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Help4Mood – Supporting Joint Sense Making in the Treatment of Major Depressive Disorder

Maria K. Wolters[1], Christopher D. Burton[2], Colin Matheson[1], Adrián Bresó[3], Aurora Szentagotai[4], Juan Martinez-Miranda[3], Javier Rosell[5], Elies Fuster[3], Claudia Pagliari[1], Brian McKinstry[1] for the Help4Mood Consortium
[1]University of Edinburgh, Edinburgh, UK; [2]University of Aberdeen, Aberdeen, UK; [3]Universitat Politècnica de València, Valencia, Spain; [4]Babes-Bolyai University, Cluj-Napoca, Romania; [5]Universitat Politècnica de Catalunya

Abstract

Most existing work on supporting people with depression has focused on monitoring symptoms or providing computer or internet-based Cognitive Behaviour Therapy. Help4Mood follows a different approach. Using Help4Mood, patients can track mood, physical activity, and psychomotor symptoms of depression, monitor recurrent negative thoughts, and explore new helpful behaviours. Key trends are summarised to support patient and therapist in joint sense making.

The Idea

One in five people will experience an episode of major depressive disorder during their life. After a first episode, the condition is highly likely to recur. The standard treatment options are medication and psychotherapy[1]. In recent decades, internet-based psychotherapy interventions have been used to widen access to psychotherapy[2]. But providing access to an internet- or computer-based intervention alone is insufficient for many people; outcomes are improved when patients are guided through the programme[2].

There are also many applications that allow users to monitor their mood and related symptoms. However, support for making sense of the data that has been collected is typically limited to graphs and summaries. There is also relatively little longitudinal data that would allow reliable detection of recovery or relapse. For example, most published data on activity and sleep has been obtained by comparing hospital inpatients with healthy people living in the community[3].

Health IT tools for patients and clinicians need to acknowledge this complexity and support communication of thoughts and feelings to support joint sense making. Help4Mood has been designed to fit this specification. The system consists of three components, a Virtual Agent, a Personal Monitoring System, and a Decision-Support System[4]. Since the system is to be tested with patients in clinical practice, it was risk assessed thoroughly for privacy and security issues.

Patients mainly interact with Help4Mood in short daily sessions, using an audiovisual interface that features a Virtual Agent, implemented as a talking head. Sessions include short mood checks using standardized instruments[5] psychomotor speech tasks, and components that directly support Cognitive Behaviour Therapy, such as an innovative Negative and Positive Thoughts Module and a specially developed brief Behaviour Activation component.

The Personal Monitoring System collects activity data using a bespoke wrist- or waist worm actigraph, and the Decision Support System plans varied daily sessions that can be adapted to the patient's mood and stamina, analyses data, and generates report.

Findings

Help4Mood is developed using an iterative design process with frequent feedback from users and clinicians. We have completed a series of case studies of the actigraphy component and five case studies of a very basic version of the Help4Mood system consisting of actigraphy and a daily mood check[6]. We worked with people who had recovered from a major depressive episode.

Overall, users were highly sensitive to quirks and instabilities, even though they were familiar with technology. Actigraphy solutions had to be unobtrusive and non-stigmatising, which validated our decision to develop both wrist and waist worn actigraphs. The avatar-based interface divided people – half liked the avatar, half did not like it; the

reasons were highly idiosyncratic. For example, one user liked the avatar because she reminded her of a nice work colleague.

Focus group work with clinicians and patients led to the design of a one-page summary of key measures and trends observed by Help4Mood. Information is given both in a natural-language summary and through graphs, designed to facilitate discussion about the individual's experience of depression and path to recovery.

Implications for Interdisciplinary Collaboration

In order to design IT solutions that effectively support people with mental health problems, we need to create a seamless, non-stigmatising user experience that fits into people's lives at home and at work. In line with recent work on telemonitoring[7,8], patients should be supported in reflective thinking and taking ownership of their mental health, but within a framework that makes it easy for patients to access qualified therapists and receive the guidance that is crucial to the success of internet-based psychotherapy interventions[2].

User experience and interaction designers need to work closely with patients, health care practitioners, and specialists in implementing mental health services to create solutions that bring patients and therapists together.

Privacy and security requirements of different health care systems have led to the system being less flexible and portable than it should be – we need to work with experts in the design of trustworthy systems to address these issues more effectively.

Recommendations for further investigation

In Autumn/Winter 2013/2014, we will conduct an exploratory pilot trial of Help4Mood, with in-depth qualitative and quantitative evaluation, which will take us to Stage 2 of the MRC Framework for Evaluating Complex Interventions[9]. We also hope to evaluate promising parts of Help4Mood, such as the Negative and Positive Thoughts Module, in other settings. At the workshop, we will show demonstrations of the system, in particular a set of sample reports.

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