

Abstract book

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psykiske helsetjenester – SFI



HELSE BERGEN

Haukeland University Hospital

Title

Mental health promotion in graduate students: online peer support on a pandemic context

Presented by

Aneliana da Silva Prado

Affiliation

Federal Institute of Parana

Co-authors

Aneliana da Silva Prado; Joanneliese de Lucas Freitas

Abstract

This work aims at presenting an internet intervention in mental health promotion in a Brazilian public university in the covid-19 pandemic context. The pandemic's expected negative impacts on mental health have been broadly broadcasted. In Brazil, the public health system had already been showing poor conditions before the pandemic, hence the worsen of the scenario.

In this context, the Você Importa (You matter) project was created by a faculty group of the Federal University of Parana (UFPR) to improve well-being and mental health among people in the university. By interactive and dynamic online communication, the Você Importa Project aims at promoting emotional support to the university community and general people during the pandemic outbreak. It is based on Zhang et al. (2020) emotion hypothetical model of psychological crisis intervention in the COVID-19 pandemic. It presents mental health information as psychological coping methods and offers an online peer support, providing mental health assessment to students who ask for it. Mental health students or professionals conduct the peer support meetings. The Psychological First Aid (PFA), a crucial early intervention that focuses on providing psychosocial support to decrease stress and improve coping strategies in emergencies, outlines the approach in which the program is grounded.

Since internet intervention was not a common practice, the Você Importa project is an innovative proposal to Brazil and considering its public, also to other countries. The online peer support group may be an interesting method to share experiences, offer emotional support and information, and decrease stigma to help seeking. However, acknowledging the complexity and multiplicity of mental health' factors, it is necessary to understand how it may affect student's mental health. To achieve that, a study was designed to investigate the impact of online peer support in graduate students.

Interviews will be held before, right after and months later the online peer support group sessions are carried out. It is a qualitative phenomenological research, based on Giorgi's method. A systematic review of literature regarding e-mental health promotion in the university setting will be run. The research expects to boost the studies on online peer support groups, the mental health promotion of graduate students, and the awareness of the university community to improve mental health strategies.

Title

Validity and reliability of the Norwegian version of the eHealth Literacy Scale (eHEALS) among patients after percutaneous coronary intervention

Presented by

Gunhild Brørs

Affiliation

St. Olavs hospital

Co-authors

Brørs G.(1), Wentzel-Larsen T.(2, 3, 4), Dalen H.(1, 5, 6), Hansen TB.(7, 8), Norman CD.(9), Wahl A.(10), Norekvål TM.(11, 12).

1 Clinic of Cardiology, St. Olavs University Hospital, Norway

2 Centre for Clinical Research, Haukeland University Hospital, Norway

3 Centre for Child and Adolescent Mental Health, Eastern and Southern Norway

4 Norwegian Centre for Violence and Traumatic Stress Studies, Norway

5 Department of Circulation and Medical Imaging, Norwegian University of Science and Technology, Trondheim, Norway

6 Department of Internal Medicine, Levanger Hospital, Norway

7 Cardiovascular Department, Zealand University Hospital, Denmark

8 University of Southern Denmark, Department of Regional Health Research, Denmark

9 Dalla Lana School of Public Health, University of Toronto, Canada

10 Department of Health Sciences, University of Oslo, Norway

11 Department of Heart Disease, Haukeland University Hospital, Norway

12 Department of Clinical Science, University of Bergen, Norway

On behalf of the CONCARD Investigators

Abstract

Background: In recent years an internet-based technology has become an important source for providing health information to patients after an acute cardiac event. Consideration of patients' perceived eHealth literacy skills, is crucial for improving patient-centred health information after percutaneous coronary intervention (PCI).

Aims: To translate and adapt the eHealth literacy Scale (eHEALS) to conditions in Norway, and to determine the psychometric properties of the eHEALS in self-report format administered to patients after PCI.

Methods: The original English version of the eHEALS was translated into Norwegian, following a cross-cultural adaptation process. Further, we set out to determine the reliability and construct validity. Internal consistency was calculated using Cronbach alpha. Intra-class correlation (ICC) was used to assess test-retest reliability. A confirmatory factor analysis (CFA) was performed for a priori hypotheses 1-, 2- and 3-factor model. Demographic information, health-related internet use, health literacy and health status were collected to correlate with eHEALS scores.

Results: For the validation, 1695 patients were included after PCI. Mean age was 66 years. Most of the patients were male (78%). Cronbach's alpha for the eHEALS was >0.999. The corresponding Cronbach's alpha for the 2-week retest were >0.937. The ICC for eHEALS was 0.605 (95% CI 0.419-0.743, $P < 0.001$). CFA showed a modest model fit of the 1- and 2-factor model. After modifications in the 3-factor model, all the goodness-of-fit indices indicated a good fit. A weak correlation with age ($r = -0.206$) was found. Employed and higher educated patients scored higher on the eHEALS. There was a higher eHEALS score for the patients with higher education level compared with those with lower education level (mean difference between 2.24 ($P = .002$) and 4.61 ($P < .001$)), and for the patients who were employed compared to those who were retired (mean difference 2.31, $P < .001$). The eHEALS score was higher among the patients who reported to use the internet to find health information (95% CI -21.40, -17.21 ($P < .001$)). There was a moderate correlation with the patients' perceived usefulness ($r = 0.587$) and importance ($r = 0.574$) of using the internet for health information. There was a moderate correlation with the health literacy dimensions for appraisal of health information ($r = 0.380$) and ability to find good health information ($r = 0.561$). A weak correlation with mental ($r = 0.116$) and physical health composite score ($r = 0.116$) was found.

Conclusions: The study provides additional information on the psychometric properties of the eHEALS for patients after PCI, suggesting a multidimensional construct rather than unidimensional. The high internal consistency indicated a redundancy of items. Therefore, further validation studies of the eHEALS is required.

Title

Internet-Based Interventions for Parents with Children 0-5 years: A Scoping Review

Presented by

Hege Therese Størksen

Affiliation

Regional Centre for Child and Adolescent Mental Health, Eastern and Southern Norway, Oslo, Norway

Co-authors

Hege Therese Størksen

Abstract

Background: Internet-based parenting support programs are becoming increasingly more common, both to support parents in their parenting role and for the prevention and treatment of mental and somatic health problems in young children.

Objective: The current study aims to review the existing literature on internet-based health interventions directed to support parents of children aged 0 to 5 years. **Methods:** We systematically searched electronic databases between January 1, 2000 and January 24, 2018. The search consisted of a combination of index and free text terms describing eHealth, intervention, and families and/or children.

Results: Overall, internet-based parent support interventions were most often directed at rehabilitation and selective prevention, and we identified more studies on mental health (63%) than somatic health (34%). Developmental disorders were the most frequently studied mental health condition ($n = 33$), of which autism spectrum disorder (ASD) accounted for most of this research (76%). Internet interventions for somatic health targeted 23 different conditions, of which interventions for respiratory diseases (16%) were most studied. Forty-six percent of mental health studies were randomized controlled trials (RCTs) and 64% of interventions were theory driven. Interventions most often used a behavioral approach, included some form of guidance, and delivered content via text-based information.

Conclusions: The number of different programs found in the scoping review confirms that internet interventions represent an increasingly popular strategy for parenting support. However, several significant gaps were identified such as the need for more research outside of English-speaking countries and effect studies. This review also elucidates the need for researchers to improve reporting on the theoretical/therapeutic approaches employed in interventions, and to focus on determining the importance of guidance to achieve positive outcomes and the optimal level of support to design and deploy cost-effective internet-based parenting interventions. Finally, program developers should consider using more audio-visual technology to create more engaging user experiences, but also to avoid reinforcing social inequalities in access to healthcare.

Title

Using the Serafin-software to develop complex digital interventions

Presented by

Håvar Brendryen

Affiliation

Department of Psychology, University of Oslo

Co-authors

Håvar Brendryen

Abstract

Serafin is a content management system specifically made to build web- and phone-based e-Health apps. Serafin is an open source program, currently used on several research projects in Norway, Israel and The Czech Republic. The purpose of this presentation is to describe Serafin and how it can be useful for you, as well as to invite you into the community of users and to participate in the open-source “dugnad”.

Serafin is made for researchers from health related disciplines, and the purpose is to afford the researcher with the necessary tools to build an eHealth intervention program from scratch to fully operationally pilot-version and at the same time make researchers less dependent on computer engineers throughout the development process.

Though, having some rudimentary knowledge about programming may greatly improve your output (e.g., increase degree of user tailoring in your program). It is not necessary with advanced knowledge of computers to start using the program. The only thing you need to know is that you can assign different and individual values to variables, based on user input/actions (or lack thereof), and then later make conditional statements (e.g. if ... then...) that will result in different use-scenarios and content. After just a couple of hours of training, the novice user administers such basic programming in a graphical interface. More advanced users have access to the toolbox of regular programming in a sandboxed Python-environment.

In the graphical interface it is possible to: put web-pages on a stack (per user) available the next time the user logs on, schedule SMS-text messages and e-mails, give new value to a variable, interpret incoming SMS-messages, decide when and under what circumstances a logic-session or a block of Python code is to be executed. This interface together with the Python environment enables the implementation of machine learning features.

Serafin is not a program for you if you envision a hierarchical menu-based service in which the user can peruse the contents at his/her own pace. Instead, Serafin is designed for researchers that want to distribute user choice and workload across a wide time-space, and to mimic dialogic aspects of multi-session clinical consulting, in which tailoring and timing of content is key.

Serafin was developed to reduce the development time of complex eHealth interventions, and reduce the dependency of programmers, particularly for the early phases of program development

(i.e. from prototyping to making the first pilot version. Using the platform may also make recycling of content across projects and interventions easier.

Title

Training Personalised Mental Health Intervention Systems

Presented by

Jim Tørresen

Affiliation

University of Oslo

Co-authors

Jim Torresen (and potentially some more from INTROMAT WP1 if time is available)

Abstract

Our mental state to a large extent impacts our well-being. Unfortunately, for many people, it fluctuates during lifetime and results in various degree of mental disorders. The most common one is depression but there exist a number of other ones as well like social anxiety, Attention Deficit Hyperactivity Disorder (AHDH), and bipolar disorders. The treatment is on the other hand often long-lasting and much dependent on therapeutic follow-up. Little technology is available to measure mental state and provide any automatic support and treatment. This is what we at the University of Oslo together with clinical collaborators in Bergen in Norway are addressing in the project INtroducing personalized TRreatment Of Mental health problems using Adaptive Technology (INTROMAT).

We work in the project with sensor-data collected from mental health patients and controls using mobile phones and sensor watches. We apply state-of-the-art machine learning methods to train models that can classify and foresee how the mental state is changing through time. Data comes in many formats like motion, speech, mobile phone usage, and more. Having some indication of the current and future development of the brain's mental state is helpful for providing a user with self-help as well as support to the therapist. In this talk, three important aspects of our work will be presented including the user design perspective, sensing technology and possible treatments that together target to contribute improved mental health. The talk will also address the ethical issues with privacy and data handling being the most important challenge in our work.

Title

Rethinking Social Interaction: Empirical Model Development

Presented by

Jone Bjørnstad

Affiliation

University of Stavanger/Department of Social Studies

Co-authors

Jone Bjornestad, PsyD, PhD; Christian Moltu, PsyD, PhD; Marius Veseth, PsyD, PhD; Tore Tjora, PsyD, PhD

Abstract

Background: Social media is an integral part of human social life. More than 90% of young people use social media daily. Current theories, models, and measures are primarily based on face-to-face conceptions, leaving research out of sync with current social trends. This may lead to imprecise diagnoses and predictions.

Objective: To develop a theoretically based empirical model of current social interfaces to inform relevant measures.

Methods: A three-stage, qualitative, data-collection approach included anonymous individual Post-it notes, three full-class discussions, and 10 focus groups to explore 82 adolescents' relational practices. Data analysis followed a meaning-condensation procedure and a field-correspondence technique.

Results: We developed an empirical model that categorizes adolescents' social interactions into five experiential positions. Four positions result from trajectories relating to social media and face-to-face social interaction. Positions are described by match or mismatch dynamics between preferred and actual social platforms used. In matched positions, individuals prefer and use both face-to-face and social media platforms (position 1), prefer and use face-to-face platforms (position 2), or prefer and use social media platforms (position 3). In mismatched positions, individuals prefer face-to-face interactions but use social media platforms (position 4) or prefer social media but use face-to-face platforms (position 5). We propose that matched positions indicate good social functioning while mismatched positions indicate serious social challenges.

Conclusions: We propose a model that will expand previous unidimensional social interaction constructs, and we hypothesize that the described match and mismatch analyses provide conceptual clarity for research and practical application. We discuss prediction value, implications, and model validation procedures.

Title

Treating and preventing depression by addressing insomnia - long-term follow-up of three RCTs

Presented by

Kerstin Blom

Affiliation

Karolinska Institutet

Co-authors

Blom, K., Jernelöv, S., Lindefors, N., Kaldo, V.

Abstract

Introduction

Comorbid insomnia and depression is common, but seldom adequately treated. Cognitive behavioral therapy, CBT, for depression is recommended for these patients in most guidelines, but the most common treatment is antidepressants, sometimes combined with sleep medication. Studies show that this is not adequate to treat insomnia and thus prevent relapse into depression. We present data from three RCT's on insomnia with depression or depressive symptoms.

Methods

Study 1. Participants (N=43) with insomnia and major depression received either therapist-guided Internet-based cognitive behavioral therapy for insomnia (ICBT-i) or therapist-guided Internet-based cognitive behavioral therapy for depression (ICBT-d).

Study 2. Participants (N=143) with insomnia but without major depression received either ICBT-i or an active Internet-based control treatment (ICBT-ctrl).

Study 3. Participants (N=126) with insomnia and major depression received either a new combination treatment, encompassing methods from both CBT-i and CBT for depression, or depression treatment with a placebo intervention for insomnia.

Results

Study 1. Results show that the two treatments, ICBT-i and ICBT-d, were equally effective in reducing depression, but ICBT-i was significantly more effective in reducing insomnia. The results were maintained at the 3 year follow-up.

Study 2. Post treatment and at the 6 months follow-up, ICBT-i was more effective in reducing insomnia severity than the control treatment. For the whole sample, persistent good sleep at post-, 6- and 12 months follow-up predicted significantly less depressive symptoms at the 3 year follow-up.

Study 3. Preliminary results imply the new combination treatment is superior to the control treatment, with similar effects on depression but superior effects on insomnia.

Conclusions

These results underline the importance of providing evidence based insomnia treatment (CBT-i) to patients with co-occurring insomnia and depression.

Title

Therapist-guided Internet treatment for hazardous and harmful drinking among adults 50+. A feasibility study.

Presented by

Linn-Heidi Lunde

Affiliation

Department of Addiction Medicine, Haukeland University Hospital

Co-authors

Linn-Heidi Lunde, Arne Repål, Tine Nordgreen

Abstract

Therapist-guided Internet treatment for hazardous and harmful drinking among adults 50+. A feasibility study.

Linn-Heidi Lunde PhD, Arne Repål PsyD, Tine Nordgreen PhD

Background and aims

Internationally there has been an increase in risky and harmful alcohol use among adults in the second part of life. Results from Norwegian studies show that especially those between

50 and 70 years of age drink more frequently than previous generations.

We will test therapist-guided Internet treatment for risky and harmful alcohol use among adults 50 years and older. The intervention can help people to change risky drinking habits at an early stage before developing into problems that are more serious. The therapist-guided Internet treatment addresses the person's need for confidentiality and contributes to reducing the stigma associated with visiting a substance abuse clinic.

The present feasibility study has the following research questions:

- 1) Is therapist-guided Internet treatment for risky and harmful alcohol use feasible for self-referred persons?
- 2) What factors contribute/do not contribute to the feasibility of treatment?
- 3) Can the intervention help people change risky drinking habits before it develops into problems that are more serious?
- 4) How do participants experience the intervention?

Methods

The study will be conducted as an open, 6-months follow-up study, to assess whether the design is suitable for a randomized controlled trial in the next round. Both quantitative and qualitative methods will be used to investigate the feasibility of the treatment program.

This is a collaborative project between The Department of Addiction Medicine, Haukeland University Hospital and eMestring, Vestfold Hospital HF. The treatment program, eMestring Alkohol, has been developed at Vestfold Hospital. It is based on cognitive behaviour therapy and consists of eight modules including psychoeducation, tasks and exercises.

We will recruit 30 participants through announcements in social media, newspapers and through GP's and other health care services. Assessments will be carried out at start of treatment, through the treatment course and at the end of treatment and at follow-up. The data collection starts in autumn 2020. Research protocol and preliminary results will be presented.

Title

Mood recognition from daily phone calls of bipolar disorder patients with deep learning

Presented by

Minh H. Pham

Affiliation

University of Oslo

Co-authors

Minh H. Pham, Jim Torresen

Abstract

Speech features have been suggested to be changed according to the way people think. Collecting daily speech provides an innovative method to monitor mood in a continuous manner, which could be very helpful for patients with bipolar disorder. The aim of this study is to predict the status of bipolar disorder, based on frequency features extracted from daily phone calls, using deep learning approach. The two binary classifications of healthy state (euthymic) versus the two pathological states (depressed and manic) were then compared against clinical scores, which were considered as the gold standard. The phone calls were collected with the speech collecting app(PRIORI), and the labels with a self-reporting app (MATHyS). This approach motivated the application of deep learning on speech to assist clinicians in diagnostic, allowing early intervention for the benefits of both patients and medical doctors.

Title

Persuasive design to increase adherence in IDPT

Presented by

Rosaline Barendregt

Affiliation

Information Science, University of Bergen

Co-authors

Rosaline Barendregt

Abstract

Communication between therapists and patients is of great importance for effective therapy. Both verbal and non-verbal communication can have a large impact on the outcome. When therapy is offered online, user interfaces (UIs) facilitate the communication. This makes them an important component of Internet Delivered Psychological Treatment (IDPT). Yet, these kinds of treatments are often implemented without understanding the importance of UI-design nor do they make use of the UI's possibilities. Bad UI design may jeopardise the assessment validity, and results in incomplete evidence to support the safe, reliable, and credible implementation of interventions.

Good UI-design focuses on users, their tasks, and (expected) behaviour, and takes this as the main guideline as to how the UI should function. Well-designed UIs are known to engage users, bring them in a certain mood, and motivate them to keep coming back to reuse the artifact. Persuasive technology and techniques build on the principle that for actions to be taken, one needs motivation, ability, and triggers. Even if someone has a high motivation, the lack of triggers or ability to do the action can force this person to be passive. The UI can be seen as a means to facilitate motivation, by providing a pleasant and easy-to-use platform to perform actions while sending effective triggers. We will investigate how this theory can be used to increase adherence, which has been pointed out to be a main success-indicator for IDTPs.

One problem that may arise when designing IDTPs, is the tension between the needs of the therapist and the wishes from the patient. An example can be that a therapist would like to collect information in a standardized, approved format such that results will be approved by the medical community. However, this may be a tedious activity seen from the perspective of the users, which may result in the collection of lesser and lower quality data, or even result in unnecessary drop-outs.

For successful IDTPs, there is a need to invent methods that address the needs of both therapists and patients. This can be done by developing new psychological approaches that exploit technological possibilities and prospected patient behaviour.

We propose a method to collect data from repetitive tasks by using micro questionnaires in locked screen mode on mobile devices. We show how this can be used to collect core affect mood data, conformed to the Swedish short self-report measure of core affect.

Title

Digital Follow-up after Gynaecological cancer

Presented by

Sigrund Breistig

Affiliation

VID - Vitenskapelighøgskole

Co-authors

Sigrund Breistig

Abstract

POSTER Abstract

(With subject to changes)

Digital Follow-up after Gynaecological cancer –

This is a PhD project aiming to explore the lived life experiences of women who have participated in Gynea – a digital learning- and mastery intervention, after treatment for Gynaecological cancer.

Background

In 2019, more than 1,800 women was diagnosed with gynaecological cancer. The incidence of cancer increase, together with the number of survivors. Even though the women are treated from the cancer, life is changing, and the women are calling for follow-up regarding the mental and physical challenges that arise. To meet this need, researchers have developed an internet delivered learning- and mastery intervention called Gynea. Gynea is a digital platform, where participants are introduced to information, psycho educative exercises, and assignments, in the subjects; A new everyday life, An altered body, Fear for relapse, Fatigue and Sexual health. Once a week the women get access to a new module with and a telephone conversation with an experienced nurse in regard of the theme of the week.

The intervention is developed according to the UK Medical Research Council framework of development of complex interventions. This development includes three stages. In the first stage a literature review was done, identifying the needs and collaboration and the women`s lived experiences as survivors. In the second stage theory was indeitfied and at last in the thir`d stage the intervention was modelled.

This ongoing PhD study explore the lived life experiences of the women who have taken part in Gynea. A phenomenological lifeworld approach is used and data consist of transcribed indepth semistructurated interviews with the women 2 – 4 weeks after they completed the intervention. Data collection is going on.

Planned studies.

1. - Just call if there is something: A qualitative study of women's needs for follow-up after treatment for gynecological cancer.

1.2. Experiences from taking part in a digital learning and mastering program, after treatment for gynecological cancer. What is the described effect from a participant`s lived experience?

2.3. Sexual health after gynecological cancer. What information and support do women want in regards of sexual challenges after treatment? Experiences after participation in a digital learning- and mastery intervention.

The PhD Study is scheduled completed January 2024.

For more information, contact PhD candidate: Sigrund Breistig, sigbre@vid.no

Title

Essense of user profiling for building adaptive IDPT system

Presented by

Suresh Kumar Mukhiya

Affiliation

Western Norway University of applied sciences

Co-authors

Suresh Kumar Mukhiya, Yngve Lamo

Abstract

Internet-Delivered Psychological Treatment (IDPT) has surfaced and grown as one of the most commonly practiced and widely researched forms of psychotherapy. The primary reasons for such popularity are IDPT can be: a) available and accessible from anywhere with an Internet connection, b) easily accessible, c) scalable with respect to the functional capacity of the care, d) cost-effective means of treatment for individuals who do not have insurance or can not afford the out-of-pocket fees, and e) removes the discomfort and the stigma related issues associated with the face-to-face approaches.

Despite evidence that Internet Interventions can be effective means in mental health morbidities, most current IDPT has a tunnel-based intervention flow, inflexible and non-interoperable. Internet-Delivered interventions administered to several healthcare issues are similar. However, due to a lack of standard documentation, framework, and clinical guidelines, several forms of IDPT models exist. As a result, developers and researchers tend to create copies of adaptive IDPT systems making the healthcare system more complex and less interoperable.

An adaptive system behaves differently for different users. The decision on how the system should behave for any particular user is based on a user model. The user model is a detailed representation of an individual user's information associated with an adaptive system to produce the adaptation effect. The user preferences and needs are dynamic. Hence, it is essential to create, maintain, and update the user model. An adaptive system accumulates data in two distinct approaches to create and maintain an up-to-date user model: a) implicitly by observing user interaction (logging) and b) explicitly requesting direct input from the user. This process is referred to as user profiling. Hence, in this presentation, we aim to present user profiling's essence and its significance for creating an adaptive healthcare system. The presentation includes what user profiling is, why it is essential, the significant user profile components (interests, behavior, knowledge, personal traits, context, etc.), how to capture and represent these components, and how we can use them to adapt the healthcare system.

Title

Long-Short Ensemble Network for Bipolar Manic-Euthymic State Recognition Based on Wrist-worn Sensors

Presented by

Ulysse Côté-Allard

Affiliation

University of Oslo

Co-authors

Ulysse Côté-Allard, Petter Jakobsen, Andrea Stautland, Tine Nordgreen, Ketil Odegaard, Jim Torresen

Abstract

Manic episodes of bipolar disorder can lead to uncritical behavior and be highly destructive for those affected and their surroundings. When left untreated, these episodes can lead to a break from reality (psychosis) and even be fatal. Early detection and intervention of a manic episode is crucial for episode containment. However, people living with a bipolar disorder often do not recognize that they are experiencing a manic episode. Further, symptoms such as euphoria and increased productivity can deter affected individuals from seeking help. This presentation proposes to explore non-invasive, automatic manic-euthymic mood-state detection based on actigraphy and electrodermal activity acquired from a wrist-worn device. To do so, we will show the impact of different feature sets applied to different modalities (Heart-Rate, Actigraphy, Electrodermal Activity) and their combination. Additionally, deep learning based method will be presented which learn to extract meaningful features from short interval of time (five minutes).