervention
2. Fredrik Holländare  
Bipolar II
3. Martin Kraepelien  
Parkinson's disease
4. Björn Meyer  
Depression intervention

## D34

### Symposia 15: Health

Chair: Berkeh Nasri

1. Ana Calero Elvira  
Smoking
2. Marianne Bonnert  
FGID (Functional Gastrointestinal Disorder)
3. Berkeh Nasri  
ADHD
4. Claudia Buntrock  
Web-based prevention of major depression

15:00 - 15:30

Break

15:30 - 16:30

## Vallfarten

### Symposia 16: Social Anxiety

Chair: Heleen Riper

1. Maria Tillfors  
Social Anxiety
2. Tine Nordgreen  
Panic and social anxiety
3. Kristoffer NT Månsson  
(presented by Gerhard Andersson)  
Social Anxiety
4. Bogdan Tudor Tulbure  
Social Anxiety

## D32

### Symposia 17: Anxiety and Depression

Chair: Kate Cavanagh

1. Mircea Miclea  
"Paxonline" a computer mediated solution for prevention and therapy of anxiety
2. Morgan Ström  
Physical exercise via the internet for depression
3. Sarah Vigerland  
Internet-delivered CBT for children with anxiety
4. Per Carlbring  
Internet-based Mindfulness treatment for mixed anxiety disorders

## D34

### Symposia 18: The best of everything

Chair: Niels Jacobs

1. Marit Sijbrandij  
PTSD
2. Annet Kleiboer  
Migraine
3. Niels Jacobs  
Cyberbullying



Don't forget to download the ESRII conference app to your mobile phone. <http://my.yapp.us/ESRII2013>

**Ana Calero-Elvira**, Universidad Autónoma de Madrid, Spain

Calero Elvira, A., Shih, P. C., Marchena, C., Prieto, R. & Álvarez, C. (2013)

*THE ROLE OF THERAPIST IN A SMOKING CESSATION PROGRAM: EFFECTS ON EFFICACY AND ADHERENCE*

Introduction:

Tobacco consumption is a major cause of death in developed countries. Psychological treatment has been one of the alternatives that have proven to be more effective for this problem in the long term. Providing e-therapy can help improving accessibility and availability of this treatment. The aim of this work is to analyze whether this form of intervention is as effective as traditional psychological interventions for smoking cessation and to study what is the influence of the personal contact with the therapist in the effectiveness and adherence to the program.

Methods:

We performed three modalities of the same program for smoking cessation differed in the degree of personal contact with the therapist (face to face, web + face to face, web based). 62 regular smokers over 18 years received this treatment for free. They could choose the modality of the treatment according to their wishes and availability.

Results:

No significant differences were found between groups in smoking cessation (22,22% in face to face, 18,75% in web + face to face, and 26,31% in web based). However, face to face group was the one that decreased the consumption of tobacco more compared with baseline. Attrition rate was high in all the groups and no statistical differences were found between groups (face to face 81,5%, web + face to face 87,5%, and web based 94,7%).

Discussion:

Tobacco consumption appears to be a problem which can be treated effectively through Internet. Face to face contact with the therapist does not clearly influence in better outcomes or in more adherence to treatment. Improvements are required in the program in order to reduce the dropout rate and increase the sample size to generalize the results here found.

**Anna Geraedts**, Vrije University, Amsterdam, The Netherlands

Geraedts, A. S., Kleiboer, A. M., Wiezer, N. M., van Mechelen, W., & Cuijpers, P. (2013)

*HAPPY@WORK: EFFECTIVENESS OF A PREVENTIVE WEB-BASED GUIDED SELF-HELP COURSE FOR EMPLOYEES WITH DEPRESSIVE SYMPTOMS*

Happy@Work:

The intervention Happy@Work is a brief web-based self-help course with guidance from a coach. Happy@Work is based on Problem Solving Treatment, Cognitive Therapy and a guideline to help employees with work related stress problems. It consists of 6 weekly lessons that involve information and assignments. The assignments are provided with feedback from a coach via the website.

Methods:

The study is a two arm randomized controlled trial comparing Happy@Work with care-as-usual (CAU). Employees with depressive symptoms who were not on sick leave were eligible for taking part in this study.



Data from online questionnaires were collected at baseline and 8 weeks after baseline (post treatment). The primary outcome was depressive symptoms (CES-D). Secondary outcomes were anxiety (HADS), burnout symptoms (MBI-GS), and work performance (WHO HPQ). We also collected data on the evaluation of Happy@Work. Data were analyzed on the intention-to-treat (ITT) principle, missing data were handled with use of Multiple Imputation (MI) in SPSS.

#### Results :

A total of 231 employees were recruited in six different (international) companies in the Netherlands, 95% were white collar workers. There were no significant differences between the groups at baseline with respect to demographics and symptoms.

Evaluations of Happy@Work were positive. On a 1-10 scale, the website scored 7.4, the course scored 7.4, and the feedback scored 7.7. Of the 231 employees, 172 (74.5%) completed the post-treatment questionnaires. No significant differences between the intervention group and the control group were found on depressive symptoms (effect size .18), anxiety, burnout symptoms or work performance.

#### Discussion:

Happy@Work was evaluated positively. However, participants in the intervention group did not show better improvements than the CAU group in terms of depression, anxiety, burnout and work performance. Further analyses may provide insight into the large improvements in the control group (e.g. did they receive any treatment?). Additionally, we will examine the long term effects of Happy@Work at 6 months and 12 months follow-up and we will research its effects on absenteeism, presenteeism, and we will perform a cost-effectiveness analysis.

At the ESRII we will present the final pre-post treatment assessment and discuss the progress of this ongoing study.

**Anna-Carlotta Zarski**, Philipps-Universität Marburg, Germany

Fackiner, C. & Zarski, A.-C., Rosenau, C., Berking, M., & Ebert, D. D.

*VAGINISMUS-FREE: ONLINE-BASED, GUIDED SELF-HELP CBT*

Vaginismus describes persistent difficulties to allow vaginal entry of a penis, a finger, and/or any object, despite the woman's expressed wish to do so. There is variable involuntary pelvic muscle contraction, (phobic) avoidance and anticipation/fear/experience of pain. With an estimated prevalence of 5% - 42% in clinical samples and 0,5% - 1% in non-clinical samples, vaginismus is one of the most frequent female sexual dysfunctions.

Cognitive-behavioral treatment was found to be efficacious for women with vaginismus, but the small effect sizes of the treatments warrant future improvements. Besides, there is little treatment utilization by women concerned despite high psychological strain mainly because of feelings of shame and a lack of knowledge about available treatments. Using the internet to provide guided self-help approaches ensures a greater amount of anonymity and thus a reduction of constraints to participate. To the best of our knowledge no study has yet evaluated the potential of an internet-based guided self-help treatment for woman with vaginismus so far.

#### Methods:

In this randomized controlled trial N = 100 women with vaginismus will be randomized either to a 10 weeks internet-based guided self-help intervention ("Vaginismus-free") or to a waitlist control group. Participants will be included when a) being at least 18 years old, b) having not been able to have sexual intercourse for at least six month because of vaginismus and c) being in a relationship for at least three months. The intervention ("Vaginismus-Free") is based on a cognitiv behavioral approach and consists of ten modules that comprise psychoeducation and sexual education, relaxation exercises, pelvic-floor-exercises, partner exercises, gradual exposure, cognitive therapy, and sensate focus therapy. Above this,

the patients report their success, feelings and thoughts in a weekly diary. Guidance is provided for each completed module, by supervised Master level psychology students.

Primary outcome is sexual intercourse as defined by full penetration of the penis. Self-report data are assessed at pre-, post- and follow-up measurements at three months post-treatment.

Results:

The recruitment of participants has started in March 2013, 80 participants have been randomized so far. Preliminary results will be presented.

Discussion:

To the best of our knowledge, this is the first randomized controlled trial evaluating an internet-based guided-self help intervention for women with vaginismus. If proven to be effective, this low threshold intervention could be promising in treating vaginismus.

**Anne-Marie van Hasselaar**, Academisch Medisch Centrum, Amsterdam

van Cranenburgh, O.D., van Hasselaar, A. & de Korte, J. (2013)

*A WEB-BASED, EDUCATIONAL, QUALITY-OF-LIFE PROGRAMME FOR PATIENTS WITH A CHRONIC SKIN DISEASE, VERSION 2.0.*

Background:

Chronic skin diseases can have a major impact on patients' health-related quality of life (HRQoL), i.e. physical, psychological and social functioning, and well-being of patients. Patient education aiming at an improvement of HRQoL is a promising and efficient way to provide additional care. We developed a web-based, educational, HRQoL intervention for patients with a chronic skin disease: e-learning Quality of Life (EQoL). EQoL offers patients knowledge and skills to cope with their chronic skin disease more effectively and to improve their HRQoL.

Feasibility in dermatologic practice:

In 2011 we examined 1) the feasibility of implementation of the EQoL intervention in routine dermatological practice and in patients' daily life, and 2) the acceptability of the EQoL intervention by both professionals and patients.

Methods:

We conducted a prospective cohort study in six dermatological centres in the Netherlands and 105 outpatients. Both professionals and patients completed study-specific questionnaires.

Results:

Implementation in routine practice appeared to be feasible and acceptable to professionals. Patients evaluated the intervention as convenient and attractive, but stated that their daily activities hindered them in paying sufficient attention to the intervention. The addition of "blended learning components" (e.g. e-consultation, course material), support of a nurse and experience with routine HRQoL assessment may further facilitate implementation.

Conclusions:

Whereas professionals were recipient to use the intervention, improvements of our e-learning programme are needed to effectively implement the programme in routine dermatological practice and patients' daily life.

Development of version 2.0

Based on recommendations of the feasibility study, a "version 2.0" of the programme is currently in development. Version 2.0 will be more interactive, elements of blended learning will be added, the

program will be a combination of linear and tailored intervention. The e-learning program will have more topics available and disease specific information will be added. We are working with an advisory board and a patient expert panel during the development process. In 2013 we will build and develop version 2.0, in 2014 an effectiveness study will be executed, the protocol is currently being writ

**Annet Kleiboer**, VU University, Amsterdam, the Netherlands

Kleiboer, A., Sorbi, MJ., Van Silfhout, M., Kooistra, L., & Passchier, J.

*SHORT-TERM EFFECTIVENESS OF AN ONLINE BEHAVIOURAL TRAINING IN MIGRAINE SELF-MANAGEMENT: A RANDOMISED CONTROLLED TRIAL*

Background:

Migraine is a common neurological disorder with a high burden for both patients and society. Neurological guidelines endorse behavioural training (BT) as an evidence-based supplemental preventive treatment for migraine. However, the evidence for online BT in migraine is limited.

Aim:

The purpose of this study is to determine the post-treatment effectiveness of online BT in adults with migraine delivered with minimal guidance, compared to a wait-list control group (WLC). The first aim was to examine if the training could reduce migraine attack frequency (primary outcome). Secondly, we examined if BT could strengthen self-efficacy and locus of control (secondary outcomes).

Method:

The BT group (n=195) was compared with the WLC group (n=173; 9 months waiting) in a randomised controlled trial. Patients were recruited from the general population and through referral by headache specialists. Inclusion criteria were (1) being aged 18-65, (2) meeting ICHD-II criteria for migraine, (3) an attack frequency of 2-6 migraines in the 30 days preceding the training. We excluded people, who (1) reported headache occurring on 15 or more days or (2) with medication overuse in the 30 days preceding the training, (3) had a score 178 or higher on the SCL-90R (4) a migraine duration < 1 year or (5) current or planned pregnancy. BT consists of eight modules that incorporate techniques of relaxation training and cognitive behavioural therapy. Each module includes voice-overs and videos of exemplary patients, interactive exercises, homework and email support. Results were analysed according to the ITT principle, missing data was handled by multiple imputation.

Results:

120 (62%) participants completed BT. Multiple regression analyses did not show differences between the BT and WLC group regarding migraine attack frequency (between group cohen's d: -.18, p=.07). However, the BT group improved more than the WLC group with respect to migraine related self-efficacy (between group cohen's d: .60, p<.001), internal (between group cohen's d: .30, p<.03) and external locus of control (between group cohen's d: .61, p<.001).

Conclusion:

At post-treatment, BT showed benefits regarding psychological measures (self-efficacy, internal and external locus of control) but not with respect to migraine attack frequency. We are currently analysing the long-term effectiveness of BT versus WLC at 9 months after baseline.

**Berkeh Nasri**, Karolinska Institutet, Stockholm, Sweden

Nasri, B., Moëll, B., Kollberg, L. & Kaldo, V. (2013)

## *TOWARDS INTERNET COGNITIVE BEHAVIORAL THERAPY FOR ADULTS WITH ADHD*

Attention Deficit/Hyperactivity Disorder (ADHD) is a common, inherited and disabling developmental disorder with early onset. Most often ADHD persists across the life span, affecting 2-4% of adults. Despite ADHD adults seeking help for assessment and/or treatment in increasing numbers, literature regarding psychological treatment is relatively limited. However, studies of cognitive behavioral therapy (CBT) and dialectical behavior therapy (DBT) show that these structured short-term therapies are promising in reducing ADHD related symptoms and increasing life quality by teaching patients organizational skills and skills for emotional regulation. However, no treatment study has so far evaluated the effects of a treatment manual that combines techniques from both CBT and DBT. Furthermore, no study has evaluated the possibility to use smartphone applications as a support tool for adults with ADHD as a compensational strategy for the deficits in their executive functioning. ” Two pilot studies have been conducted at the Internet Psychiatry Unit in Stockholm. Study 1 (n=18) aim to evaluate a new CBT and DBT based group treatment manual in an open study in order to later use the manual in an internet delivered intervention. Study two is an RCT comparing the effects of an online course teaching the use of smartphone applications with for example calendars, to-do-lists and reminders (n=29) to a wait-list control group (n=29). Results from both of the pilot studies will be presented and suggest that the combined treatment manual as well as the online app course are promising interventions for adults with ADHD resulting in significant, large effect sizes (Cohen’s  $d > 1.0$ ) in self-rated ADHD symptoms. These results will be used in an RCT where the CBT/DBT-manual and the app course is combined and redesigned into Internet based Cognitive Behavioral Therapy.

**Birger Moell**, Stockholm University, Sweden

Birger Moell (2013)

### *USING SMARTPHONES TO ALLEVIATE SYMPTOMS OF INATTENTION AND LACK OF ORGANIZATION SKILLS IN ADULTS WITH ADHD*

ADHD affects executive functions and pharmacological treatment is the most common intervention. Medication is ineffective for some and psychosocial interventions are scarcely available. CBT that teaches organizational skills for managing ADHD-symptoms has shown promising results. Smartphones can help individuals perform executive tasks such as planning and organization and they could be efficacious as a support tool for ADHD patients. The current study is a RCT that compares an online course (n=29) based on previously effective CBT treatments for ADHD to a wait-list control (n=29). The intervention focused on teaching the use of an online calendar and smartphone apps. The intervention brought significant improvement ( $p < 0.001$ ) to participants regarding ADHD symptoms and 38% of participants were considered clinically significantly improved. This indicates that online treatments using IT-tools for ADHD is effective and that smartphones can be used as a tool for aiding individuals with impairments in executive functions.

**Björn Meyer**, GAIA AG, Hamburg, Germany & City University London, UK

Meyer, B. & Jacob, G. (2013)

## *DEPREXIS AND BEYOND: EVIDENCE SUPPORTING A TAILORED ONLINE DEPRESSION INTERVENTION AND RELATED NOVEL DEVELOPMENTS*

The Deprexis programme is a tailored online intervention that was developed in 2007-2008 and has been evaluated in three published randomized controlled trials and several ongoing trials. One distinguishing feature concerns the programme's high level of custom-tailoring, such that the order, style, type and depth of content vary depending on user's responses within the programme. This presentation provides an overview of current evidence in support of the programme, discusses efforts to disseminate Deprexis more widely in routine care settings, and presents more recent developments in which new tailored programmes are being developed by the same team of developers that produced Deprexis. With regard to the programme's efficacy, the three published trials have consistently yielded above average effect sizes, compared to other depression online interventions. The highest effect sizes so far have been observed in a study published by Berger et al. (2011, Cognitive Behaviour Therapy), in which therapists supported participants by sending brief weekly e-mails (between-group effect size for that condition,  $d = 1.14$ ; within-group,  $d = 1.24$ ). Several ongoing studies examine questions concerning (1) the programme's health-economic effects (a trial in which more than 3,000 participants have been randomized to date); (2) the question of whether the programme can prevent symptom intensification among mildly to moderately depressed participants recruited from a variety of care settings (recruitment goal by end of 2013:  $N = 1000$ ; more than 600 participants already randomized); (3) the effects of the programme on depression symptom course among patients with primary neurological conditions, such as multiple sclerosis or epilepsy; (4) the effects of the programme under conditions in which it is deployed in stepped-care models via primary care physicians or in outpatient psychotherapy via psychotherapists. Despite somewhat sceptical reactions by some stakeholders in Germany, the Deprexis programme has been adopted by several inpatient and outpatient clinics and is being supported by some health insurance companies. The evidence base supporting the programme's efficacy and effectiveness appears to be solidifying, and current efforts focus on dissemination as well as research on treatment moderators and mediators. Based on the encouraging results with the Deprexis programme, the team of developers is now releasing programmes targeting anxiety disorders and borderline personality disorder, which will be described here. A theme uniting Deprexis and these recent programme developments is an emphasis on responsive tailoring of content to match dynamically changing user needs and preferences. Several studies are currently being conducted to examine the efficacy of these new programmes; their rationale and design will be introduced briefly.

**Bogdan Tudor Tulbure**, Department of Psychology, West University of Timisoara, Romania

Tulbure, B. T., Szentagotai, David O., Stefan, S., Månsson, K. N. T., David, D. Andersson, G. (2013)

### AN INTERNET SUPPORTED INTERVENTION FOR SOCIAL ANXIETY DISORDER IN ROMANIA

Internet-based cognitive-behavioral therapy (iCBT) for social anxiety disorder has been found effective, as attested by independently conducted randomized controlled trials in four languages. The aim of this study is to test an evidence based psychological treatment delivered via internet in Romania. Participants ( $n=76$ ) were randomized to either guided iCBT or a wait-list control group. The intervention lasted for nine weeks. Self-report measures were collected before and after the intervention, as well as six months later. The Liebowitz Social Anxiety Scale was used as the primary outcome measure. Results showed a significant difference with a large between-group effect size (Cohen's  $d=1.19$ ) in favor of iCBT. Clinical post-treatment interviews revealed that 71.2% in the treatment group had recovered in comparison to 10.5% in the wait-list control group. Moreover, the treatment gains were maintained six

months after the intervention. This study provides support for guided iCBT as a promising treatment approach in Romania.

**Brjánn Ljótsson**, Karolinska Institutet, Stockholm, Sweden

Ljótsson, B., Maravelias, A., Padyukova, T., Hedman, E., Andersson, E., Hesser, H., Rück, C., Lindefors, N., Andersson, G., Hursti, T. (2013)

*THE EFFECT OF ONLINE THERAPISTS' TREATMENT ADHERENCE IN INTERNET-BASED PSYCHOLOGICAL TREATMENT FOR IRRITABLE BOWEL SYNDROME*

In research on face-to-face CBT, much emphasis is placed on having a large adherence to the treatment protocol among therapists. "Therapist drift" make the results of studies of a treatment protocol hard to interpret and is also believed to decrease treatment effects. In studies of internet-delivered CBT (ICBT), adherence is usually given less attention. There may be a belief among ICBT researchers that since there is much control more over the presentation of treatment material in ICBT than in face-to-face CBT and less contact between therapist and patient, the adherence of the therapists matters less. However, there is little research on the actual impact of therapist adherence on treatment outcome in ICBT. We have conducted a study (Ljótsson et al. (2011). American Journal of Gastroenterology, 106, pp. 1481-1491) where exposure-based psychological treatment and stress management were compared as internet-delivered treatments for irritable bowel syndrome (IBS).

The study showed that the exposure-based treatment was superior to the stress management in improving IBS symptoms and quality of life. In a secondary analysis of the study, we have randomly selected 60 participants (30 from each treatment condition) of the study's original 195 participants. The messages from the online therapists to these participants have been rated in terms of support and therapeutic adherence to the treatment condition. The next step is to investigate the impact of treatment adherence on the outcome in the two arms and results from these analyses will be presented at the ESR11.

**Corinna Jacobi**, TU Dresden, Germany

Jacobi, C., Völker, U., Moebius, K., Richter, R., Jones, M., Lock, J. & Taylor, C.B. (2013)

*EARLY DETECTION AND INTERVENTION OF ANOREXIA NERVOSA: DISCOURAGING (?) RESULTS OF A RANDOMIZED CONTROLLED EFFICACY TRIAL*

Background:

Internet-based preventive interventions reduce risk and incidence of bulimic and binge eating syndromes in young high-risk women. However, their specific effects on core symptoms of anorexia nervosa (AN), whose incidence is highest during early adolescence are rather weak. The Internet-based program "Parents Act Now – P@N" for early intervention and indicated prevention of AN was designed to fill this gap. In consideration of the typical age of onset and of empirical findings on treatment efficacy for adolescent AN patients, P@N was designed as a family-based approach targeting parents of girls at high risk for AN. Risk was defined by a combination of identified and potential risk factors as well as early symptoms of AN. The objective of this study was to evaluate the efficacy of P@N in reducing risk status and core symptoms of AN.

Methods:



We applied a multi-stage procedure: 1) Screening and identification of high-risk adolescents (aged 11 to 17 years) based on selected risk factors and early symptoms of AN. 2) Randomized controlled study comparing P@N with an assessment-only control condition. Assessments took place at baseline, six weeks later at post-intervention, and at 6- and 12-month-follow-up.

Results:

A total of 12,377 screens were handed out in 86 German schools between 2010 and 2013. 3,939 girls (and parents) took part in the screening, 473 (12%) of these were identified as at-risk for AN and informed about their daughter's risk status. 96 families agreed to participate in baseline interviews; of these, 65 families could be randomly assigned to the intervention or the control condition. Complete post-intervention results regarding parents' adherence and (daughters') primary outcomes will be available by September 2013.

Discussion:

Subjects of discussion will be the low parental willingness to participate in both the screening procedure and the intervention itself, the adherence of participating parents to the program, and the final pre-post comparisons between the intervention and the control group on AN risk status and associated outcomes.

**Cornelia F. van Uden-Kraan**, VU University Medical Center, Amsterdam, the Netherlands

van Uden-Kraan, C.F., Lubberding, S., Jansen, F., Cuijpers, W.J.M.J., Leemans, C.R. & Verdonck-de Leeuw, I.M. (2013)

*Developing And Piloting An Ehealth Portal Targeting Survivorship Cancer Care*

Purpose:

We aimed to develop an eHealth portal, OncoKompas, targeting survivorship cancer care, through a user-centred design approach. By means of OncoKompas patients can monitor quality of life and view their results in real-time through individual well-being profiles. Based on these profiles and personal preferences, participants are directed towards supportive care services. To ensure adequate uptake, end-users and other stakeholders were involved in the development.

Methods:

We conducted a qualitative needs assessment among patients (N=30) and care professionals (N=11). Usability (system quality) of a prototype was tested by end-users (N=9). Based on the results, OncoKompas was developed with patients and professionals. Consequently, patients (N=9) participated in a second usability study (content and service quality) and care professionals (N=20) in a cognitive walkthrough. Currently, patients (N=105) participate in a multi-centre pilot study to assess feasibility.

Results:

The needs assessment revealed that an eHealth portal targeting survivorship cancer care was appealing to most patients. Respondents requested OncoKompas to provide tumour specific information and supportive care options in their own environment. Requirements for usage were: easy to use, non-obligatory, and an addition to traditional health care instead of a substitute. Care professionals expected that OncoKompas could optimize survivorship cancer care, by providing them better insight into patients' well-being. Information provided should be concise and easily accessible. Usability tests identified some weaknesses in the user interface that resulted in adjustments, e.g. clearer user instructions. Care professionals appointed some considerations during cognitive walkthroughs concerning the extensive scope and unclear final responsibility. They were pleased about the positive "approach" of OncoKompas, complete list of supportive care and design. Preliminary results of the feasibility study show that patients appreciated the increased insight in their well-being, the offered

possibilities to improve their well-being, as well as the opportunity to immediately get started with supportive care options provided. Patients appointed considerations concerning the presentation of the well-being profiles (confronting), and the limited match between the expectations of participants and the well-being profiles provided by OncoKompas. The domain of life questions was the least valued. Based on these preliminary results, OncoKompas seems to be especially appreciated by those patients who recently completed their treatment or experience several symptoms following cancer or cancer treatment.

#### Conclusions:

Study results give insight into the characteristics needed to design, build and implement a useful eHealth portal. Based on the current study results OncoKompas will be refined, after which a multi-centre study will be conducted to assess (cost-)effectiveness.

**Claudia Buntrock**, Leuphana University Lueneburg, Germany

Buntrock, C., Ebert, D., Lehr, D., Cuijpers, P., Smit, F., Riper, H., Reins, JA. & Berking, M. (2013)

EVALUATING THE EFFICACY AND COST-EFFECTIVENESS OF WEB-BASED PREVENTION OF MAJOR DEPRESSION: PRELIMINARY RESULTS

#### Background:

Major depressive disorder (MDD) imposes a considerable disease burden on individuals and societies. Web-based interventions have shown to be effective in reducing depressive symptom severity. However, it is not known whether web-based interventions may also be effective in preventing the onset of MDD. The aim of this study is to evaluate the (cost-) effectiveness of an indicated web-based guided self-help intervention (GET.ON Mood Enhancer Prevention) on the onset of MDD.

#### Methods:

A randomised controlled trial (RCT) will be conducted to compare the (cost-) effectiveness of the GET.ON Mood Enhancer Prevention training with a control condition exclusively receiving online-based psychoeducation on depression. Adults with subthreshold depression (N=406) will be recruited from the general population and randomised to one of the two conditions. The primary outcome is time to onset of MDD within a 12-months follow-up period. MDD will be assessed according to DSM-5 criteria as assessed by the telephone-administered Structured Clinical Interview (SCID). Time to onset of MDD will be assessed using life charts. Secondary outcomes include changes on various indicators of depressive symptom severity, anxiety and quality of life from baseline to post-treatment, to a 6-month and a 12-month follow up. Additionally, an economic evaluation using a societal perspective will be conducted to examine the intervention's cost-effectiveness.

#### Results:

To date, seventy participants have been included in the study, and twenty-two have completed the post-treatment assessment. We expect to present preliminary results based on 40% of post-treatment data in October.

#### Discussion:

This is one of the first randomised controlled trials that examines the effect of an indicated guided self-help web-based intervention on the incidence of major depression. If shown to be effective, the intervention will contribute to reducing the disease burden due to MDD in the general population.

**Cornelia Weise**, Philipps-University Marburg, Germany

Weise, C., Harrison, K. (2013)

*WHY SHOULD WE AND HOW CAN WE LOOK AT GENDER IN INTERNET-DELIVERED COGNITIVE BEHAVIORAL THERAPY? - AN INTERDISCIPLINARY DIALOGUE.*

Psychotherapy of any kind is intimately concerned with identity and identity issues because identity markers such as gender, age, sexuality or ethnicity shape one's sense of self as well as relationships with others. Despite this, within research on internet-delivered cognitive-behavioural therapy (iCBT), attention to one of the primary markers of identity – gender – is often limited. On the other side of the fence, research within gender studies has already developed critical perspectives on many aspects of healthcare, but rarely addresses psychotherapy. This knowledge gap in terms of gender and psychotherapy is the target point of a planned project - an interdisciplinary dialogue between researchers from psychotherapy and gender studies.

Focusing on internet-delivered CBT, our research project has three major aims: First, to develop a methodological approach that bridges disciplinary divides between gender studies and psychotherapy. Secondly, we aim to address the knowledge gaps in the respective fields.. Thirdly, we aim to develop solid cross-disciplinary collaborations which will improve patient care by increasing awareness of identity markers such as gender in psychotherapeutic practice.

**David Daniel Ebert**, University of Marburg & Leuphana University Lüneburg, Germany

Ebert, DD. Lehr, D., Boß, L., Reins, J. Buntrock, C. Cuijpers, P. Riper, H. Berking, M. (2013)

*EFFICACY OF WEB-BASED TREATMENT OF MAJOR DEPRESSIVE DISORDER: RESULTS FROM A RATER BLIND RANDOMIZED CONTROLLED TRIAL*

Background:

A large number of randomized controlled trials have shown the efficacy of web-based guided self-help interventions in reducing symptoms of depression. However, recent reviews (Kiluk et al., 2011) criticize that most of the studies conducted relied solely on participant self-report measures for evaluation of outcomes and did not include independent assessments of outcomes by raters blinded to treatment conditions. Moreover, it has been criticized that many studies used comparatively weak control conditions (i.e. wait-list control). Furthermore, evidence about potential negative effects of psychotherapeutic treatments in general and for internet-based treatments in particular is scarce. Thus, this study aims to evaluate the efficacy and potential negative effects of a new web-based guided self-help intervention (GET.ON Mood-enhancer) for major depressive disorder (MDD) compared to online-psychoeducation-only (OPO).

In this randomized-controlled trial 78 participants with MDD (assessed via SCID Interview) will be randomly allocated to either GET.ON Mood-enhancer or to OPO. GET.ON Mood-enhancer comprises six modules with elements of psychoeducation, behavioral activation and problem solving techniques. Participants will be supported by an online-coach who provides written feedback after each module. Participants of OPO get access to an online-psychoeducational manual which is based on the patient-version of the German national guideline for depression. The manual contains information about depressive symptoms, health care services and self-help strategies for depression, but does not actively encourage participants to apply self-help strategies. Both treatments are delivered via the same web-based platform. Primary outcome is observer-rated depressive symptoms (QIDS-C-16 & HRSD-24) assessed by independent raters blind to treatment conditions. Secondary outcomes include changes on

self-reported depressive symptom severity, anxiety and quality of life. Moreover potential negative effects of the treatments will be systematically evaluated on several dimensions (with regard to e.g. symptom deteriorations, attitudes toward seeking psychological help, intrapersonal negative changes, relationships, friendships, family, therapeutic malpractice and stigmatization). Moreover negative effects of GET.ON Moodenhancer will be compared to samples of face-to-face CBT for Major Depression. Assessments take place at baseline, 6- and 12-weeks following randomization. Results: The study is currently being undertaken and results at post-test will be presented.

Discussion:

This study evaluates a new web-based guided self-help intervention for Major Depression using a psychoeducation-control and observer-based outcome evaluation. This study will further enhance the evidence-base for web-based guided self-help interventions for Major Depression and will provide valuable information about potential negative effects of guided self-help treatments for depression.

**Denise van Deursen**, University of Amsterdam, The Netherlands

Deursen, D.S. van, Salemink, E., Smit, F., Kramer, J., & Wiers, R.W. (2013)

*ONLINE COGNITIVE BIAS MODIFICATION FOR PROBLEM DRINKERS: PROTOCOL OF A RANDOMISED CONTROLLED TRIAL*

Cognitive biases in attention, memory, and action tendencies have been found to play a causal role in problematic alcohol use (Wiers et al., 2012). Recently, different cognitive bias modification (CBM) interventions have been developed, which are aimed at retraining cognitive biases and thereby decreasing alcohol use. In spite of the fact that CBM is computerised and therefore has potential as an E-health intervention, little research has been done on the efficacy of online CBM in the field of addiction.

The current protocol describes a study which will test the effectiveness of web-based CBM among problem drinkers in randomised controlled trial. After completing two modules of a cognitive behavioural intervention, DrinkingLess, participants will be randomly assigned to one of 8 CBM conditions in a 2 (attentional bias retraining: real versus placebo) x 2 (alcohol/no-go training: real versus placebo) x 2 (approach bias retraining: real versus placebo) factorial design. The primary outcome measure is the change in alcohol use at three months after the CBM intervention. Participants in the real CBM conditions are expected to show a greater decrease in alcohol use than participants in the placebo conditions and this effect is expected to be mediated by the change in cognitive biases. Furthermore, possible moderators (working memory capacity, response inhibition) of the intervention effects will be explored, as well as the comparative cost-effectiveness of the various CBM combinations.

To the best of our knowledge, this is the first study to test the relative efficacy of various online CBM interventions in problem drinkers. Given the relatively low costs associated with online CBM, it could easily be implemented as a low-threshold addition to existing online interventions for problem drinkers.

**Eirini Karyotaki**, Vrije University of Amsterdam, The Netherlands

Karyotaki E, Kleiboer A, Smit F, Turner D, & Cuijpers P (2013)

*PREDICTORS OF ADHERENCE TO SELF-GUIDED WEB-BASED INTERVENTIONS FOR DEPRESSION: AN "INDIVIDUAL PATIENT DATA" META-ANALYSIS*

### Background:

There is no doubt that web-based interventions can be effective treatments for depression. Additionally, we know that larger effects are found when these treatments are delivered with some type of guidance by a coach or therapist. Lower adherence rates to self-guided online interventions (where no coach or therapist is available) may (partly) be responsible for these differential effects. Rigorous empirical evidence regarding factors influencing the adherence to treatment in self-guided web based interventions is lacking because of small study sample sizes. In individual patient data meta-analyses (IPD), the raw data is collected from several studies and combined into a larger dataset. This will provide the power to answer questions related to predictors of adherence.

Objectives: This IPD meta-analysis aimed to examine predictors of adherence to self-guided web-based treatments for depression. Potential moderators that were investigated were gender, education level, severity of depression, co-morbid anxiety, age, status of relationship, employment, number of therapy's module and type of intervention.

### Method:

We used an existing database on psychological treatments for depression ([www.evidencebasedpsychotherapy.org](http://www.evidencebasedpsychotherapy.org)) that is based on a comprehensive literature search on all published studies on Randomized Controlled Trials (RCTs) of psychotherapy for adults with depression from 1996 to January 2013. Data was analyzed by the statistical package STATA using a conditional design-based robust approach in order to identify predictors of adherence to self-guided web-based treatment.

### Proceedings:

So far, we have collected individual data of 2,311 participants across seven RCTs on self-guided web-based interventions for depression. In total we have contacted 16 authors of RCTs on the topic of interest. In the next months, we expect to receive four additional primary datasets.

Conclusion: The results of the IPD meta-analysis will be presented at the conference.

**Elena Heber**, Leuphana University of Lüneburg, Germany

Heber, E., Ebert, D., Lehr, D., Nobis, S., Berking, M., & Riper, H. (2013)

*PRELIMINARY RESULTS OF A WEB-BASED AND MOBILE STRESS-MANAGEMENT INTERVENTION FOR EMPLOYEES*

### Background:

Work-related stress is associated with a variety of mental and emotional problems and can lead to substantial economic costs due to lost productivity, absenteeism or the inability to work. There is a considerable amount of evidence on the effectiveness of traditional face-to-face stress management interventions for employees; however, they are often costly, time-consuming, and characterised by a high access threshold. Web-based interventions may overcome some of these problems yet the evidence in this field is scarce. The current study examines the efficacy and cost-effectiveness of a web-based guided stress-management training which is based on problem solving and emotion regulation and aimed at reducing stress in adult employees.

### Method:

The study targets stressed employees aged 18 and older. A randomised controlled trial design will be applied. Based on the power calculation  $d=.35$  ( $1-\beta$  of 80 %,  $\alpha = .05$ ), 264 participants will be recruited and randomly assigned to either the intervention group or a six-month waitlist control group. Inclusion criteria include an elevated stress level (Cohen's Perceived Stress Scale-10  $\geq 22$ ) and current

employment. Exclusion criteria include risk of suicide or previously diagnosed psychosis or dissociative symptoms. The primary outcome is perceived stress, and secondary outcomes include depression and anxiety. Data are collected at baseline and seven weeks and six months after randomisation. An extended follow up at 12 months is planned for the intervention group. Moreover, a cost-effectiveness analysis will be conducted from a societal perspective and will include both direct and indirect health care costs. Data will be analysed on an intention-to-treat basis and per protocol.

Results:

The study is currently being undertaken and 204 participants have been randomised from March to July 2013. Preliminary results at post-test will be presented.

Conclusions:

Substantial negative consequences of work-related stress emphasise the necessity of effective stress management programs. If the current internet intervention proves to be effective, an application as a preventative, economical stress management tool in the workplace health promotion is conceivable.

**Erik Andersson**, Karolinska Institutet, Stockholm, Sweden

Erik Andersson, Sara Steneby a, Kerstin Karlsson a, Brjánn Ljótsson b, Erik Hedman b c, Jesper Enander a, Viktor Kaldo a, Gerhard Andersson a d, Nils Lindefors a & Christian Rücka

*LONG-TERM EFFICACY OF INTERNET-BASED COGNITIVE BEHAVIOR THERAPY FOR OBSESSIVE-COMPULSIVE DISORDER WITH OR WITHOUT BOOSTER: A RANDOMIZED CONTROLLED TRIAL*

Relapse after completed cognitive behavior therapy (CBT) for obsessive-compulsive disorder (OCD) is common and many treatment protocols therefore include booster programs to improve the long term-effects and prevent relapse. However, there are no large-scale studies investigating the incremental effects of booster programs. In this study, we wanted to investigate the long-term efficacy of Internet-based CBT (ICBT) for OCD with or without a booster program. 94 participants who had previously received ICBT for OCD were randomized to receive either a booster program six months after treatment completion or to no booster program. Outcome assessments were collected at 4-, 7-, 12- and 24 months. 2/3 of the participants randomized to the booster program chose to participate in it. Results from all follow-up assessments will be presented.

**Erik Hjalmarsson**, Södermottagningen, psychiatric clinic in Helsingborg, Sweden

Hjalmarsson, E. (2013)

*TRANSDIAGNOSTIC GROUP-TREATMENT IN PSYCHIATRIC CARE – A CLINICAL EFFECTIVENESS STUDY*

Cognitive behavioral therapy (CBT) has been demonstrated to be an efficacious treatment through a wide number of treatment studies evaluating different diagnostic conditions, and disorders. However, there are still a significant proportion of people who do not respond to the treatment being offered, and some emerging difficulties have arisen in implementing CBT in routine care. Therefore, it is important to continue to evaluate potentially efficacious alternative treatment models and find ways in which one can facilitate the implementation of adequately delivered CBT. Transdiagnostic approaches to CBT emphasize commonalities between psychiatric disorders, rather than differences, and propose general treatment models tailored to treat a broad variety of symptoms. This perspective has received increasing support in the research studies and may have some advantages regarding implementation. I



will present a low-intensity manual-based CBT-intervention, delivered in group-format, in a psychiatric clinic in Sweden. The treatment program given was a computerized self-help program for symptoms of anxiety, and the treatment-group, led by two therapists, served as the only support for the patients. No diagnostic exclusion criteria were applied. Seventeen patients completed the treatment and results from self-assessments indicated improvement in symptoms and a better functioning.

**Fieke Everts**, Helen Dowling Institute, Centre for Psycho-Oncology, Bilthoven, The Netherlands

Everts, F.Z. & Van der Lee, M.L. & De Jager Meezenbroek, E.

*ONLINE MINDFULNESS-BASED COGNITIVE THERAPY FOR CHRONIC CANCER-RELATED FATIGUE – A PILOT STUDY*

Chronic fatigue after cancer (CCRF) may persist for many years after treatment and has a considerable impact on a patient's life because of its interference with daily activities. Face-to-face Mindfulness-Based Cognitive Therapy (MBCT) has shown to significantly reduce chronic fatigue in cancer survivors (van der Lee & Garssen, 2010). However, there is a considerable number of severely fatigued cancer survivors who do not have access to these interventions. We have developed an online MBCT for alleviating CCRF to enable treatment for a large group of patients suffering from CCRF who may not be willing or able to travel because of lack of energy or physical limitations.

The online MBCT follows nearly the same protocol as the face-to-face MBCT for CCRF (van der Lee & Garssen, 2010) which was based on the protocol by (Segal et al., 2002). The online MBCT is characterized by online personal contact with one assigned therapist. Patients practice exercises at home guided by audio files and written instructions that are included in the reader. They register their experience with the exercise in their homework logs during the week. The therapist explores the patient's experiences with the mindful exercises by writing a reaction to the logs.

The purpose of this study is to evaluate the efficacy of online MBCT in reducing chronic fatigue in cancer survivors. The main outcome measure was fatigue severity assessed with the Checklist Individual Strength (CIS). We have included 36 patients in the online intervention (age range 29 – 57), and compared them with a face-to-face waiting list group from a previous MBCT-study (n = 23; age range 24 – 68). Fatigue at post-assessment was significantly lower in the intervention group, compared to the waiting-list group, controlling for baseline level of fatigue. Patients' satisfaction with the online MBCT was high. They valued the MBCT with 8.38 on a scale from 0-10 (sd = 0.86). Patients rated the effect of the training on fatigue severity 7.43 (SD 1.36). They stated the therapy had helped them to: better set limits; accept their situation and to better deal with their situation; put things, that were experienced as stressful before, into perspective; stop fighting the fatigue, resulting in more energy and having more peace of mind.

The findings of this pilot study suggest that individual online MBCT may be effective in reducing fatigue CCRF in patients. A randomized controlled study with a larger sample and longer follow up is needed to demonstrate the efficacy of MBCT online.

**Filip Drozd**, National Network for Infant Mental Health, Centre for Child and Adolescent Mental Health Eastern and Southern Norway (R.BUP)

Drozd, F., Haga, S. M. & Slinning, K. (2013)

*A PILOT STUDY OF A WEB-BASED INTERVENTION ("MAMMA MIA") TO PREVENT POSTPARTUM DEPRESSIVE SYMPTOMS AND ENHANCE SUBJECTIVE WELL-BEING*

Background:

Currently, 10-15% of women giving birth suffer from postpartum depression. However, few depressed mothers are identified and offered support during the postpartum period. Consequently, an internet-based intervention ("Mamma Mia") was developed with the aim of preventing postpartum depressive symptoms and enhancing subjective well-being.

Objective:

The aim was to conduct a pilot study to (a) identify the characteristics of users of the intervention, (b) examine user acceptance, and (c) identify potential issues with the use of Mamma Mia or intervention-specific needs that should be addressed before conducting a randomized trial and implementation research.

Methods:

Participants were recruited at 5 well-baby clinics and 2 hospitals in South and Eastern Norway. Mamma Mia is an internet-based intervention which starts in gestational week 21-25 or 2-3 weeks after birth, and has a component for fathers as well. The intervention consists of 11 and 18 sessions for the pre- and postnatal phases, respectively. Participants in both the pre- and postnatal phase of the intervention filled in a web-based baseline questionnaire and were surveyed after completing session four, to assess initial user acceptance and needs.

Results:

A total of 103 participants were recruited and enrolled for Mamma Mia. Most participants were female (n = 84, 82%) with a mean age of 31.4 years (SD = 4.3). Binomial tests showed that most were ethnically Norwegian first-time mothers with 4-5 years of college or university education, and currently employed and in a couple relationship (all p-values  $\leq .02$ ). Findings also indicated that most were recruited during their pregnancy (n = 75, 73%) rather than after giving birth (n = 23, 22%,  $p < .01$ ). Of 103 participants, 47 (45.6%) responded to the follow-up survey. Twenty-eight (59.6%) of the 47 respondents were satisfied with Mamma Mia (M = 4.6, SD = 1.5). Thirty (65.2%) of 46 respondents considered Mamma Mia to be of high quality (M = 4.9, SD = 1.4). Twenty (42.6%) of the 47 respondents considered the information delivered in Mamma Mia to be personally relevant (M = 4.2, SD = 1.6). In total, 47 improvements were suggested, of which 3 categories emerged and accounted for 87% of the variation in improvements. Seventeen (36%) comments were related to individualization, 13 (28%) were suggested improvements to the information provided in Mamma Mia, and 11 (23%) comments concerned technological development (i.e. availability for smartphones and tablets).

Conclusion:

Most participants could be described as resourceful women that were recruited during their pregnancy. Most also consider Mamma Mia to be of high quality and reported to be satisfied with the program, although less than half of the respondents reported Mamma Mia to provide personally relevant information. The reported improvements suggest that participants, on the one hand, request more information and, on the other hand, find some information to be familiar. The effect of Mamma Mia will be evaluated in a randomized controlled trial starting in 2013. If the intervention is found to be effective, it will be offered to all pregnant women in Norway.

**Fredrik Holländare**, Psychiatric Research Centre, Örebro University

Holländare, F, Eriksson, A-S, Lövgren, L, Humble, M, Boersma, K (2013)

*AN INTERNET-BASED INTERVENTION FOR RESIDUAL SYMPTOMS IN BIPOLAR II – A SINGLE SUBJECT DESIGN FEASIBILITY STUDY*

Bipolar disorder is a chronic condition with recurring episodes that often lead to suffering, lowered functioning and sick leave. Pharmacotherapy in the form of mood stabilizers are widely available although compliance is sometimes poor which elevates the risk for a new depressive or (hypo)manic episode. One way to reduce the risk of future episodes and to increase compliance to medication is the use of complementing psychological interventions individually or in group. In many places the access to such interventions is limited though, probably due to a lack of trained therapists and high costs. In unipolar depression there is now robust evidence for the effectiveness of internet-based psychological interventions, most often based on psychoeducation and cognitive behavior therapy. iCBT has also been shown to be an effective way to treat residual depressive symptoms as a way to prevent relapse for persons with previous episode(s) of unipolar depression. Using internet-based interventions for persons suffering from Bipolar disorder could increase access to psychological interventions.

The aim of this study was to investigate the feasibility of iCBT and its effect on residual depressive symptoms in persons diagnosed with Bipolar disorder, type II.

All participants were recruited in a clinical setting and used mood stabilizers prescribed by a psychiatrist. Participants were first diagnosed with bipolar disorder between 2 and 31 years ago according to patient records. Data from four treated participants will be presented and the most important outcome is depressive symptoms and problems with sleeping. In an evaluation the iCBT intervention was assessed as having reduced symptoms to a large degree by one participant, to some degree by two participants, and to no degree by one participant. Self-ratings show that a symptom reduction had occurred in three cases. Future directions for research will be discussed.

**Gerhard Andersson**, Linköping University, Sweden

Andersson, G., & Carlbring, P.

*EVOLUTION OF THE SWEDISH DEPRESSION INTERNET TREATMENT TRIALS*

Background:

There are now a large number of trials on internet-delivered psychological treatments for depression. The first studies were initiated as early as mid 1990's, and subsequently there have been trials on different programs and approaches to treatment delivery across the world. The aim of this study was to summarize the findings and experiences from one research group in Sweden and to present meta-analytic statistics on the effects in different trials for different target groups.

Methods:

We identified 10 controlled trials. Most were aimed for Swedish patients (n=8), but two were conducted with Kurdish speaking patients (Sorani), and one in South Africa in a university setting. A majority of studies used programs based on CBT, but there was one trial on psychodynamic internet treatment and one based on physical activity. Moreover, one study targeted patients with residual symptoms of depression, who were not in a current episode. In addition to the 10 controlled trials on Internet treatment, there is one trial on Smartphone-delivered treatment and one large effectiveness study conducted in regular routine practice.

### Results:

Results from the Swedish trials clearly show that the treatment is better than no treatment control, as effective as face-to-face group treatment, and that the treatment form does not appear to make much difference with the possible exception of tailored Internet treatment for patients with comorbid problems. One trial indicates that relapse can be prevented and data suggests that the treatment effects are sustained over time. Dropout rates in the trials have varied, but has decreased in the trials conducted in Swedish.

### Conclusions:

This case example of studies from one research group shows that Internet treatments are possible to develop and test in controlled trials more rapidly than traditional psychotherapy research. The evidence in favour of the treatment format is now substantial, and the findings from meta-analyses on the equivalence of different forms of psychotherapy for depression (Cuijpers et al. 2008) appears to be replicated in Internet trials as well.

**Hanne Thiart**, Leuphana University Lueneburg, Germany

Thiart, H.; Lehr, D.; Ebert, D.D.; Sieland, B.; Berking, M.; Riper, H. (2013)

*LOG IN AND BREATHE OUT: LOG IN AND BREATHE OUT: EFFICACY AND COST-EFFECTIVENESS OF AN ONLINE SLEEP TRAINING FOR TEACHERS AFFECTED BY WORK-RELATED STRAIN – PRELIMINARY RESULTS*

### Background:

Insomnia and work-related stress often co-occur. Both are associated with personal distress and diminished general functioning, as well as substantial socio-economic costs due to for example reduced productivity at the work place and absenteeism. Insomnia complaints by people experiencing work-related stress are correlated with a deficient cognitive detachment from work. Diffuse boundaries between work and private life can additionally complicate the use of recreational activities that facilitate cognitive detachment.

Cognitive behavioral therapy for insomnia is effective but rarely implemented. Internet-based cognitive behavioral therapy for insomnia could potentially reduce this deficit given their demonstrated effectiveness. Less is known, however, about the efficacy of internet-based cognitive behavioral therapy for insomnia in populations affected by high work stress. Thus, the aim of the present study is to evaluate the efficacy and cost-effectiveness of a newly developed, guided online training which is based on Cognitive Behavioral Therapy for insomnia and tailored to teachers affected by occupational stress.

### Methods:

In a two-arm randomized controlled trial (N = 128), the effects of a guided online sleep training are compared to a waitlist-control condition. German teachers with significant clinical insomnia complaints (Insomnia Severity Index  $\geq 15$ ) and work-related rumination (Irritation Scale, subscale Cognitive Irritation  $\geq 15$ ) are included in the study. The primary outcome measure is insomnia severity. Additionally, an economic evaluation from a societal perspective will be conducted. Data from the intention-to-treat sample will be analyzed two and six months after randomization.

### Results:

Preliminary results will be available by October 2013. At the moment, post-assessment data of 40 participants (20 of the control group, 20 of the intervention group) are available with very promising results regarding the primary outcome: The control group improves from  $M_{pre} = 17.5$  (SD = 3.2) to  $M_{post} = 15.25$  (SD = 4.99), the intervention group improves from  $M_{pre} = 17.95$  (SD = 3.56) to  $M_{post} = 9.40$  (SD = 5.07). Based on the pooled standard deviation and the difference between control group

and treatment group at post-treatment, the preliminary effect size is  $d = 1.16$ .

#### Discussion:

To the best of our knowledge, this is the first study to evaluate an online sleep training tailored to a specific population with work stress, i.e. teachers. If this type of intervention is effective, it could reduce the paucity of cognitive behavioral therapy for insomnia and augment the support for teachers in coping with their insomnia problems.

**Harald Baumeister**, Faculty of Medicine, University of Freiburg, Germany

Baumeister, H., Reichler, L. & Lin J. (2013)

#### *GUIDANCE AS PREDICTOR OF THE EFFECTIVENESS OF WEB-BASED INTERVENTIONS FOR MENTAL DISORDERS - A SYSTEMATIC REVIEW*

#### Background and Aims:

Web-based interventions for mental disorders have been shown to be effective. Subgroup analyses of systematic reviews indicate that the effectiveness of these interventions might vary in dependence of the degree of human guidance provided as part of the intervention. This exploratory finding has been validated in several randomized controlled dismantling trials on guidance as predictor of the effectiveness of web-based mental health interventions. The present systematic review aims to summarize and quantify the effect of guidance on the effectiveness of web-based mental health interventions. The following research questions will be answered: Does the effectiveness of a web-based intervention for mental disorders vary with regard to 1) the presence of guidance (unguided vs. guided), 2) the dose of guidance (low vs. high guidance), 3) the communication mode of guidance (synchronous vs. asynchronous) and 4) the clinical qualification of the e-coach (mental-health professional vs. no mental-health professional).

#### Methods:

Included studies had to be RCTs with a comparison of either guided vs. unguided or two guided interventions for the treatment of mental disorders and disturbances. In the latter case, research had to focus on the variation of dose of guidance, communication mode or clinical qualification of e-coaches. Symptom severity and adherence to the treatment program were considered as primary and secondary outcomes, respectively. A systematic search of MEDLINE, CENTRAL, PsycINFO, PsycARTICLES and Psyn dex as well as of the trial registers "clinicaltrials.gov" and "germanctr.de" was conducted. Additionally, reference lists were examined and experts consulted. Titles and abstracts were screened. Eligibility of the remaining articles was assessed on a full-text-basis. Random-effects-analyses were conducted when feasible.

#### Results (PRELIMINARY):

5321 articles were retrieved via the database-search of which 12 remained for inclusion. Additionally, clinical trial registers yielded three potentially relevant ongoing trials awaiting classification. Six studies with a comparison of guided versus unguided interventions were identified. Significant effects on severity of symptoms (SMD=-0.22 [95%CI: -0.42, -0.03]) and adherence (SMD=0.43 [95%CI: 0.22, 0.63] for average number of completed treatment modules; RR=1.36 [95%CI: 1.07, 1.73] for completion rates) in favor of guided interventions were found. The different dosages of guidance and the effect of synchronous versus asynchronous communication mode were examined in one trial each. No significant effects were found. Four studies with a comparison of clinical experienced vs. inexperienced e-coaches were identified. No effects on either of the outcome measures were found (SMD=-0.01 [95%CI: -0.21, 0.19] for severity of symptoms; SMD=-0.19 [95%CI: -0.48, 0.09] for average number of completed

treatment modules; RR=0.95 [95%CI: 0.84, 1.07] for completion-rates).

#### Conclusions:

Guidance as part of web-based interventions is beneficial with regard to symptom severity and intervention adherence when compared to unguided interventions. However, the effect seems to be smaller than assumed based on prior non-confirmatory sub-group analyses of systematic reviews. The results also indicate that the qualification of the e-coach might be of minor importance for the effectiveness of guided web-based interventions. However, results need to be interpreted cautiously as the number of studies for each of the comparisons was rather small.

Baumeister, H., Nowoczin, L., Lin, J. & Ebert, DD. (2013)

#### *THE IMPACT OF INFORMATION ON DIABETES PATIENTS' ACCEPTANCE OF INTERNET-BASED DEPRESSION INTERVENTIONS - A RANDOMIZED CONTROLLED TRIAL*

#### Background and Aims:

Depression is frequent in diabetes patients and associated with increased morbidity and mortality and decreased quality of life. Psychological interventions have been shown to be effective for treating depression in diabetes patients. Internet-based interventions might help to provide depression interventions on a population level. However, the percentage of the target population willing to use internet-based depression interventions remains unclear and is assumed to be rather low. Therefore, the study aimed to (1) quantify diabetes patients' acceptance of internet-based depression interventions and to (2) examine whether the acceptance rate can be increased by providing patients with personal information about internet-based depression approaches.

#### Methods:

141 diabetes patients from two inpatient rehabilitation units and one outpatient clinic in south-west Germany were randomly allocated to an intervention and a no-intervention control group. Patients of the intervention group received a personal presentation on internet-based depression interventions. Afterwards, they were asked to fill-out a questionnaire. The control group only received the questionnaire. Patients' acceptance of internet-based depression interventions (low acceptance: sum score 4-9; medium: 10-15; high: 16-20) was assessed by asking patients four questions on whether they would use internet-based depression interventions in case of feeling depressed. Additionally, sociodemographic, depression-related (PHQ-8), diabetes-related as well as internet-related variables were assessed.

#### Results (PRELIMINARY):

The control group showed a low (50.7%) to medium (40.8%) acceptance with only 8.5% of all diabetes patients reporting a high acceptance of internet-based depression interventions without prior information. The personal information had no significant overall-effect on acceptance (intervention group: M=10.55, SD=4.69, N=70; control group: M=9.65, SD=4.27, N=70; d=0.20 [CI:-0.13, 0.53]). However, the a-priori planned sub-group analysis including only depressed (PHQ-8  $\geq$  5) diabetes patients yielded a significant effect on acceptance (IG: M=11.76, SD=4.29, N=28; CG: M=9.43, SD=3.60, N=28; p=.03) with a standardized mean difference of d=0.58 [CI: 0.04, 1.12].

#### Conclusions:

Diabetes patients' acceptance toward internet-based depression interventions is relatively low. The significant result for only the subsample of depressed diabetes patients indicate that personal information need to be targeted to those in need of support to be effective.



**Heather O'Mahen**, University of Exeter, UK

O'Mahen, H.A., Woodford, J., Richards, D., Wilkinson, E., McKinley, J., Warren, F., & Taylor, R.S.

*NETMUMS: A RANDOMIZED CONTROLLED TRIAL OF SUPPORTED MODULAR ONLINE BEHAVIOURAL ACTIVATION FOR POSTNATAL DEPRESSION*

Background:

Despite the high prevalence of postnatal depression (PND), few women seek help. Internet interventions may overcome many of the barriers to PND treatment use. We report a Phase II evaluation of a 12-session, modular, guided internet Behavioral Activation (BA) treatment modified to address postnatal-specific concerns (Netmums Helping With Depression [HWD]).

Methods:

To assess feasibility, we measured recruitment and attrition to the trial and examined telephone session support and treatment module adherence. We investigated socio-demographic and psychological predictors of treatment adherence. Effectiveness outcomes were estimated with the Edinburgh Postnatal Depression Scale (EPDS), Generalized Anxiety Disorder – 7, Work and Social Adjustment Scale, Postnatal Bonding Questionnaire, and Social Provisions Scale.

Results: A total of 249 women were recruited via a UK parenting site, Netmums.com. Eighty-three women meeting DSM-IV criteria for Major Depressive Disorder were randomized to NetmumsHWD (n=41) or treatment-as-usual (TAU; n=42). Eighty six percent (71/83) of women completed the EPDS at post-treatment, 71% (59/83) at 6-month follow-up. Women completed an average of 8/12 telephone support sessions and 5/12 modules. Working women and those with less support completed fewer modules. There was a large effect size favoring women who received NetmumsHWD on depression, work and social impairment, and anxiety scores at post-treatment compared to women in TAU, and a medium effect size on depression at 6 months post-treatment. There were small effect sizes for postnatal bonding and perceived social support.

Conclusions: A supported, modular, internet BA program can be feasibly delivered to postpartum women, offering promise to improve depression, anxiety and functioning.

**Ina Beintner**, Technische Universität Dresden, Germany

Beintner, I., Jacobi, C., Fittig, E. & Möbius, K. (2013)

*INTERNET BASED AFTERCARE FOR WOMEN WITH SEVERE AND CHRONIC BULIMIA NERVOSA*

Relapse rates in bulimia nervosa are high even after successful treatment. An easily accessible program might help reduce relapses. Encouraged by the effectiveness of Internet-based universal and targeted prevention programs for eating disorders, we developed a structured, Internet-based aftercare program ("IN@") for women with bulimia nervosa following inpatient treatment. The cognitive-behavioral intervention comprises 11 sessions over 9 months and includes monthly reading assignments as well as email communication and real-time online chats with a clinical psychologist specialized in eating disorder treatment.

Method: Between 2007 and 2012, 252 women with DSM-IV-based bulimia nervosa were randomized to the Internet-based aftercare program in addition to treatment as usual (IN@+TAU) or to a treatment-as-usual (TAUonly) condition. Patients were recruited from 13 psychosomatic hospitals throughout Germany and had to have reduced their core bulimic symptoms by at least 50% during inpatient

treatment to be included. Measures comprised a standardized diagnostic interview for eating disorders (SIAB-EX) as well as a number of questionnaires administered before randomization, at post-intervention and at 9-month follow-up. Primary outcomes are abstinence from binge eating and compensatory behaviors during the past 3 months before post-intervention. Secondary outcomes are reductions in binge eating and purging episodes as well as changes in eating and associated psychopathology. Follow-up data will be available by September 2013.

Results: At post-intervention, interview data from 164 women were available, while only 74 women completed post-intervention questionnaires. The majority of our sample (>80%) had received some psychiatric or psychotherapeutic treatment during the intervention period, with no differences between IN@+TAU and TAUonly. Participation with the Internet-based aftercare program was moderate; 45% of patients the IN@+TAU group opened at least a quarter of all pages of the program and completed post-intervention-assessments.

We found no differences in abstinence rates and frequencies of binge eating between IN@+TAU and TAUonly. However, IN@+TAU produced a greater reduction in vomiting episodes ( $d = .30$ ), an increase in driven exercise ( $d = .56$ ) and, in those who completed questionnaires, greater improvements in different attitudes of disturbed eating ( $d = .52-.80$ ).

Overall, effects of the Internet-intervention are rather moderate and the amount of TAU was large in both groups. However, if shortened and thus designed more economically, the intervention might be a useful add-on to TAU.

**Jeroen Ruwaard**, VU University Amsterdam, The Netherlands

Ruwaard, J., Warmerdam, L., Cuijpers, P. & Riper, H. in cooperation with Klein, M, Van der Ven, P., Rocha, A, & Ricardo Henriques, M. (2013)

*WEB-BASED, PHONE-BASED, SENSOR-BASED DEPRESSION TREATMENT: LESSONS LEARNED IN THE ICT4DEPRESSION FEASIBILITY TRIAL*

Background:

In the ICT4Depression project, EU research partners create an innovative distributed ICT-architecture for e-mental healthcare. The goal of the project is to improve the delivery of evidence-based treatment for depression through the integrated application of a variety of ICT-solutions, including the web, the mobile phone and wearable sensor technology. In this presentation, we will discuss the results of a first feasibility study of this integrated approach.

Intervention:

Moodbuster is a distributed system for (guided) self-help depression treatment. The core intervention consists of seven treatment modules comprising psychoeducation, behavioural activation, problem solving therapy, cognitive restructuring, exercise therapy, medication adherence and relapse prevention. Participants access this system via a desktop computer or via a smart-phone, through which they complete the treatment modules in any desired order, based on their needs and on system-generated individualized feedback and suggestions. In this study, participants provided additional data through ecological momentary assessment (EMA), biomedical sensor devices and an electronic medication usage monitoring appliance.

Design:

To assess the feasibility and acceptability of Moodbuster, we ran an (uncontrolled) pilot study, with measurements before, during, and after treatment.

Participants:

The trial included N = 22 adult participants with either clinical (55%) or subclinical (45%) symptoms of depression, as assessed during screening via the Kessler Psychological Distress Scale (K10) and the Composite International Diagnostic Interview (CIDI).

Outcome variables:

Participants' symptoms over time were tracked through self-report questionnaires (Beck Depression Inventory/Hospital Anxiety Depression Scale) and through prompted Ecological Momentary Assessments of mood and quality of sleep. The acceptability of the system was assessed through the System Usability Scale (SUS) and the Client Satisfaction Questionnaire (CSQ).

Results:

Although SUS and CSQ signaled problems with the usability of the system, participants actively engaged in treatment and the prompted momentary assessments. In the six-week study period, participants completed about 50% of the treatment material and provided over two thousand EMA ratings of mood and quality of sleep. At post-test (n = 19), participants reported significant improvements in depressive symptoms (BDI: d = .8, p < .001), but not in anxiety (HADS: d = .3; p = .12). EMA measurements revealed highly variable individual patient trajectories, which correlated only modestly with the BDI scores. Sleep and mood correlated positively, as expected. Experiences with the biomedical sensor devices were mixed. Experiences with the electronic monitoring of medication adherence were generally positive.

Conclusion & Discussion:

Although usability issues demand attention, our results support the feasibility of the integrated use of web-based and phone-based systems in the treatment of depression. Phone-based prompted momentary assessments appear to provide an acceptable method to tap the progress of individual patients. EMA data, as well as data from sensors and other wired electronic devices, can be collected and used for automatic treatment personalization. This, in turn, may increase the relevance and the effectiveness of treatment. With proper modifications, Moodbuster is ready to test this hypothesis.

**Jiaxi Lin**, University of Freiburg, Germany

Lin, J., Seiffert, H., Ebert, D.D. & Baumeister, H. (2013)

*CHRONIC PAIN PATIENTS' ACCEPTANCE OF INTERNET-BASED INTERVENTIONS AND HOW TO INFLUENCE IT - A RANDOMISED CONTROLLED TRIAL*

Background and aims:

Clinical trials show that internet-based psychological interventions are effective to treat chronic pain. However, the percentage of the target population willing to use these interventions remains unclear and is assumed to be rather low. Therefore, the study aimed to (1) quantify chronic pain patients' acceptance of internet-based psychological interventions and to (2) examine whether the acceptance rate can be increased by providing patients with information about internet-based approaches.

Methods:

104 chronic pain patients from two pain outpatient clinics in Freiburg, Germany were randomly allocated to an intervention and a no-intervention control group. The intervention group was shown a short video with information on internet-based psychological interventions. Afterwards, they received a questionnaire. The control group only received the questionnaire. Patients' acceptance of internet-based interventions (sum-score ranging from 4 to 20) as well as sociodemographic, pain related and internet-related variables were assessed.

### Results:

In the control group, acceptance was classified into low (sum-score: 4-9, 53.8%), medium (sum-score: 10-15, 42.3%) and high (sum-score: 16-20, 3.8%). Acceptance was significantly higher in the intervention group (intervention group: M=12.17, SD=4.22, control group: M=8.94, SD=3.71;  $t(102)=4.15$ ,  $p=.00$ ) with a standardized mean difference of  $d=.81$  (95% CI: .41;1.21).

### Conclusions:

Chronic pain patients' acceptance toward internet-based psychological interventions is relatively low but can be substantially increased by providing information in form of a short video.

**Jo Annika Reins**, Leuphana University Lueneburg, Germany

Reins, J.; Ebert D.; Lehr, D.; Buntrock, C.; Cuijpers, P.; Riper, H.; Berking M. (2013)

*INTERNET-BASED TREATMENT OF MAJOR DEPRESSION FOR PATIENTS ON A WAITING LIST FOR INPATIENT PSYCHOTHERAPY: PRELIMINARY RESULTS*

### Background:

Major depressive disorder (MDD) is a prevalent and severe disorder. Although effective treatments for MDD are available, many patients remain untreated mainly due to long waiting lists. The waiting period is associated with prolonged suffering and impairment. Web-based interventions might help to alleviate these problems. Such interventions have been shown to be efficacious in reducing depressive symptomatology in numerous studies. The aim of this study is to evaluate a new web-based guided self-help intervention (GET.ON-Mood Enhancer-WL) for MDD patients who are on a waiting list for inpatient cognitive behavioral therapy.

### Methods/Design:

In a two-armed randomised controlled trial (n=200) we compare GET.ON-Mood Enhancer-WL in addition to TAU with TAU alone. The intervention contains six modules, including psychoeducation, behavioral activation and problem solving. The participants are supported by an eCoach who provides written feedback after each module. Inclusion criteria are the diagnosis of MDD (assessed with a structured clinical interview, SCID) and being at least three weeks on a waiting list for inpatient therapy. The primary outcome is observer-rated depressive symptom severity (HRSD). Further (explorative) questions are whether remission will be reached earlier during inpatient therapy and by more patients at the end of this therapy.

### Discussion:

In October, we expect to present about 40 % of the data. As the trial has just started we cannot draw any conclusions yet. If GET.ON-Mood Enhancer-WL is proven to be effective, patients might start inpatient therapy with reduced depressive symptom severity ideally leading to higher remission rates. In the long-term, this might result in shortened inpatient therapy, reduced costs and decreased waiting times. Current data will be presented as well as challenges with integrating such interventions into routine practice.

**Juana Breton-Lopez**, Labpsitec, University Jaume I, Castellón, Spain

Mira, A., Bretón-López, J., Botella C., Romero S., Miralles, I., García-Palacios, A., Riera López del Amo, A., Fernández-Álvarez, J., & M. Baños, R.

*PROVIDING FEEDBACK THROUGH A SELF-APPLIED CCBT INTERNET-BASED PROGRAM TO TREAT EMOTIONAL DISORDERS: RELATIONSHIPS BETWEEN BEHAVIORAL ACTIVITY PATTERNS AND POSITIVE MOOD*

Behavioral Activation (BA) has proven to be efficient in the treatment of depression and mixed anxiety and depression disorders. Lewinson's first studies (Lewinson & Graf, 1973; Lewinsohn & Libet, 1972) already proved that the mood state correlated significantly with pleasant activities, and since then, a quite simple method was developed, which suggests as basic strategies: identification of pleasant activities, programming those activities, and establishing goals in order to set both short and long term objectives. The idea is to gradually increase the frequency and duration of those activities the person considers to be meaningful (Addis y Martell, 2004; Hopko y Lejuez, 2008; Lewinsohn y Graf, 1973; Lewinsohn y Libet, 1972). This approach considers essential the feedback provided to the people regarding the activities they have carried out, and the connection between being active and improving their mood. In this sense, it is important to develop strategies to monitor and enhance behavioral activities and specially to promote pleasant and significant activities. Information and Communication Technologies (ICT) can help us in this task.

"Smiling is Fun" is a CCBT self-applied program via the Internet. It is based on behavioural activation (Ekers, Richards, McMillan, Bland & Gilbod, 2011) and also includes other specific strategies based on positive psychology to improve positive mood. The program uses an Activity Report designed for the users to pay attention to daily activities, and to provide feedback helping them seeing that their mood state is closely related to the quantity and quality of activities carried out. The system can also register the percentage of the day the users have been active or involved in their life for the last 24 hours. The aim of this work is to analyze the relation between the kind of behavioural patterns and positive mood. Specifically, it was analyzed the percentage of the day in which the participants were active, the degree of satisfaction with the activities carried out, and the main clinical variables assessed after completing the 8 modules that include "Smiling is Fun". 80 participants suffering mild or moderate depression or an adjustment disorder completed the CCBT program, and the following measures: Overall Anxiety Severity and Impairment Scale (OASIS); Overall Depression Severity and Impairment Scale (ODSIS); Positive and Negative Affect Scale (PANAS+ and PANAS-). In addition, they completed daily the Activity Report and registered the degree of satisfaction of these activities and the percentage of the day they were active for the last 24 hours.

Results show that the variable percentage of the day the person has been active correlates significantly and negatively with anxiety (OASIS,  $-0,224^*$ ;  $p < .05$ ), the depressive symptomatology (ODSIS,  $-0,299^{**}$ ;  $p < .01$ ; BDI-II,  $-0,432^{**}$ ;  $p < .01$ ) and the negative affect (PANAS-;  $-0,368^{**}$ ;  $p < .01$ ). On the other hand, there is a positive and significant connexion with the positive affect (PANAS+,  $0,496^{**}$ ;  $p < .01$ ). Regarding satisfaction with the activities carried out daily, there were negative and significant correlations with the depressive symptomatology (BDI-II,  $r = -0,479^{**}$ ;  $p < .01$ ) and with the negative affect (PANAS-,  $r = -0,391^{**}$ ;  $p < .01$ ) and positive correlations with the positive affect (PANAS+,  $r = 0,415^{**}$ ;  $p < .01$ ).

The results support the relationship between relevant and significant activity patterns and positive mood, and the utility of ICTs for monitoring and promoting these patterns. The inclusion of ICT activities based reports can be used to provide important and immediate feedback to the users and therefore, to improve existing CCBT psychological treatments.

**Julia Rheker**, Dept of Psychology, Philipps-Universität Marburg, Germany

Rheker, J., Schmidt, J., Andersson, G. & Weise, C. (2013)

*INTERNET-BASED SELF-HELP FOR TINNITUS: THE ROLE OF SUPPORT*

Objective:

Internet-based cognitive behavioral self-help treatments (iCBT) have been successfully implemented for several psychological and psychosomatic disorders. Such approaches have also been effectively applied for the reduction of distress associated with tinnitus. However, the role of therapeutic support in iCBT has not been thoroughly investigated so far. Results of different studies suggest that Internet-delivered self-help programs without therapeutic support are less effective and lead to higher drop-out rates than treatments with therapeutic guidance. The aim of our randomized controlled trial was thus to investigate the role of therapeutic support in an iCBT for tinnitus sufferers.

Methods:

We applied a well-tested iCBT self-help program for tinnitus treatment to 64 tinnitus sufferers. Participants were randomly assigned to either a support-on-demand (n=32) or a non-support group (n=32). Participants of the non-support group worked independently with the self-help material and did not receive any therapeutic support. Participants of the support-on-demand group also worked with the self-help material, but could additionally ask an individually assigned therapist for as much support as needed (via email). The self-help program, which was delivered via a web page, lasted for ten weeks and consisted of 18 modules. We expected both groups to significantly improve their tinnitus-related distress, which was assessed by the Mini-Tinnitus Questionnaire (Mini-TQ) and the Tinnitus Handicap Inventory (THI). In addition, improvements in tinnitus acceptance (Tinnitus Acceptance Questionnaire, TAQ) and depressive symptoms (Patient-Health Questionnaire-9, PHQ-9) for both groups were expected. Furthermore, we expected the support-on-demand group to show a greater improvement on all measures than the non-support group. Assessments were conducted pre- and post-treatment.

Results:

A significant improvement of tinnitus-related distress on the Mini-TQ (support group:  $t(31)=8.92$ ,  $p\leq 0.001$ ; non-support-group:  $t(31)=6.27$ ,  $p\leq 0.001$ ) and the THI (support group:  $t(31)=7.86$ ,  $p\leq 0.001$ ; non-support-group:  $t(31)=6.28$ ,  $p\leq 0.001$ ) from pre- to post-treatment was observed for both groups. Both groups also improved significantly on the TAQ (support group:  $t(31)=-5.47$ ,  $p\leq 0.001$ ; non-support-group:  $t(31)=-2.88$ ,  $p<0.01$ ). Furthermore, patients of the support-on-demand group significantly improved with regard to depressive symptoms ( $t(31)=5.13$ ,  $p\leq 0.001$ ). Medium to large within-group effect sizes support our findings (Hedges'  $g$  between 0.64 and 1.76). Significant differences between the two groups were observed for tinnitus-related distress (Mini-TQ:  $t(62)=2.01$ ,  $p=0.05$ ; THI:  $t(62)=2.45$ ,  $p=0.01$ ) and for depressive symptoms ( $t(62)=2.37$ ,  $p=0.02$ ) in favor of the support-on-demand group. These results are supported by the medium between-group effect sizes for tinnitus-related distress (Mini-TQ:  $g=0.58$ , 95%CI 0.07 – 1.09; THI:  $g=0.66$ , 95%CI 0.15 – 1.17) and depressive symptoms ( $g=0.65$ , 95%CI 0.14 – 1.14).

Conclusions:

The iCBT self-help program is a good treatment option for tinnitus sufferers, independent of whether support is provided on demand or not at all. However, offering therapeutic support leads to greater improvements regarding tinnitus-related distress and associated symptoms. To generalize our results about the role of therapeutic support in iCBT, future studies should examine the importance of therapeutic guidance in disorders other than tinnitus.

**Kate Cavanagh**, University of Sussex, United Kingdom

Cavanagh, K., Strauss, C., & Jones, F. (2013)

*MINDFULNESS-BASED INTERNET INTERVENTIONS: A REVIEW AND SOME EVIDENCE*

There is growing evidence that mindfulness has positive consequences for psychological and physical health in clinical and non-clinical populations. A number of recent studies have begun to explore whether the benefits of mindfulness-based interventions can be generalised to less resource intensive methods including internet interventions. This presentation provides an overview of this research area and presents two empirical studies which have evaluated the impact of a mindfulness-based internet intervention for students.

The first study was a feasibility RCT. One hundred and four students were randomly allocated to using a two-week mindfulness-based internet intervention, which included a website including information about mindfulness and an invitation to a brief daily-practice, or a wait-list control. Measures of mindfulness (Five Factor Mindfulness Questionnaire FFMQ), perceived stress (Perceived Stress Scale) and distress (PHQ-4) were administered before and after the intervention period. Measures of self-compassion and perseverative thinking were also administered. Intention-to-treat analysis identified significant group by time interactions for mindfulness, perceived stress and distress (all  $p < 0.05$ ). Marginally non-significant group by time interactions were also found for measures of self-compassion ( $p = 0.054$ ) and perseverative thinking ( $p = 0.096$ ) in per protocol analysis.

The second study is an extended RCT comparing the same mindfulness-based internet intervention to both a waiting-list and an online psychoeducation control condition. This project is ongoing, the preliminary data will be available for analysis in August 2013.

Issues of therapy process and outcome will be discussed and recommendations for mindfulness-based intervention programme development, research and practice will be considered.

**Kien Hoa Ly**, Linköping University, Linköping, Sweden

Ly, K. H., Cederlund, H., Topooco, N., Wallin, A., Hesser, H., Bergström, J., Molander, O. & Andersson, G. (in preparation)

*CBT TREATMENT WITH SMARTPHONE SUPPORT FOR LIVE TREATMENT OF DEPRESSION; A RANDOMIZED CONTROLLED STUDY*

Depression will become one of the largest global health challenges. Evidence-based treatment cannot meet the growing demand in the current health care systems. Limited time and resources is a barrier to adequate treatment. Mobile internet and smartphone applications can increase access to psychological therapy as a ubiquitous and easily implemented instrument. Smartphone assisted treatment is potentially cost effective, time saving and may add new perspectives in terms of quality and compliance. In this randomized controlled non-inferiority treatment study, 88 participants with mild to moderate depression were recruited, and the study investigated face-to-face Behavioral Activation (BA) combined with support through a smartphone application compared to standard treatment. The experimental group ( $n = 45$ ) received 9 weeks of therapy with 4 face-to-face sessions of BA and support through a smartphone application. The reference group ( $n = 43$ ) received 10 weeks of therapy with 10 face-to-face sessions of BA. The primary outcome measures were change from baseline using Beck Depression Inventory (BDI-II). Both groups showed a significant reduction in depressive symptoms at post-test and large effect size in the experimental group ( $d = 1.25$ ) as well as the reference group ( $d = 1.40$ ). The difference between the groups were not significant. The results indicate that smartphone

supported interventions with reduced face-to-face sessions may be clinical equivalent to well established current treatment methods. Future research is necessary to examine the possible powerful potentials of smartphone applications in psychological therapy of depression.

**Kristin Silfvernagel**, Linköping University, Sweden

Silfvernagel, K., Carlbring, P. & Andersson, G. (2013)

*TAILORED INTERNET-BASED TREATMENT FOR OLDER ADULTS WITH ANXIETY, WITH OR WITHOUT SYMPTOMS OF DEPRESSION – A RANDOMIZED CONTROLLED TRIAL*

Background:

To our knowledge this is the first randomized controlled trial that evaluates internet-based CBT treatment for older adults over the age of 60 suffering from anxiety symptoms.

Objective:

The aim of this trial was to investigate if said treatment would have an effect on an older population with anxiety symptoms with or without symptoms of depression.

Methods:

We used a randomized controlled design where the treatment group received an eight week cognitive behavior treatment program, while the control condition received support within the trial period.

Results:

We have found significant improvement over all outcome measures with regard to anxiety, depression and life quality.

Conclusions:

This trial shows promising results for older adults both for reduction in anxiety symptoms and depression symptoms, increased life quality and shows tendencies to improve perceived cognitive functioning.

**Kristoffer NT Månsson**, Linköping university, Sweden

Månsson, NT., K., Carlbring, P., Frick, A., Engman, J., Olsson, CJ., Bodlund, O., Furmark, T. & Andersson, G. (2013)

*ALTERED NEURAL CORRELATES OF AFFECTIVE PROCESSING AFTER INTERNET-DELIVERED COGNITIVE BEHAVIOR THERAPY FOR SOCIAL ANXIETY DISORDER*

Randomized controlled trials have yielded promising results for internet-delivered cognitive behavior therapy (iCBT) for patients with social anxiety disorder (SAD). The present study investigated anxiety-related neural changes after iCBT for SAD. The amygdala is a critical hub in the neural fear network, receptive to change using emotion regulation strategies and a putative target for iCBT.

Twenty-two subjects were included in pre- and posttreatment functional magnetic resonance imaging at 3T assessing neural changes during an affective face processing task. Treatment outcome was assessed using social anxiety self-reports and the Clinical Global Impression–Improvement (CGI-I) scale.

iCBT yielded better outcome than ABM (66% vs. 25% CGI-I responders). A significant differential activation of the left amygdala was found with relatively decreased reactivity after iCBT. Functional connectivity analysis in the iCBT group showed that the amygdala attenuation was associated with increased activity in the medial orbitofrontal cortex and decreased activity in the right ventrolateral and



dorsolateral (dlPFC) cortices. Treatment-induced neural changes with iCBT were consistent with previously reported studies on regular CBT and emotion regulation in general.

**Lara Ebenfeld**, Leuphana Universität Lüneburg, Germany

Ebenfeld, L., Kleine Stegemann, S., Ebert, D., Lehr, D., Riper, H., Funk, B., & Berking, M. (2013)

*ACCEPTANCE AND FEASIBILITY OF A MOBILE APPLICATION FOR PANIC WITH AND WITHOUT AGORAPHOBIA*

Background:

Panic disorder is one of the most prevalent anxiety disorders. Contemporary research has proven effectiveness of internet-based self-help interventions for panic disorder. However, these approaches are limited with respect to motivate and support clients in exposure and monitoring tasks which are both fundamental components of CBT-based therapy. We argue that the time- and location-independent nature of smartphones makes them in particular suitable to overcome these limitations.

Objective:

The goal of this study is to evaluate the feasibility and acceptance of a newly developed mobile application for panic disorder and to report preliminary within-group effects.

Methods:

We developed the mobile application "GET.ON PAPP" that guides and engages clients in performing self-exposures and self-monitoring. As extensive reading and writing parts are difficult to handle on smartphones, the application is complemented by a training that is delivered over the internet. Both, mobile application and online-training are based on cognitive behavioral principles for the treatment of panic disorder. For the development, an iterative design approach has been employed that involved researchers from different disciplines as well as therapists and potential end-users. We currently conduct a feasibility study with ten participants with clinical and subclinical panic disorder with and without agoraphobia. Participants are recruited from the general population of Germany. To increase ecological validity, participants run the mobile application on their own smartphones. At the completion of the study, participants will be interviewed to report on their experiences with the mobile application as well as on technical difficulties. Participants will also be asked to complete a brief questionnaire on acceptance as well as the Panic and Agoraphobia Scale. After integrating changes resulting from the feasibility study (running from May to August 2013), an RCT will be conducted.

Results:

Results of the feasibility study (N = 10) will be presented during the conference. The results will be based on quantitative data and insights from qualitative interviews.

**Leanne Morrison**, University of Southampton, UK

Morrison, L., Hargood, C., Lin, S., Johnston, D., Johnston, M., Michie, S., Dennison, L., Little, P., Smith, P., Weal, M., & Yardley, L. (2013)

*USING N OF 1 METHODOLOGY TO EVALUATE "POWER TRACKER", A SMARTPHONE APP FOR WEIGHT MANAGEMENT: INSIGHTS GAINED AND LESSONS LEARNED*

Maintaining participant engagement and preventing attrition continues to be a major obstacle to the successful implementation of online weight management programmes. We will share our experiences of

using N of 1 methodology to examine whether and how engagement with an online weight management programme, “POWeR”, could be enhanced through the incorporation of a supplemental Smartphone app, “POWeR Tracker”.

POWeR (Positive Online Weight Reduction) supports users to adopt lifelong healthy habits that will empower them to maintain healthy weight reduction over the longer term. POWeR consists of 12 weekly sessions that encourage users to review their progress and implement theory and evidence-based strategies for healthy weight management. POWeR Tracker is an Android Smartphone app designed to be used alongside the online programme that enables users to keep track of their goals and their progress towards them.

Twelve N of 1 studies were conducted, each taking place over a four week period. Participants always had access to the online POWeR programme, but access to the POWeR Tracker app was alternated on a weekly basis using an ABAB design where ‘B’ indicates the two weeks when the app was available. In order to assess whether there were any differences in participants’ goal perceptions and behaviour between the weeks when they did and did not have access to the POWeR Tracker app each participant was required to: a) complete daily study measures on their phone; b) complete weekly study measures online; c) wear a blinded pedometer every day. Weekly telephone interviews were used to explore each participant’s experiences of using POWeR.

Novel modelling techniques were developed to analyse the daily time-series data produced by using n of 1 methodology. No systematic differences were observed between participants’ goal perceptions in the weeks when they did and did not have access to the POWeR Tracker app. Analyses of participants’ qualitative accounts revealed that this may be due to a measurement effect – participants appeared to view the daily measures as a useful intervention component rather than an administrative study task. Triangulation of data produced by using N of 1 methodology also allowed us to explore and begin to answer fundamental questions about participants engagement with a Smartphone-based weight management tool, such as when did participants use POWeR Tracker? What triggered participants engagement with POWeR Tracker? How does a mobile tool impact on participants’ experience of using a digital weight management intervention? In particular it seemed that having access to a mobile tool appeared to improve the accessibility of POWeR by allowing participants to flexibly engage with the programme at times that better suited their personal routines.

Using n of 1 methodology enabled us to gain a detailed insight into when and how participants engaged with a mobile tool for weight management. This mixed methods approach proved invaluable when seeking to interpret and make sense of the time series data.

**Leif Boss**, Leuphana University Lueneburg, Germany

Ebert, D.D., Lehr, D., Boss, L., Thiart, H., Heber, E., Berking, M., Cuijpers, P., & Riper, H. (2013)

*INTERNET-BASED GUIDED SELF-HELP TO REDUCE DEPRESSIVE SYMPTOMS IN TEACHERS. RESULTS FROM A RANDOMIZED CONTROLLED TRIAL*

Purpose:

This study aimed to evaluate the efficacy of a web-based guided problem solving intervention for teachers with depressive symptoms.

Background:

Teachers are highly affected by strain-related health problems such as depression. Strain in teachers is not only associated with personal distress and diminished quality of life, but also with substantial socio-economic costs due reduced labor productivity, absenteeism and early retirement. While strain-related

problems in teachers are often recognized early in the career, the uptake of treatment takes often many years. Low-threshold interventions such as internet-based guided self-help have the potential of reaching teachers earlier than traditional treatments. Recent studies provide evidence for the efficacy of internet-based problem solving therapy (PST) for symptoms of depression. The scope of PST is across life domains, so it can be applied to work related problems and others as well. However, to the best of our knowledge no study has yet evaluated the potential of internet-based interventions in teachers with depressive symptoms.

#### Methods:

In this randomised controlled trial, a sample of 150 teachers with elevated symptoms of depression (CES-D > 16) was assigned to either an internet-based guided PST or to a waitlist control group. The PST consists of 5 lessons, including behavioral activation with regard to important values in life, problem-solving and rumination techniques. Self-report data were assessed at baseline, post-treatment, 3- and 6-months follow-ups. Primary outcome was depressive Symptoms (CES-D). Results: PST participants showed significant less depressive symptoms at post-treatment than WL-participants ( $d = 0.69$ ). Differences were still significant at 3- ( $d = 0.44$ ) and 6-months follow up ( $d = 0.41$ ).

#### Discussion:

Internet-based PST is effective in reducing symptoms of depression in teachers. Disseminated on a large scale it could potentially reduce the burden of strain-related health problems in teachers.

**Leontien Vreeburg**, The Hague University of Applied Sciences, the Netherlands

Vreeburg, L.E., Diekstra, R.F.W. & Hosman, C.M.H. (2013)

#### *ONLINE EDUCATIONAL INTERVENTIONS; WHAT MAKES THEM EFFECTIVE? A SYSTEMATIC REVIEW OF META-ANALYTIC LITERATURE CONCERNING COMPUTER AND INTERNET INTERVENTIONS IN HEALTH AND GENERAL EDUCATION FOR AN ADULT POPULATION*

This article presents findings from a review of 13 meta-analyses of studies of online interventions in health and general education. Its purpose is twofold. First to provide an overview of the efficacy of online educational interventions and second to identify the active ingredients or components of effective online interventions. A systematic literature search for meta-analyses of online interventions using well-defined selection criteria resulted in 13 meta-analyses, 11 on health education and 2 on general education. The meta-analyses were analyzed with regard to reported (overall) effect sizes, confidence intervals, interaction effects and heterogeneity. Internet/computerised interventions are able to improve a participants' competencies compared to traditional intervention. The sustainability of effects is demonstrated until six months. Eighteen features of internet/computerised interventions are studied, and were clustered in three categories intervention, study and participants features. No clear picture of the impact of features on the effect of interventions could be drawn, due to diversity in outcomes of meta-analyses. These findings point to the necessity of more research to get clarity on the efficacy of moderators of online interventions as the field is expanding. Limitations of this review are discussed in the light of uncertainties regarding the technique of systematic review of meta-analyses, different backgrounds of meta-analyses used and mix of online and computerised interventions.

**Lina Gega**, MHCO Northumberland Talking Therapies (IAPT), UK

Gega, L., Swift, L., Barton, G., Holland, R., Howe, A., Todd, G. & Molle, J. (2013)

*COMPUTERISED THERAPY FOR DEPRESSION WITH CLINICIAN VS. ASSISTANT AND BRIEF VS. EXTENDED PHONE SUPPORT: FACTORIAL RCT*

Background:

Research has demonstrated that computerised Cognitive Behaviour Therapy (cCBT) for depression reduces symptoms as much as face-to-face therapy, and more so than waiting lists or treatment as usual. cCBT's clinical outcomes, cost-effectiveness and acceptability may be influenced by the "human" support offered as an adjunct to it, which can vary in duration and can be offered by people with different levels of training and expertise. We do not know whether a clinician offering support may be more effective but also more costly than an assistant, or whether offering longer support to patients using cCBT may lead to greater symptom improvement or satisfaction than brief support.

Methods:

In this two-by-two factorial randomised controlled trial, patients with depression had access to an 8-session cCBT programme called Beating the Blues (BtB) and were randomised to one of four types of scheduled phone support: brief-assistant, enhanced-assistant, brief-clinician, or enhanced-clinician. Brief support was 5 to 10 minutes per call to monitor progress whereas enhanced support was 20 to 30 minutes per call to offer therapeutic advice as well as monitor progress (up to 12 phone calls weekly or fortnightly). The clinician offering support was a PhD nurse with CBT qualifications and 20 years clinical experience and the assistant was a graduate psychologist with no clinical qualifications but with 2 years' experience of working with people with depression and anxiety in a voluntary organisation. Our primary outcome was the Work and Social Adjustment Scale (WSAS) which measures functioning and our main secondary outcome measure was the Beck Depression Inventory (BDI) which measures severity of depression. We have also collected data on anxiety, healthcare utilisation and patient alliance/satisfaction and experiences.

Results:

Attrition was high from referral (n=337) to randomisation (n=204) and to completion (n=85 with available follow-up data at the primary end-point). People who provided follow-up data completed more cCBT sessions and were less symptomatic at baseline and throughout the intervention. An experienced specialist clinician offering support as an adjunct to cCBT for depression did not confer any additional benefits for clinical outcomes compared to an assistant. Enhanced support costed more but did not lead to better clinical outcomes or better patient satisfaction than brief support. The less depressed patients were at baseline, and the more they used the computerised system, the lower their depression and anxiety and the better their functioning at follow-up (irrespective of the duration of support offered to them or the person offering support). Patients favoured the assistant over the clinician in terms of developing a therapeutic alliance; however, the longer the support, the better the clinician's therapeutic alliance with patients (the same was not observed for the assistant). There is a high level of uncertainty associated with the study's economic evaluation result which suggests that brief clinician support may offer better value for money than brief assistant support.

**Louise Högdahl**, Karolinska Institutet, Sweden

Högdahl, L., Birgegård, A., Björck, C., & Noring, C. (2013)

*RANDOMIZED CONTROLLED TRIAL OF INTERNET-BASED SELF-HELP COGNITIVE BEHAVIOURAL THERAPY FOR BULIMIA NERVOSA AND SIMILAR EATING DISORDERS IN CLINICAL SETTINGS. AN ONGOING STUDY IN A SPECIALIZED EATING DISORDER CLINIC WITHIN THE STOCKHOLM COUNTY COUNCIL*

Background:

Eating disorders (EDs) are common, afflicting up to 10 % of girls/women and 1% boys/men. Cognitive behavioural therapy (CBT) is considered the treatment of choice for bulimia nervosa (BN) and similar EDs. However, patients are rarely offered CBT due to a relative lack of therapists in routine clinical practice and possibly because CBT is expensive. Important challenges are therefore to offer CBT to a wider extent and to a lower cost. This problem might be solved by CBT-based guided self-help (CBT-GSH) via the Internet, which is time saving since each therapist can treat more patients, and associated with significantly lower costs compared with regular CBT due to reduced use of services, and may be provided by less skilled therapists. CBT-GSH has been shown to be up to as effective as regular CBT, but there have been few randomized studies in clinical settings, and to our knowledge none have compared the effects of two different types of internet CBT-GSH with a psychodynamic intensive day patient group treatment (DPP). There is also little knowledge about predictors of outcome in CBT-GSH, something that the current study examines, in order to help determine which patients are more or less suitable for this treatment.

Methods:

Patients were recruited at Stockholm Centre for EDs, a specialized ED-clinic within the Stockholm county council, from May 2010 through February 2013. 150 out-patients were randomly assigned to DPP, CBT-GSH (SalutBN), or a bibliotherapy CBT-GSH (BT-GSH). Forty-one patients were allocated to DPP, 54 to SalutBN, and 55 to BT-GSH. Patients were initially assessed with Stepwise; a computerized system with several clinical- and self-assessments. Inclusion criteria were: diagnosed with BN or similar ED, body mass index (BMI) 17.5-34,  $\geq 18$  years of age, fluent in Swedish, and continuous access to the internet. Exclusion criteria were: other ongoing treatment for ED, severe psychiatric symptoms, substance abuse, psychosis, suicidal thoughts or suicide attempt within the past year, or previously been treated in DPP, SalutBN, or BT-GSH. Both BT-GSH and SalutBN are based on CBT principles and the content is similar. The main difference is that in BT-GSH the patient receives a paperback manual (Overcoming binge eating, Fairburn 1995) whereas the SalutBN is purely Internet-based. In both treatments patient and therapist have weekly internet-based contact and the maximum length of treatment is 24 weeks. Approximately 11 therapist hours are required per patient in this treatment. DPP is a 16-week psychodynamic intensive day patient group treatment. Eight patients participate in each group, 3.5 hours daily, weekdays. Sick-leave full time is mandatory. The staff at DPP is medical doctors, art therapists, psychologists, psychotherapists, physiotherapists, dieticians, psychiatric nurses and social workers. This treatment requires over 200 clinician hours per patient. If shown to be effective in clinical settings, CBT-GSH could easily be implemented due to minimal therapist training and low costs.

**Luca Palmili**, King's College London, United Kingdom

Palmili, L. (2013)

## *THE USE OF INFORMATION TECHNOLOGY IN FORMULATION-DRIVEN CBT: SYSTEMATIC REVIEW*

Demand for CBT outstrips supply in many parts of the world. Since the '60s, researchers have used Information Technology (IT) to facilitate the delivery of psychological interventions. Initial programs mimicked the natural psychotherapy dialogue with a psychotherapist (Colby et al, 1966; Weizenbaum, 1966), whilst later efforts focussed on using the technology as a medium to deliver CBT (Cavanagh & Shapiro, 2004; Cavanagh et al, 2003). Within the UK's Increasing Access to Psychological Therapies (IAPT) programme, computer-aided CBT (CCBT) is a treatment option available to Step 2 workers (Bennett-Levy et al., 2010).

However, many CCBT programmes available to date deliver static, protocol-based CBT interventions. Recently, Kelly et al. (2012) proposed using machine-learning algorithms to deliver intelligent, real-time therapy (iRTT) within the context of formulation-based CBT. Such use of technology does not exclude the clinician; to the contrary, it enables the therapist to harness the technology's potential to deliver sophisticated (and possibly more) effective CBT.

This paper aims to systematically review the quantitative and qualitative literature on how technology can be used in formulation-driven CBT and reported levels of satisfaction among patients and clinicians. Particular attention will be paid to research using equipment which is already widely used in the general population (e.g. smartphones). Studies will be identified by systematic searches in standard databases (PsychINFO, EMBASE, Ovid, Web of Science, PubMed), by manual searches of relevant journals, and by searches in the grey literature. Snowballing (tracking references of references) will also be adopted. Known experts in the field will be contacted and asked to send relevant manuscripts under review or in press, conference papers, and dissertations. Studies which used IT to deliver protocol-based CBT will be excluded.

The final part of this paper will delineate future scenarios of how technology can enhance the delivery of formulation-based CBT.

**Maria Tillfors**, Örebro University, Sweden

Tillfors, M., Hallberg, C., Wallander, J., Carsten-Söderstrand, J., Buhrman, M., & Norell-Clarke, A. (2013)

*AN INVESTIGATION OF COGNITIVE DEFUSION AND COGNITIVE RESTRUCTURING AMONG PEOPLE WITH SOCIAL ANXIETY DISORDER BY A GUIDED SELF-HELP PROGRAM: A SINGLE SUBJECT EXPERIMENTAL DESIGN*

Theoretically in acceptance-based models, focus of what mediates and maintains social anxiety is put on psychological inflexibility (where one of the basic processes is cognitive fusion). On the other hand according to traditional cognitive behavior therapy (CBT) models, reducing cognitions as anxiety related negative thoughts have been shown acting as a mediator. However, according to acceptance commitment therapy (ACT) models one consequence of trying to change the contents of negative thoughts, as traditional CBT does, could be an increase of cognitive fusion which in the long run maintains the social anxiety. A central question in relation to this that has not yet been answered empirically is whether traditional CBT (including the component cognitive restructuring), contrary to what the ACT-models predict, can have an effect on the ACT specific mediator psychological inflexibility. Hence, the main objective of the current study was to examine the effects of the CBT-treatment component cognitive restructuring and the ACT-treatment component cognitive defusion on the process variables level of psychological inflexibility and numbers of negative automatic thoughts by using a

guided self-help program. The design was a single case experimental design with multiple baselines (N = 9; all participants were women with social anxiety disorder diagnoses). The results showed that the treatment components not only had effect on the process measures the respectively theory predicted but also on the opposite treatment's process measure. This indicates that contrary to what proponents of ACT fears cognitive restructuring could decrease the level of psychological inflexibility among people with social anxiety disorder. The results will be discussed in relation to the transdiagnostic perspective.

**Maria Wolters**, University of Edinburgh, UK

Wolters, M., Farrow, E., Matheson, C., McCloughan, L., McKinstry, B. & Burton, C.D. for the Help4Mood Consortium (2013)

#### *INITIAL CASE STUDY EVALUATION OF THE HELP4MOOD SYSTEM*

Help4Mood is an EU FP7 funded project with the aim of developing a system that supports the treatment of people with depression in the community. Help4Mood collects activity and speech data as well as self-reported ratings of mood, information about relevant thoughts, and feedback about the success of behaviour change attempts. These data are summarised in a report that clinicians and patients can use to discuss how the patient is doing and plan further therapy.

Activity is measured using a custom actigraph device, and patients interact with Help4Mood through a graphical user interface that features an animated talking head which talks people through what they need to do.

#### Design:

The aim of the case studies was to test the first integrated version of Help4Mood, identify potential issues that might affect deployment and trial planning, and inform further development of data analysis methods. Such case studies are part of the first phase of the development of complex intervention according to the standard MRC framework, where the feasibility of the intervention is investigated.

#### Method:

We tested an initial version of Help4Mood consisting of a daily mood check and an actigraphy component with five adult Scottish volunteers (2 male, 3 female aged between 18 and 65) who had recovered from depression. The Daily Mood Check was based on the CES-VAS-VA (Moullec et al, 2010)) and implemented as a visual analogue scale using a slider. Participants used Help4Mood daily for seven days. They were instructed to wear the actigraphy wrist watch between Day 2 and Day 5 and download the data on Day 5.

#### Results:

Participants were familiar with technology, but they had not regularly monitored their own mood in the past outside of therapy.

Technology needs to be very robust. Users have little tolerance for systems that crash. Related to this, users did not want to have to monitor the actigraphy monitors. Users asked for upload and download of the actigraphy data to be as seamless as possible; they did not want to press any buttons or remember on which days they should use the actigraph.

In the Daily Mood Check, we found evidence of differing individual baseline scores that would reflect "wellbeing". Thus further illustrates the need for visualisations and within-subject analyses.

The interface itself needs to be highly configurable and personalisable. Ideally, users should be given a choice of personas for the talking head (including the option of switching the talking head off entirely), and a choice of presentation modalities for the text. Some users did not like using a slider to rate their mood, others would have preferred an app or an interactive voice response system.

### Conclusion:

These case studies identified a number of important usability problems that have mostly been addressed in the new prototype of Help4Mood which will be tested during the summer. Further work on configuration and personalisation will be done for the final pilot RCT in Autumn/Winter 2013/2014.

**Marianne Bonnert**, Stockholm Centre for Psychiatry Research, Sweden

Bonnert, M., Ljótsson, B., Vigerland, S., Hedman, E., Serlachius, E. & Olén, O. (2013)

*INTERNET-DELIVERED EXPOSURE-BASED CBT FOR ADOLESCENTS WITH FUNCTIONAL GASTROINTESTINAL DISORDERS: A PILOT STUDY*

### Introduction:

Functional gastrointestinal disorders (FGID) have a high prevalence in adolescents. The FGID, including disorders like irritable bowel syndrome, functional dyspepsia and functional abdominal pain, have a great impact on quality of life and may lead to anxiety, depression and gastrointestinal problems in adulthood. While medical and dietary treatments have unsatisfying effects, cognitive behaviour therapy (CBT) has shown promising results for this group of patients. In adults, CBT is the most well researched psychological treatment for FGID and several studies have proven internet-delivered exposure-based CBT to be an effective treatment. Research on internet-delivered CBT for children and adolescents with FGID is scarce. The aim of the present pilot-study was to evaluate an internet-delivered exposure-based CBT-program for adolescents.

### Method:

Twenty-nine adolescents (13-17 years) and their parents were recruited through paediatric gastrointestinal clinics in Stockholm. The Internet-delivered CBT-program lasted for 8 weeks and included weekly therapist support. The support consisted of online messages and telephone calls. The assessment points were baseline, post-treatment and 6 months follow-up. The primary outcome measure was symptom severity assessed with Gastrointestinal Symptoms Rating Scale – IBS version (GSRS-IBS). Secondary outcome measures were visceral sensitivity and functional disability.

### Preliminary results:

At the time for abstract submission post-treatment data had been collected (27 out of 29 patients). Treatment adherence was high with 22 completers. Preliminary analysis reveal moderate within-group effects on symptoms and avoidance behaviours (standardized mean difference between pre- and post-treatment,  $d > 0.50$ ) and decreased worry over symptoms ( $d = 0.73$ ) in an intent-to treat analysis.

### Discussion:

Results suggest that internet-delivered CBT is a promising treatment for adolescents with FGIDs. High adherence indicates acceptability of both format and content.

At time of the conference, 6 months follow-up data will be available and presented.

**Marie Kivi**, University of Gothenburg, Sweden

Kivi, M., Eriksson, M., Hange, D., Petersson, E-L., Vernmark, K., Johansson, B. & Björkelund, C. (2013)

*INTERNET THERAPY FOR DEPRESSION IN PRIMARY CARE – A RANDOM CONTROLLED TRIAL*



This study aims to investigate whether Cognitive Behavior Internet therapy (iCBT) for depression is as effective as usual treatment in primary care (PC) settings.

Previous research shows good efficacy for ICBT for depression. It might also be a way to cost-efficiently offer evidence based psychological treatment to more patients, given the substantial shortage of trained CBT-therapists in PC. So far, few studies are conducted with a focus on the effectiveness in PC-settings. We identified patients with mild to moderate depression at 16 participating PC Centers in the Västra Götaland region. Before inclusion a structured interview was performed by a psychologist/psychotherapist to ascertain that the patients met the inclusion criteria. A total of 90 patients were included. The patients were then randomly assigned to either Internet therapy (ICBT) or to treatment as usual (TAU). The ICBT encompasses a 12-week access to a Behavioral Activation treatment program on the internet (Depressionshjälpen), a workbook, support by the evaluating psychologist/psychotherapist via 3 telephone calls (week 1, 4-5 and 8-12), and weekly contact via secure e-mail. More intense telephone and e mail contacts are available when needed. The primary outcome measure is BDI-II, secondarily MADRS-S is also used.

Our findings at post-treatment is that ICBT is as effective as TAU also in PC-settings.

Data from the 3- and 9-month follow-ups will be available in 2014.

**Marije van der Lee**, Helen Dowling Institute for psycho-oncology, Bilthoven, The Netherlands

Van der Lee, M. & Speckens, A. (2013).

*COST-EFFECTIVENESS OF MINDFULNESS BASED COGNITIVE THERAPY (MBCT) IN BREAST CANCER PATIENTS: A SUPERIORITY TRIAL OF ONLINE AND FACE-TO-FACE TREATMENT VERSUS TREATMENT AS USUAL (TAU)*

In light of the increasing prevalence of breast cancer and increasing health care costs, we are in urgent need of psychological interventions that are both accessible to a large group of patients and have been shown to be cost-effective. Mindfulness based interventions have been demonstrated to be effective in reducing anxiety, depression and fatigue in breast cancer patients. As they can be offered in groups, costs are relatively low. We also expect MBCT to result in patients returning to work earlier, have a higher work ability and have lower medical care costs. In addition, delivering MBCT online might make the intervention even more accessible and cost-effective. The aim of this study is to investigate clinical and cost-effectiveness of both individual MBCT online and MBCT offered as a group training compared to TAU .

Ø research questions:

1. Is individual MBCT online and face to face MBCT offered in groups for breast cancer patients effective compared to TAU?
2. Are both interventions cost-effective compared to TAU?
3. What are the predictors of treatment outcome in both individual online and MBCT group training?
4. What are the potential differences in working mechanism between individual MBCT online and MBCT group training?

Methods / study design

The design of the study will be a multi-centre, randomised, superiority trial, comparing MBCT online and MBCT offered as a group training with TAU. In addition to the Radboud University Medical Centre for Mindfulness, all institutes for psychosocial oncology in the Netherlands will participate. The study sample will consist of 375 breast cancer patients in any stage of disease, scoring above the cut-off of a screening questionnaire for psychological distress. Patients will be randomized to either face to face

MBCT or online MBCT or TAU. The primary outcome measure will be psychological distress according to the Hospital Anxiety and Depression Scale. Secondary outcome measures will be: fatigue, psychological health, quality of life, mindfulness skills and cost-effectiveness. Assessments will take place at baseline (T0), after the intervention (T1), and 3 (T2) and 9 months later (T3).

**Marije Wolvers**, Cluster Telemedicine, Roessingh Research and Development, Enschede, The Netherlands

Wolvers, M & Vollenbroek-Hutten, M (2013)

#### *THE POTENTIAL OF AMBULATORY ACTIVITY FEEDBACK*

##### Background

An activity coaching system can help a chronically fatigued patient to change its activity pattern. 50% of patients that were given such a system during rehabilitation changed their activity pattern towards the displayed reference activity pattern already on the first day (R.Evering 2012). This pattern was maintained the rest of the 9 week protocol.

The system consists of a smartphone and an activity sensor (a 3d-accelerometer) that communicate real time through Bluetooth. The smartphone displays a real time visual of the patient's cumulative activity, relative to a "healthy" (cumulative) line of reference. Also, every two hours an automated feedback message about the patient's current activity is displayed to encourage the patient to act towards the given reference activity.

The system was presented as a standalone tool, so the patient did not receive any rationale, personal coaching or tailored information. So interpretation of any effects of using the system were neither monitored nor controlled. However, especially improving cognitions about physical activity seems to benefit therapeutic effects. This system therefore potentially establishes better effects when it would be embedded in an eHealth therapy.

Therefore, the aim of this study was to develop an ambulant activity feedback therapy (AAF), which deploys the activity feedback coaching system within a semi-protocolled eHealth therapy. AAF aims to reduce fatigue by changing both a patient's activity pattern and – the potential crucial improvement – the patient's cognitions about activity. This therapy should focus on patients with chronic cancer-related fatigue.

##### Methods

To develop such a therapy, the goals for the therapy were defined by means of a literature search. Next, each goal was differentiated in three categories: therapist & tool, patient & tool, therapist & patient. The protocol was structured by defining the possibilities for each category: what goal could be served, what action could be taken and when.

From the literature search, three main functions were distilled that the new therapy should fulfill. One: personalized and well-justified goals are easier to attain than acting upon a standard, "healthy" reference line from a motivation point-of-view. Two: setting realistic but challenging sub-goals can lead to positive experiences and raises self-efficacy, which is an important predictor of behavioral change. And three: varying and personalizing feedback-messages could make it more interesting to use the system and therefore learn from it. It also possibly extends the patient's use of and compliance to this system, which could add to its effects.

##### Results

The intervention consists of a program of 9 consecutive weeks in which a patient is weekly supported through e-mail by a physiotherapist. Together, patient and therapist set personal goals for the upcoming

9 weeks. Subsequent sub-goals are translated into an activity pattern that serves as reference to the displayed real time activity pattern of the patient. A fitting set of feedback messages that will automatically be displayed by the system is chosen by the therapist, based on the patient's baseline activity pattern. The therapist can change both the reference activity pattern and this set of feedback messages, in order to support the patient in a flexible manner.

#### Discussion

To study the new approach and use of the system, the AAF will be offered within a randomized controlled trial. Aim is to find out whether these assumptions hold, and what the actual working mechanisms of the ambulant activity feedback are within this specific population.

At the moment of writing this abstract, 16 participants have been included for this study and the first participant has started the AAF.

**Marit Sijbrandij**, VU University Amsterdam, the Netherlands

Mouthaan, J., Sijbrandij, M., & Olf, M.

#### *INTERNET-BASED PREVENTION OF POSTTRAUMATIC STRESS DISORDER IN INJURY PATIENTS: A RANDOMIZED CONTROLLED TRIAL (2013)*

#### Background:

Posttraumatic stress disorder (PTSD) develops in 10-20% of injury patients. We developed a novel, self-guided internet-based intervention (called Trauma TIPS) based on techniques from cognitive behavioral therapy (CBT) to prevent the onset of PTSD symptoms. In this study, we determined the efficacy of Trauma TIPS in preventing the onset of PTSD symptoms in injury patients.

#### Method:

Adult level-1 trauma center patients were randomly assigned to receive the fully automated Trauma TIPS internet intervention (n=151) or to no early intervention (n=149). Trauma TIPS consisted of psychoeducation, in vivo exposure and stress management techniques. Both groups were free to use care as usual (non-protocollized talks with hospital staff). PTSD symptom severity was assessed at 1, 3, 6 and 12 months post-injury with a clinical interview (Clinician Administered PTSD Scale) by blinded trained interviewers and self-report instrument (Impact of Events Scale-Revised). Secondary outcomes were acute anxiety and arousal (assessed online), self-reported depressive and anxiety symptoms (Hospital Anxiety and Depression Scale) and mental health care utilization. Intervention usage was documented.

#### Results:

The mean number of intervention logins was 1.7 (SD=2.5, Median (Mdn)=1, Inter Quartile Range (IQR)=1-2). Thirty-four patients in the intervention group did not log in (22.5%), 63 (41.7%) logged in once and 54 (35.8%) logged in multiple times (Mean=3.6, SD=3.5, Mdn=3, IQR=2-4). On clinician assessed and self-reported PTSD symptoms, both the intervention and control group showed a significant decrease over time ( $P<.001$ ) without significant differences in trend. PTSD at 12 months was diagnosed in 4.7% of controls and 4.4% of intervention group patients. There were no group differences on anxiety or depressive symptoms over time. Post-hoc analyses using latent growth mixture modeling showed a significant decrease in PTSD symptoms in a subgroup of patients with severe initial symptoms (n=20) ( $P<.001$ ).

#### Discussion:

Our results do not support the efficacy of the Trauma TIPS internet-based early intervention in the prevention of PTSD symptoms for an unselected population of injury patients. Results from post-hoc

subgroup analyses indicated that the Trauma TIPS intervention may be efficacious in reducing PTSD symptoms in patients with high initial PTSD symptoms. Moreover, uptake was relatively low since one-fifth of individuals did not log in to the intervention. Suggestion for future adaptations will be discussed, such as adding gameplay, embedding it in a blended care context, and implement screening to target only high risk individuals who are more likely to benefit from the intervention.

**Martin Kraepelien**, Karolinska Institutet, Stockholm, Sweden

Kraepelien, M. (2013)

*INTERNET TREATMENT WITH PARKINSON'S DISEASE PATIENTS: THE END OF ROAD FOR THE SWEDISH MODEL OF INTERNET TREATMENT?*

The main goal of this project is to develop and evaluate ICBT for PD patients with concurrent depression or anxiety symptoms. All treatment in this trial is given as an adjunct to Standard Medical Treatment (SMT). Participants in this uncontrolled pilot study (n=12) are recruited from the Parkinson Clinic in Stockholm, Sweden. The ICBT includes an introduction based on Behavioral Activation and is then tailored to the individual patient with specific modules for specific problems the patient might have (for example sleep and social anxiety). The treatment is mostly text based and administered through a web platform used in many earlier studies of ICBT in Sweden. This way of doing internet treatment has been called the Swedish model. The text in the modules was shorter than in many other similar treatments. The results in symptom ratings and verdicts from participants indicate that the ICBT in the project was presented in a format experienced as too complex to the participants. This finding will be the base of a discussion of how to refine the intervention in such a way to make it more accessible to the patient group.

**Mircea Miclea**, Bolyai University, Romania

The use of electronic tools to enhance learning ( e-learning) has a historical preeminence over their application in mental health (e-mental health). Our analysis of existing solutions in computer-mediated therapy shows that they did not assimilate yet several important outcomes from e-learning research. We present the most relevant aspects to be considered by the developers of e-mental health solutions:

- a) the efficiency of multi-user platforms;
- b) the curriculum flexibility;
- c) the design of therapeutic modules and programs;
- d) the importance of creating a community of learning and practice. We illustrate these principle by our work on Paxonline, a computer mediated solution for prevention and therapy of anxiety.

**Morgan Ström**,

Ström, M. & Uckelstam, C-J. (2013)

*PHYSICAL ACTIVITY FOR DEPRESSION: A RANDOMIZED CONTROLLED TRIAL OF AN INTERNET ADMINISTERED TREATMENT*

Physical activity has been shown to be an effective treatment for depression. This study was a randomized nine week trial of an Internet administered treatment based on guided physical exercise for Major Depressive Disorder (MDD). 48 participants with mild to moderate depression, diagnosed using the SCID-I, were randomized to the treatment or the waiting-list control group. The main outcome measure for depression was the BDI-II and physical activity level was measured using the IPAQ. The treatment program consisted of nine text modules with therapist guidance. The results showed a significantly larger improvement in depressive symptoms for the treatment group compared to the control group, with a moderate between-groups effect size ( $d = 0.61$ ). No difference was found between the groups in the increase of physical activity level. For the treatment group, the reduction in depressive symptoms persisted at six months follow up. The results are discussed along with an evaluation of the benefits and limitations of the program.

**Nicole Koburger**, University of Leipzig, Germany

Koburger, N., Rummel-Kluge, C., Hegerl, U. & the Predi-Nu consortium (2013)

*"IFIGHTDEPRESSION" AND A GERMAN ONLINE DISCUSSION FORUM: 2 EXAMPLES FOR WEB-BASED SELF-MANAGEMENT APPROACHES TO DEAL WITH AFFECTIVE DISORDERS*

In recent years, science, research and applied care has increasingly focused on strengthening the competency of depressed patients in dealing with their disorder. Internet-based self-management offers intending to enforce self-management capacities of depressed patients and to reduce depressive symptoms become more and more important in this context.

The presentation will be dealing with two such online offers for depressed patients: "iFightDepression" – a guided web-based self-management tool for patients with mild to moderate depression and the German online forum for depression.

The iFightDepression self-management tool was developed within the current EC funded PREDI-NU project (Preventing Depression and Improving Awareness through networking in the EU). A pilot study is presently exploring the acceptability and feasibility of the tool, which is implemented with guidance from general practitioners and mental health professionals. The optimisation and a broader implementation of the tool are planned based on the results of the pilot phase.

The German online discussion forum was developed 2002 within the ‚Kompetenznetz Depression, Suizidalität‘ and is now being operated by its successor, the ‚Stiftung Deutsche Depressionshilfe‘. Since the opening of the forum more than 300.000 postings from more than 14 000 registered users were written.

The basic structure and features of the two offers will be displayed. First impressions from and experiences with the iFightDepression self-management tool will be presented, as well as the results of a study with a subgroup of forum users analysing diagnosis and treatment status.

**Niels Jacobs**, Open University, the Netherlands

Jacobs, N.C.L., Völlink, T., Dehue, F. & Lechner, L. (2013)

*TESTING AN ONLINE TAILORED ADVICE FOR CYBERBULLYING VICTIMS*

The 'Online Pestkoppenstoppen' program is an theory- and evidence-based, online tailored advice for cyberbullying victims (12-15 years). This program is developed according to the Intervention Mapping protocol. A thorough needs-assessment was conducted before the planning and development of the intervention started. By combining performance objectives with determinants, change objectives are formed. These change objectives are translated in practical strategies by looking at theoretical methods. The program consists of three advices delivered over three months. The first advice aims to teach participants how behavior is influenced by the thoughts they have. They will learn how to recognize and dispute irrational thoughts and how to form rational thoughts. Additionally, they practice emotion recognition. In the second advice, participants will learn about the use of effective coping strategies in order to stop online, but also offline, bullying, how bullying e merges, how their behavior influences bullying, and how to use humor and bystanders to solve the problem. Tailored to their scores on problem behaviors (such as depression, social withdrawal and social problems) they receive additional extra lessons aimed at improving social skills (e.g. starting a conversation, asking questions, empathy, planning social activities). Finally, in the third advice, participants will learn how to use the Internet and mobile phones in a safe manner. Tailored to their performance, participants will also receive additional lessons in changing irrational thoughts and effective coping strategies. Furthermore, all plans that are made in advice 1 and 2 will be evaluated and adjusted if necessary.

To test the effects of the interventions, a randomized controlled trial with three conditions will be conducted. Several outcome variables will be assessed at 4 or 5 different measurement moments. Multi-level analysis will be used.

**Per Carlbring**, Stockholm University, Sweden

Carlbring, P., Boettcher, J., Åström, V., Pålsson, D., Schenström, O., & Andersson, G.

*INTERNET-BASED MINDFULNESS TREATMENT FOR ANXIETY DISORDERS: A RANDOMISED CONTROLLED TRIAL*

Objective:

Mindfulness-based interventions have proven effective for the transdiagnostic treatment of heterogeneous anxiety disorders. So far, no study investigated the potential of mindfulness-based treatments when delivered remotely via the Internet. The current trial aims at evaluating the efficacy of a stand-alone, unguided, Internet-based mindfulness treatment programme for anxiety.

Methods:

Eighty-eight participants diagnosed with Social Anxiety Disorder, Generalized Anxiety Disorder, Panic Disorder, or Anxiety Disorder Not Otherwise Specified were randomly assigned to a mindfulness treatment group (MTG) or to an online discussion forum control group (CG). Mindfulness treatment consisted of 96 audio files with instructions for various mindfulness meditation exercises. Primary and secondary outcome measures were assessed at pre-, and post-treatment, and at 6-months follow-up.

Results:

Participants of the MTG showed a larger decrease of symptoms of anxiety, depression, and insomnia from pre- to post-assessment than participants of the CG (Cohen's  $d_{\text{between}}=0.36-0.99$ ). Within effect sizes were large in the MTG ( $d=0.82-1.58$ ) and small to moderate in the CG ( $d=0.45-0.76$ ). In contrast to participants of the CG, participants of the MTG also achieved a moderate improvement in their quality of life.

Conclusions:

The study provided encouraging results for an Internet-based mindfulness protocol in the treatment of primary anxiety disorders. Future replications of these results will show whether web-based mindfulness meditation can constitute a valid alternative to existing, evidence-based cognitive-behavioural Internet treatments.

**Peter Musiat**, King's College London, Institute of Psychiatry, UK

Musiat, P., Goldstone, P. & Tarrier, N. (2013)

*ACCEPTABILITY OF TECHNOLOGY-BASED TREATMENTS FOR MENTAL HEALTH PROBLEMS*

Technology-based intervention for mental disorders are increasingly offered and have demonstrated efficacy across a wide range of mental health problems. However, research into the acceptability of e-mental health is relatively poor. Whilst numerous studies with information on the acceptability on particular intervention exist, the vast majority of these studies suffer from methodological limitations. In most cases, acceptability data is only available on completers of an intervention. As a result, the sample is biased with regards to recruitment and time of assessment. Given that existing e-mental health interventions suffer from high dropout rates it is possible that the acceptability of e-mental health is only high amongst individuals who participate in studies, but these initial uptake rates do not show the full picture. The study presents the results of a survey examining attitudes and expectations towards e-mental health interventions. Using an online survey and paper questionnaires, participants were asked which aspects of a treatment for mental disorders they consider most important. In addition, it was assessed to what extent internet-based interventions or mobile apps can meet these aspects. Questionnaires were developed in collaboration with service users. Results are pending.

**Renske Spijkerman**, Research Department affiliated with Brijder Addiction Care, The Hague, the Netherlands

Spijkerman, R. (2013)

*'GAMIFIED' AND COMPUTER-DELIVERED INTERVENTIONS FOR ADOLESCENTS WITH A SUBSTANCE USE DISORDER*

Compared to other developmental phases, the adolescent life-stage shows a steady increase of substance use. For most adolescents, experimenting with substance use may only be a temporary phenomenon. For others, however, occasional substance use may rapidly develop into a chronic and excessive pattern of use. Besides an increased risk of developing serious problems later in life, these adolescents experience acute problems across a range of domains including (psychological) health, school, family, friendships/social relations, and the law. In the past three decades it has been increasingly recognized that, compared to adults, adolescents with substance use disorders experience different problems and treatment needs.

Therefore, specific treatment programs and facilities have been developed to treat adolescents with substance use disorders. The primary problem of the majority of adolescents entering addiction treatment, is cannabis use. Besides face-to-face therapies, such as Cognitive Behavioral Therapy (CBT) with or without Motivational Interviewing (MI) and family therapy, adolescent addiction care facilities have started to offer online therapy and/or blended therapy consisting of a mix of face-to-face therapy and online computer-delivered therapy modules. Currently, research on the effectiveness and benefits

of these online and computer-delivered approaches for the treatment of adolescent addictive disorders is lacking. In this presentation I will contend the need for more research on the effectiveness of computer-delivered interventions in adolescent populations with addictive disorders by presenting findings from our recent meta-analysis on cannabis online interventions and discussing the initial experiences with blended therapy and 'gamified' computer-assisted interventions in a Dutch adolescent addiction care facility. Finally, I will briefly outline the randomized controlled trial that we will start in August 2013 on the effectiveness of a computer-delivered gamified cognitive working memory training in adolescents with substance use disorders.

**Renske Visscher**, Altrecht, Utrecht, The Netherlands

### *DO YOU HAVE THE E-FACTOR?*

#### E-mental health

Altrecht is an institute for (complex) mental health. Over the year Altrecht invested in more than 10 e-health projects (from online website for mental health treatment, to telemedicine, m-health, gaming to bio feedback etc). Since 2011 Altrecht chose to focus on blended e-health. The trip down e-mental health lane has learned us a lot about the implementation of e-mental health.

#### Methods:

The evaluation of the implementation of e-health is done in different ways (from RCT to talking sessions). The implantation of blended e-health (since 2011) is done with online questionnaires. In 2012 224 caretakers and 456 patients received an online questionnaire. The response rate was about 30%. Also 54 e-health ideas from patients were analyzed on topics, what do the topics say about their need? And of course there were a lot of group evaluations.

#### Results :

This year approximately 25% of our adult outpatient population with complex mental health problems will be using e-mental health this year. Over half of all departments within Altrecht are working with e-health. More than 500 caretakers are trained and using blended e-health in their treatment. The evaluations show us interesting improvements, for example the worksatisfaction of caregivers who are using e-mental health is increased, but we are not there yet. Many things have to be improved. More research is needed.

#### Discussion:

Creating an e-health movement, how do you do that? What did we discover? What mistakes did we make? What are the implications for education? What do patients appreciate? What are the implications and ideas for research? In other words: How do you get the e-factor to make e-health a success?

**Rosalie van der Vaart**, University of Twente, the Netherlands

Van der Vaart, R. & Van Gemert-Pijnen, J.E.W.C. (2013)

### *DEVELOPING 'BLENDED' THERAPY FOR DEPRESSION*

#### Background:



Online treatment for depression offers potential to reach more people with less recourse, while increasing the empowerment of patients. While online treatment has been shown to be as effective as regular face-to-face treatment, the adherence to online therapy is often disappointing. Studies have shown that offering people some form of support increases its effectiveness. A combination of online and face-to-face therapy, so-called blended therapy, could provide patients the best of both worlds. The aim of this study is to identify attitudes, needs and preferences for blended therapy among both therapists and patients and to develop prototypes concerning the optimal content and distribution of online and face-to-face sessions.

#### Methods:

A Delphi-study was performed in three rounds, among three Dutch mental health care organizations. The questionnaires in this study focused on benefits and drawbacks of online therapy, ideas about therapist-patient-system interaction, preferences for online and face-to-face content, persuasive techniques, and suitable ratios of online and face-to-face sessions. The items of the questionnaire in round one were based on a literature search and a previous focus group, the items of the questionnaires in the subsequent rounds were based on the results of the previous rounds, to reach consensus.

#### Results:

Twelve therapists (33% male, mean age 45, range 28-60) and nine patients (67% male, mean age 37, range 28-56) participated in round one. Clear benefits of online therapy among respondents were that online sessions can be completed in patients' own time, place and pace, the information is always available, the face-to-face time can be used optimally due to online preparation, and the online sessions could increase patients' own responsibility. Clear drawbacks of online therapy that were found are that online therapy might not be suitable for everyone, that expressing oneself is often easier face-to-face, and that differences in interpretation can occur due to lack of non-verbal communication. Some parts of the treatment were explicitly preferred for face-to-face sessions by both therapists and patients, namely the introduction and evaluation of the therapy, and discussing thoughts, feelings and pitfalls related to assignments and diary contents. Reading information about depression and the therapy (psycho-education), fulfilling assignments, and keeping a diary (daily activities, mood) was especially preferred online by all respondents. The most preferred ratio to combine online and face-to-face therapy was 40% of the total amount of sessions online and 60% face-to-face. The results of round two and three of this study will be analyzed before the conference, according to which suitable prototypes for blended care will be developed.

Conclusions: All respondents were enthusiastic about a blend of online and face-to-face therapy and preferences between therapists and patients corresponded highly in round one. According to the respondents, practical parts of the therapy can be done independently by patients on an online platform, while putting the therapy assignments in perspective and discussing problems and pitfalls is preferred face-to-face. This data will provide input for prototypes of blended therapy, which will be implemented in the participating mental health care institutions and evaluated in further research.

**Sally Sophie Kindermann**, Leuphana University of Luneburg, Germany

Kindermann, S., Kossow, K., Spiering, S., Maier, A., Moock, J., Barbian, G. & Rössler, W. (2013)

*SIMBA - SOCIAL INFORMATION MONITORING FOR PATIENTS WITH BIPOLAR AFFECTIVE DISORDER*

#### Background and Objectives:

Mobile sensor technology in modern smart phones provides a wide variety of data and could therefore deliver a comprehensive picture of the user's habits and behaviors. These features can be optimally

used for monitoring activity and communication patterns of patients with bipolar affective disorder and thus may help to identify behavioral indicators of upcoming mood swings and phase transitions from manic to depressive.

Nowadays, many people are already familiar with the latest mobile technology and use internet-enabled mobile devices, so that a good acceptance and integration of smart phones as measuring instruments in patients' daily lives is expected. Therefore we developed SIMBA, a new sensor-based application (app) for Android smart phones that acquires activity data and information on social interactions. SIMBA is based on MIT's open source framework "funf".

As part of a 12-month feasibility study we will examine if SIMBA is useful in detecting even small fluctuations of mood, and beyond, allows us to create rest-and-activity-profiles for patients with bipolar affective disorder in order to improve the prediction of phase transitions.

#### Methods:

The study is performed under medical supervision with patients of a psychiatric outpatient clinic and a healthy control group. Data collected by the use of SIMBA will be validated by self-reports of the participants completed on their smart phone and regular clinical ratings of the patients' symptoms. Sensor data will be modeled to make it accessible for an evaluation. Statistical analyses of all data will be performed by univariate and multivariate methods for small sample sizes.

#### Discussion and Outlook:

In the future, SIMBA could be an essential early warning system for upcoming phase transitions. By detecting mood changes in patients with bipolar disorder at an early stage, medical practitioners and the patients themselves could be automatically informed by the system in advance. Based on this, we all could gain more knowledge about the progression of disease which in turns can lead to an optimized clinical treatment and can contribute to an improvement of the patient's disease management.

**Sanne van Helmondt**, Helen Dowling Institute, The Netherlands

Van Helmondt, S.J., Van der Lee, M.L., & De Vries, J. (2013)

*COST-EFFECTIVENESS OF ONLINE SELF-HELP TRAINING FOR FEAR OF CANCER RECURRENCE IN BREAST CANCER PATIENTS: STUDY PROTOCOL FOR A RANDOMIZED CONTROLLED TRIAL*

#### Background:

The prevalence of patients living with breast cancer in the Netherlands has been estimated to rise to 140.000 in 2020. One third of all women who have had breast cancer suffer from fear of recurrence, which has a profound negative impact on their quality of life. This fear may also lead to higher healthcare costs and may compromise health outcomes. Breast cancer patients have indicated that they lack support in dealing with their fear of cancer recurrence. In light of the increasing prevalence of breast cancer and increasing health care costs, we are in urgent need of a form of support that is both easily accessible to a large group of patients and is cost-effective. The aim of this study is to determine the (cost-) effectiveness of an online self-help training for fear of cancer recurrence.

#### Research questions:

1. Is online self-help for fear of cancer recurrence (cost-) effective?
2. Can we predict for whom online self-help is beneficial?

#### Methods/study design:

The design of the study will be a multi-center, randomized-controlled trial, comparing online self-help training with care as usual. Primary outcome measure will be fear of cancer recurrence. Secondary outcome will be healthcare costs and distress. Patients will be randomized to either the online self-help or care as usual. Based on an effect size of  $d = 0.35$  we will need to include at least 100 participants in

each condition (alpha 0.05) to have sufficient power (beta 0.8). Since in previous online intervention studies amongst breast cancer patients about half of all invited patients expressed an interest in participating and another 35% was lost after randomization (Owen, 2005; David et al., 2011), we aim at recruiting a minimum of 600 patients, hoping at least 300 of them will be interested. So we will be able to randomize 300: 150 to each condition. Randomization will be carried out through an online true random number-generation service (random.org) independent of the investigators. Patients will be recruited through hospitals in various regions in the Netherlands. Patients will be eligible if they have had a diagnosis of breast cancer between one and five years ago, have had curative treatment, have access to the internet and are capable of filling out questionnaires in Dutch. Assessments will take place at baseline (T0), and 3 (T1), 9 (T2) and 24 months later (T3).

Relevance :

This project contributes to knowledge about potentially effective ways of reducing the fear of recurrence, which in turn is expected to lead to a better quality of life of patients and their loved ones. Also we expect this study to show that early and easily accessible online interventions are cost effective and may prevent development of high distress.

**Sarah Vigerland**, Karolinska Institutet, Stockholm, Sweden

Vigerland S., Thulin U., Öst L-G., Ljótsson B., Andersson G., Serlachius E. (2013)

*INTERNET-DELIVERED CBT FOR CHILDREN WITH ANXIETY: A RANDOMIZED CONTROLLED TRIAL OF THE DARE PROGRAM*

Anxiety disorders are among the most common mental problems in children and often lead to further problems in other life domains. Although cognitive behaviour therapy (CBT) has proven to be an effective treatment for anxiety disorders among children it is not widely available for this group. Internet-delivered CBT (ICBT) has proven to be effective for adults with e.g. anxiety disorders and may be a way of increasing treatment availability. However, corresponding research in children and adolescents is scarce. The aim of this trial was to evaluate an ICBT-program for children with anxiety disorders in a randomized controlled trial.

Ninety-three children (8-12 years) with an anxiety disorder (generalized anxiety disorder, panic disorder, separation anxiety, social anxiety disorder or specific phobia) as principal diagnosis were recruited together with their parents through media advertisement. Participants were randomly allocated to treatment or a waitlist condition. Treatment consisted of ICBT with therapist support and lasted for ten weeks. Support was delivered through written online messages and telephone calls. Assessments were conducted at pre- and post-treatment and three month follow-up. The primary outcome measure was the Clinician Severity Rating (CSR) assessed via the Anxiety Disorder Interview Schedule – Child and Parent Versions (ADIS-C/P). Secondary outcome measures were clinician rated global functioning and child- and parent-reported anxiety symptoms and quality of life.

Preliminary results show that participants in the treatment condition displayed significantly greater reductions on the CSR than the waitlist condition. Further improvement was seen at three month follow-up. Clinician rated global functioning increased significantly more in the treatment condition than in the waitlist condition. On self-report measures, only parent ratings of general anxiety showed significantly greater reductions than the waitlist condition at post-treatment. Findings and the impact of therapist support will be discussed.

**Saskia Kelders**, University of Twente, The Netherlands

Kelders, S.M. & Van Gemert-Pijnen, J.E.W.C. (2013)

*EMPLOYING TECHNOLOGY TO INCREASE INVOLVEMENT*

Internet interventions have been shown to be effective for treatment and management of a range of (mental) health complaints and seem to be of value to promote positive mental health. However, not all Internet interventions seem to reach their full potential. Substantial non-adherence (participants not using the Internet intervention as intended, for example by not completing all modules) is often observed, especially when interventions are not part of a strict research protocol (an RCT-design for example) and when there is no counselor involved. This non-adherence poses a problem for the effectiveness of Internet interventions because of the 'dose-response' relationship: the more the intervention is used, the more positive effects participants experience. Involvement of participants with the Internet intervention seems to be an important factor not only for adherence, but also for the effectiveness. This abstract explores the role of involvement for adherence and effectiveness, and introduces strategies to help increase involvement of participants with Internet interventions.

That involvement is an important aspect for adherence to Internet interventions, is seen, for example, in our study on a web-based intervention for the prevention of depression using Mindfulness, and Acceptance and Commitment Therapy. This study showed that adherers evaluated the intervention more positively than non-adherers with significant differences on task enjoyment, involvement and satisfaction. Furthermore, the log-data of this study showed that adherers not only completed all the lessons, but also used the intervention significantly more than non-adherers (e.g. more log-ins per lesson and more extensive use of additional features). Other studies have showed that more involvement of clients in (offline) therapy is beneficial for a better therapeutic relationship, which in turn is an important predictor of the effectiveness of therapy. A study of a positive psychology intervention showed that to improve well-being, a sound intervention is not enough: the participants have to be involved and put effort in the intervention for it to be effective.

Within Internet interventions, the technology itself may be effective in improving involvement. In our previously mentioned study into a web-based intervention for the prevention of depression, participants who received the intervention with the addition of text messages, and participants who received the intervention including videos and interactive exercises reported significantly more involvement with the intervention than participants who did not receive these features. Furthermore, positive technology (the combination of positive psychology and technology) seems to provide a starting point to increase involvement by creating a positive experience during the use of technology. This notion is also seen in design literature where there is a shift towards designing for user experience and a call to 'design for happiness'. Examples of design approaches that may contribute to user involvement and wellbeing during the use of technology are: the use of metaphors that may render tasks more engaging, stimulating and meaningful; a multimodal approach that may lead to a more integrative and less cognitively taxing process; and providing means for personalization that may, in addition to creating a more tailored and meaningful experience, grant users a sense of control.

**Stephanie Nobis**, Leuphana University Lüneburg, Germany

Nobis, S. & Lehr, D. & Ebert, D.D. & Heber, E. & Baumeister, H. & Becker, A. & Snoek, F. & Berking, M. & Riper, H. (2013)

*A MOBILE PHONE SUPPORTED INTERNET-BASED INTERVENTION FOR DEPRESSIVE SYMPTOMS IN DIABETES MELLITUS TYPE 1 AND TYPE 2: DESIGN AND PRELIMINARY RESULTS OF A RANDOMISED CONTROLLED TRIAL.*

Background:

Comorbid depression in diabetes mellitus is highly prevalent. It is associated with a wide range of adverse outcomes, including lower quality of life, nonadherence to diabetes self-care, impairment of glycaemic control as well as increased healthcare costs. In meta-analyses it has been shown that web-based interventions are effective to treat mental disorders, like depression. Nevertheless there is a lack of web-based programs tailored to co-morbid target groups, such as diabetes and depression. We developed a self-guided diabetes-specific web-based intervention aimed at the reduction of depressive symptoms for the German population. A mobile phone component in order to improve adherence and effectiveness is included. In this presentation, we will present the preliminary results on the the (cost-) effectiveness of this web-based intervention for people with diabetes and co-morbid depressive symptoms in the community.

Methods:

randomised controlled trial. Adults with diabetes (type 1 or type 2) having at least mild depressive symptoms (> 22 on the CES-D) will be included. Participants will be primary recruited via advertisement in diabetes patient journals and via a health insurance company. Participants will be randomly assigned to either a 6-week minimal guided web-based self-help program or to online information about depression. We will include 326 participants, in order to detect a statistically significant difference of effect size of  $d=0.35$  (two-tailed). The primary outcome measure is level of depression, assessed by the CES-D. Secondary outcome measures include diabetes-specific emotional distress, HbA1c-value, self-management behavior and participant's satisfaction with the intervention. Online measurements by self-assessment will be conducted at baseline and at 2 months with follow ups at 6 and 12 months after randomisation. Parallel we will conduct an economic evaluation from a societal perspective.

Results:

Currently (recruitment March-June 2013) 116 participants are randomised. Preliminary results at post-test will be presented.

Challenges / Discussion: Given the highly prevalence of diabetes and depression, online interventions could reach more affected people. If the training is shown to be (cost-) effective, it has a great potential to improve the psychological treatment and the well-being of people with diabetes and co-morbid depression.

**Sven Alfonsson**, Uppsala universitet, Sweden

Alfonsson, S., Maathz, P., & Hursti, T. (2013)

*INTER FORMAT RELIABILITY OF PSYCHIATRIC SELF-REPORT QUESTIONNAIRES – A SYSTEMATIC REVIEW OF COMPARISONS BETWEEN PEN AND PAPER AND DIGITAL VERSIONS*

Background:

Studies of internet interventions often use digital versions of traditional pen and paper questionnaires. However, it cannot be assumed that questionnaires keep their psychometric properties after changing to digital format of delivery. The digital format per se can be divided into different subgroups; e.g. computer, online and palm/cell phone. It is thus possible to speak of several digital formats that may need to be assessed independently. There is limited knowledge how the format, layout, design etc of

digital questionnaires affects results. Since researchers often want to compare results it is important to know if format influence the psychometric properties of a questionnaire. The objective of the present study was to systematically review the research literature to evaluate the inter format reliability of digital self-report questionnaires used in internet interventions.

#### Methods:

Databases PubMed, Embase and PsychInfo were systematically searched for published peer-reviewed English language research studies comparing the psychometric properties of online and pen and paper versions of self-report questionnaires.

Only instruments of the questionnaire type and that had been designed to measure symptoms of any of the following DSM-IV Axis I group of diagnosis: mood disorders, anxiety disorders, eating disorders, substance use disorders and sleep disorders, were included.

#### Results:

The initial search yielded a total of 1504 hits in the data bases. After review of titles and abstracts, 60 were selected for further review. Thirty-one publications met all inclusion criteria and were included in the study.

The assessed quality of the studies varied but was generally quite high. The design of the studies was often good but several could have used more adequate samples and there was little information on how the questionnaires had been transformed to digital format.

Inter format reliability between pen-and-paper and digital formats varied between  $r=.67$  and  $r=.98$  ( $m=.85$ ). Several studies only reported non-significant differences between formats instead of exact values. Internal consistency of the digital questionnaires were generally high ( $\alpha=.88$ ). Digital test-retest reliability was only reported in a few of the studies.

#### Discussion:

The results of this systematic review indicated overall a high level of reliability between pen and paper and digital formats of questionnaires. However, very little is known about whether different layouts and designs affect the results, also, more questionnaires should be evaluated in adequate samples.

While there is sense in continuing to use old pen and paper questionnaires in digital formats, it does not take advantage of the extended possibilities provided by the digital medium. For example, digital questionnaires could be adaptable and use smart functions to tailor data collection or appearance, depending on the user. However, in the foreseeable future we will continue to rely on both pen and paper and digital questionnaires and there is a need to continue to assess their reliability. Such studies should ideally be complemented with studies of validity to assess the equivalence of digital questionnaires.

**Thomas Berger**, University of Bern, Switzerland

Berger, T., Böttcher, J. & Caspar, F. (2013)

*MEASURING THE WORKING ALLIANCE IN INTERNET-BASED GUIDED SELF-HELP TREATMENTS.  
VALIDATION OF AN ADAPTED VERSION OF THE WORKING ALLIANCE INVENTORY*

The therapeutic or working alliance has been studied in many psychotherapy trials. Several studies also investigated the working alliance in Internet-based guided self-help treatments. However, in none of these studies, the alliance measure was adapted to specific characteristics of guided self-help treatments. This study describes an adaptation of the short version of the Working Alliance Inventory (WAI-SR) which takes into account that the main component of a guided self-help treatment is a self-help guide. The WAI-SR, which assesses the three factors of Bordin's pantheoretic model of alliance

(goals, tasks, bond), was changed so that the items of the goal and task subscales asked for the goal and task agreement with the self-help program, and not with the therapist. For instance, and with regard to the goal subscale, we asked „The goals of the self-help program are important goals for me to work on“. Only the items of the bond subscale, which measure the degree of mutual trust, acceptance, and confidence, were related to the alliance between client and therapist, providing minimal contact. This adapted version of the WAI-SR was explored in two RCTs on Internet-based guided self-help treatments for (a) several anxiety disorders and (b) depression. Exploratory factor analysis quite consistently revealed the expected 3-factor structure at various assessment timepoints of the working alliance. In addition, the instrument shows good internal consistency (Cronbach's Alpha of the subscales 0.78 to 0.92). Moreover, differential patterns of findings and associations with treatment outcome support the discriminant and predictive validity of the subscales. These patterns of findings are presented along with data on psychometric properties of the adapted version of the WAI-SR.

**Tine Nordgreen**, University of Bergen/Haukeland University Hospital

Skoglund, H., Havik, O. E. & Nordgreen, T. (2013)

*EFFECTIVENESS OF GUIDED SELF-HELP VIA INTERNET IN NORWAY*

International efficacy research have documented that guided self-help via Internet have moderate to large effects in the treatment for anxiety disorders. However, more knowledge about the effectiveness of guided self-help via Internet in ordinary health services are needed as most of the previous research is done with young, self-referred groups, with high education, in research settings. In the project "eMeistring- Mental health on the Internet", Haukeland University Hospital is now offering guided internet-based treatment as a standard treatment to patients with panic disorder and social anxiety disorder.

This is an unique possibility for addressing research questions related to the effectiveness of guided internet-based treatment as a standard treatment method in the ordinary public health services. The following will be investigated: 1) An open trial of the benefits of guided internet-based treatment in ordinary mental health services compared to efficacy studies using benchmarking strategy, 2) characteristics of patient who benefit/ do not benefit from the treatment, and 3) cost-effectiveness of guided internet-based treatment. In this presentation we will describe this planned effectiveness study together with the implementation of guided internet-based treatment in Norway.

**Ulrich Sprick**, St. Alexius/St. Josef Clinic, Neuss, Germany

Sprick, U. & Köhne, M. (2013)

*THERAPIST-DELIVERED INTERNET PSYCHOTHERAPY OF DEPRESSION WITH NET-STEP IN PRIMARY CARE*

Introduction:

Internet psychotherapy has been proven to be an effective method in various countries. However, there are only very few approaches in Germany so far. We investigated the effects of the CBT-program net-step which was delivered by a psychotherapist.

Methods:

In a randomised controlled trial 60 individuals with a score of 16 or more in the Becks depression inventory (BDI) and a confirmed diagnosis of depression were recruited from practitioners, the clinic ambulance or via the internet. Every participant was invited for a personal talk with a psychologist and a psychiatrist. Individuals were then tested face to face in the ambulance of the clinic. Participants were randomly assigned to 12 weeks CBT-online or a face to face CBT for the same period of time. A waiting group of 30 individuals received online-CBT after a 12-weeks waiting period.

Results:

72 % of the patients suffering from depression recovered during the 12-week period. This was equal to the recovery-rate in the face to face group. Patients in the waiting group showed no effect before treatment.

Conclusion:

Net-step as a therapist delivered CBT-internet psychotherapy is an effective tool for treatment of depression in primary care. It is an attempt to combine advantages of pure internet-psychotherapy with beneficial effects of face to face therapy.

**Viktor Kaldo**, Karolinska Institutet, Sweden

Kaldo, V., Lancee, J., Eék, N., Nömn, L., Ytterbrink, S., Hougfeldt, E., Hallonston, J., Hetta, J., Rück, C. & Jernelöv, S. (2013)

*PSYCHOLOGICAL TREATMENT FOR CHRONIC NIGHTMARES – RANDOMIZED CONTROLLED TRIAL WITH TWO ACTIVE TREATMENTS AND WAIT-LIST CONTROL*

Introduction:

Nightmares are distressing or frightening dreams and 2-5% of the population suffer from recurrent and distressing nightmares. Disturbed sleep, fear and distress during night and/or day, expectancy anxiety and impaired functioning are common. Nightmares seem to contribute to the development and maintenance of other psychiatric problems.

Various forms of CBT have been used to treat nightmares. Applied Relaxation has some empirical support but Imagery Rehearsal Therapy (IRT) is so far the most empirically supported treatment. IRT consists of approaching the dreams and visualize a positive ending. So far IRT has been compared to untreated controls or treatments that have included methods similar to those in IRT, and it is therefore difficult to determine the specific effect of IRT.

Self-help-CBT with therapist support, including Internet-delivered CBT (ICBT) is effective for a wide range of psychiatric conditions. Some self-help treatments for nightmares have been tested, but often non-supported and so far no ICBT-studies have been conducted.

ICBT is an attractive methodological option for comparing different treatment manuals. The high level of standardization ensures treatment adherence and the format's effective use of therapist time and wide uptake area facilitates inclusion of large numbers of participants.

Method:

This randomized controlled trial compares two six-week long guided ICBT-programs, IRT (n=74) and Applied Relaxation (AR; n=73) with each other and with a wait-list control group (WL; n = 28). The proposed criteria in the DSM-V were used for diagnoses

The interventions were carefully designed to not include any of the components that are expected to be effective according to the opponent treatment rationale. The AR thus promotes a relaxation and distancing strategy, and not working directly with dream content, while the IRT rather focuses on exposure, reconstructing dream content, and imagery rehearsal, without relaxation components.

The step-by-step treatment modules were delivered on a web-platform which also provided a secure



message system where patients reported homework and received feedback by a therapist with thorough training in CBT, spending approximately 10-15 minutes each week on a patient. Primary outcomes measured at post-treatment and ten months after treatment were frequency (number of nightmares per week) and nightmare related distress as measured both by a two-week diary and by retrospective questionnaires. Insomnia and depression were measured as secondary outcomes.

Results:

Preliminary results for the first 85 patients showed significant superiority of IRT compared to both AR and WL. Final results for post-treatment and preliminary data from the ten-month follow-up will be presented.

**Wiebke Hannig**, Philipps-Universität Marburg, Germany

Hannig, W., Ebert, D.D., Rosenau, C., Hopfinger, L., Fuhr, K., Enkel, K., Zarski, A.-C., Bockting, C., Riper, H., Cuijpers, P., Hautzinger, M. & Berking, M. (2013)

*INTERNET-BASED RELAPSE PREVENTION INTERVENTION AFTER INPATIENT THERAPY FOR DEPRESSION - FEASIBILITY OF INTERVENTION ELEMENTS*

Considering high relapse rates after successful therapy for major depression, it seems to be important to support patients in the long-term maintenance of their achievements. Recent studies indicate the efficacy of a transdiagnostic internet-based maintenance treatment after inpatient psychosomatic therapy (W-RENA; Ebert et al., 2013). Based on that treatment approach, we developed an internet- and telephone-based relapse prevention intervention that is specifically designed for patients after inpatient therapy for depression. Evaluation takes place within a multi-centre, three-armed, prospective, randomized-controlled trial (k = 8, N = 474) which we recently started to conduct (Gesundbleiben Online). The effects of a disorder-specific relapse prevention intervention (Gesundbleiben Online - GO2) are compared to those of a transdiagnostic maintenance treatment (W-RENA/GO1; Ebert et al., 2013) and to those of routine post-hospital care (TAU/GO3). Effectiveness (time to relapse) and cost-effectiveness of treatment conditions will be compared at 3-, 6- and 12-months follow-ups. The given presentation will focus on presentation of innovative intervention elements and discussion of its feasibility (e.g. weekly 6-month long-term monitoring of depressive symptoms embedded in a chronic care management system). Discussion shall be enriched with some first quantitative data.

**Wouter van Ballegooijen**, VU University Amsterdam, The Netherlands

Van Ballegooijen, W., Cuijpers, P., Van Straten, A., Andersson, G. & Riper, H. (2012)

*ADHERENCE TO INTERNET-BASED AND FACE-TO-FACE COGNITIVE BEHAVIOURAL THERAPY FOR DEPRESSION: A META-ANALYSIS*

Background:

Internet-based cognitive behavioural therapy (iCBT) is an effective and acceptable treatment for depression, especially when it includes guidance, e.g. by email, but its treatment adherence has not yet been systematically studied. We conducted a meta-analysis, comparing the adherence rates of guided iCBT for depression with the adherence rates of individual face-to-face CBT for depression.

Methods:

Studies were selected from a comprehensive database of trials that investigate treatment for adult depression, updated to January 2012. We identified 20 studies that described 21 treatment conditions (8 guided iCBT, 13 face-to-face CBT), by means of the following inclusion criteria: targeting depressed adults, no comorbid somatic disorder or substance abuse, recruitment conducted in the community, published in the year 2000 or later. We did not find studies that compared guided iCBT and face-to-face CBT in a single trial that met our inclusion criteria. We coded four outcome measures for each study: percentage of treatment completers (either 100% or 80% of treatment completed), number of completed sessions divided by the total number of sessions, and percentage of study drop-out.

Results:

Guided iCBT interventions consisted of 5 to 9 sessions, and face-to-face CBT treatments ranged from 12 to 28 sessions. The percentage of completers (total intervention) was significantly lower in guided iCBT than in face-to-face CBT (guided iCBT: 62.3%, face-to-face CBT: 83.6%,  $P < .001$ ), as was the percentage of completers of 80% or more of the intervention (guided iCBT: 65.1%, face-to-face CBT: 84.0%,  $P = .002$ ). However, participants in guided iCBT completed on average 80.7% of their treatment, which did not differ significantly from participants in face-to-face CBT (84.6%,  $P = .51$ ). Non-completers of guided iCBT completed on average 48.8% of their treatment, while non-completers of face-to-face CBT completed on average 6.1% of their treatment. Study drop-out did not differ between studies on face-to-face CBT and guided iCBT ( $P = .37$ ).

Conclusion:

In terms of completers, adherence to guided iCBT is lower than adherence to face-to-face CBT, but in terms of exposure to the treatment, guided iCBT and face-to-face CBT appear to be equal. Adherence to guided iCBT appears to be adequate.

## Author Index

---

Alfonsson .....	48	Hasselaar .....	3
Andersson .....	13	Heber .....	12, 29, 47
<i>Erik</i> .....	7, 13	Helmondts .....	45
<i>Gerhard</i> .....	7, 16, 27, 46, 52	Hjalmarsson.....	13
Ballegooijen.....	52	Holländare.....	16
Baumeister .....	18, 19, 22, 47	Högdahl .....	31
Beintner .....	20	Jacobi .....	7, 20
Berger .....	6, 49	Jacobs.....	40
Boettcher .....	41, 49	Kaldo .....	4, 13, 51
Bonnert .....	35	Karyotaki .....	11
Boss.....	29	Kelders .....	47
Breton-Lopez .....	23	Kindermann.....	44
Buntrock.....	9	Kivi .....	35
Calero-Elvira .....	1	Kleiboer .....	1, 4, 11
Carlbring.....	16, 27, 27, 41	Koburger .....	40
Cavanagh.....	25, 26, 33	Kraepelien .....	39
Cuijpers .....	1, 8, 10, 11, 21, 23, 29, 52	Lee .....	14, 36, 45
Deursen.....	11	Lin .....	18, 19, 22, 28
Drozd.....	15	Ljótsson .....	7, 13, 35, 46
Ebenfeld .....	28	Meyer.....	5
Ebert .....	2, 10, 12, 17, 19, 22, 23, 28, 29, 47, 52	Miclea .....	39
Elvira .....	1	Moell.....	5
Everts .....	14	Morrison .....	28
Gega.....	30, 31	Musiat .....	42
Geraedts.....	1	Månsson.....	27
Hannig.....	52	Nasri.....	4

Nobis.....	12, 47	Thiart .....	17, 29
Nordgreen .....	50	Tillfors .....	33
O'Mahen .....	20	Tulbure.....	6
Palmili .....	32	Uden-Kraan .....	8
Reins .....	10, 23	Vaart .....	43
Ruwaard.....	21	Weise .....	10
Salemink.....	11	Vigerland .....	35, 46
Shih .....	1	Visscher .....	43
Sijbrandij .....	38	Wolters .....	34
Silfvernagel.....	27	Wolvers .....	37
Spijkerman .....	42	Vreeburg .....	30
Sprick .....	50	Zarski.....	2, 52
Ström .....	39		



**Linköping University**