ORIGINAL ARTICLE

Development of the internet based psychoeducation for patients with bipolar affective disorder

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Abstract

OBJECTIVE: Despite pharmacological treatment of bipolar affective disorder has many advantages; only drug treatment remains insufficiently beneficial to many patients. The combination of pharmacotherapy and internet psychoeducation seems to be the effective way how to improve remission. Internet-based therapy programs offer an exclusive chance for large underserved parts of the population to make evidence-based treatment without the need of full-time therapist. Our goal was to create a psychoeducational program for patients suffering from bipolar disorder that can be used in Czech Republic.
METHODS: There were identified studies through Web of Science, PUBMED, and Scopus databases as well as existing reviews were used in development of comprehensive internet psychoeducational program for patients with bipolar disorder. The search terms included "bipolar disorder", "psychoeducation", and "internet psychoeducation". The search was performed with no language or time restrictions.
RESULTS: The internet psychoeducational program was developed in accordance to the data from the literature review. The aim of the Internet psychoeducational program of the Department of Psychiatry University Hospital in Olomouc is to familiarize patients with the fundamental nature of bipolar affective disorder, the character and principles of pharmacotherapy, the recognition of the warning signs of relapse, inappropriate and stressful stereotypes in communication within families, and finally the practice of social skills.
CONCLUSION: Information from studies can help to prepare comprehensive psychoeducational program for bipolar patients.

INTRODUCTION

Bipolar affective disorder (BAD) is a serious psychiatric illness with lifetime prevalence about 1%. When including BAD type II, cyclothymia, juvenile variants, and proposed "bipolar spectrum" disorders, the total rate wide to at least 5% (Tondo *et al.* 2005). One of the major problems of this population is the lack of co-operation in the treatment with psychiatrists, discontinuation of medication, and unproductive life style, which results in a higher number of relapses, disabilities of the patients and families, poorer social functioning and poorer quality of life. Adherence to the treatment may be reinforced by increasing insight to the problem and providing quality and practical information about its treatment.

Psychoeducation is a type of psychotherapeutic support aimed to provide comprehensive and sufficient information about bipolar disorders to patients. The most important objective of the psychoeducation is to prevent a relapse by increasing compliance with medication usage, increasing social rhythms, reducing emotional expressivity in families, and increasing coping strategies to deal with stress. Patients should learn that bipolar disorder is a serious psychiatric disorder, but there is a potential to cure it. Studies on psychoeducation in bipolar disorder exhibit beneficial effects on rehospitalization rates, compliance and understanding. Compared with a mood stabilizer treatment alone, combination therapy of CBT and mood stabilizers has been shown to decrease the frequency of bipolar episodes, shorten the duration of episodes that occur, and reduce the amount of hospital admissions due to episodes. Patients treated by this combination also showed higher social functioning. The profit of psychoeducation is most likely durable.

There are several psychoeducational programs for BAD patients (Jones *et al.* 2013). All of them highlight the basic understanding of biological nature of the disorder, information about psychosocial factors that affect the triggers and maintenance of the disorder, treatment options, lifestyle issues, monitoring the warning signs, possibility of coping with the symptoms and typical problems, the importance of social rhythms, and importance of proper communication. Internet-based education program that patients undergo at home, after dealing with the acute phase, could be useful.

Internet-based treatment typically involves the interaction between a client and therapist via the internet and incorporates the use of a prepared web-based treatment program for clients to read in combination with therapist assistance usually by email. Over the past decade, internet-based therapy has been found to be helpful for a variety of physical health conditions and psychiatric disorders (Christensen *et al.* 2004; Shandley *et al.* 2008; Litz *et al.* 2004; O´Kearney *et al.* 2006).

Psychoeducation using the internet has been evolved in last 10 years. According to numerous studies and meta-analysis internet psychotherapy and psychoeducation may be equally effective as the common face-to-face form in case of panic disorder (Kenwright & Marks 2004; Schneider *et al.* 2005; Marks *et al.* 2005; Calbring *et al.* 2005; Gega *et al.* 2007; Calbring *et al.* 2006; Kiroupoulos *et al.* 2008), depression (Carbring *et al.* 2005; Clarke *et al.* 2005; Mackinnon *et al.* 2008; O´Kearney *et al.* 2006; Van Voorhees *et al.* 2007; Van Straten *et al.* 2008), PTSD (Riper *et al.* 2008; Knaevelsrud & Maercker 2007), complicated grief (Wagner *et al.* 2007), obsessive compulsive disorder (Barlow *et al.* 2005), social phobia (Klein *et al.* 2006; Spek *et al.* 2007; Standley *et al.* 2008; Andrews *et al.* 2011), and bulimia nervosa (Schmid *et al.* 2007; Liwowsky *et al.* 2006).

Internet psychoeducation brings the advantage for the patient of not having to visit the doctors so often, possibility to control the program designed for him, and use it whenever he has time. The costs are minimal. Surprisingly, it was found that the efficiency is the same as that conducted by a therapist in outpatient therapy. However, internet psychotherapy also requires minimal contact with a therapist over the internet (about 10 minutes per week), usually in the form of answers to questions, homework assignments, evaluation, and encouragement. The program itself without entering the therapist is less effective than a program with minimal contact (Griffiths & Christensen 2007).

METHOD

A report with conclusions about internet psychoeducation in bipolar disorder was performed. Articles were identified through the PubMed, Web of Science, and Scopus databases. The search terms included "bipolar disorder", "psychoeducation", and "internet psychoeducation". The search was performed with no language or time restrictions. The acquired articles were sorted by their relevance and key articles were identified. Reference lists of publications obtained by these actions were hand-searched for other relevant articles. The resources were confronted with our own experiences with psychoeducation in bipolar patients and used to develop our comprehensive psychoeducational program.

AIMS OF PSYCHOEDUCATION IN BIPOLAR AFFECTIVE DISORDER

Modern psychological studies of BAD, which guide the development of psychotherapeutic approaches for this disorder, emphasized different areas of interest (Lam 2002; Latalova *et al.* 2012): non adherence to pharmacotherapy, emotional consequences of past episodes of mania or depression, understanding that one suffers from a serious, or potentially serious mental disorder and the problem of stigma, little awareness of precipitants and triggers that activate an episode, delay or deviance in personal maturation and deficits in social cognitions, impairment of social rhythms and habits, expressed emotion in family members, personality disorder, fear of disease relapse, and difficulties in interpersonal relationships (Prasko *et al.* 2013).

Compared to treatment with mood stabilizers alone, the combined treatment with medication and psychosocial approaches is successful in the stability of remission, improved quality of life due to subsequent reduction of rehospitalization and improvement of the quality of social functioning (Perry *et al.* 1999; Lam *et al.* 2000; Frank *et al.* 2005; Zaretsky *et al.* 2008; Parikh *et al.* 2012). Advantages of psychoeducation also prevail in long-term follow ups.

Non adherence to pharmacotherapy

More than 50% of the patients discontinued from the medication or did not use it according to the guidance of the doctor (Devulapalli *et al.* 2010; Gonzalez-Pinto *et al.* 2010; Hong *et al.* 2011). Non-adherence is connected to relapses, which could be devastating for patient's family, social life, and job, and they are also connected to the risk of aggression, especially in patients with comorbid personality disorder (Latalova & Prasko 2010). Therefore, the improvement of medication compliance is one of the most fundamental goals of psychoeducation (Deep *et al.* 2008). Usually, the doctor explains to the patient that using medication is beneficial to him because he is sick. It is not a very effective way because patients perceive it as too directive. It seems better if the patient recognizes the need to take medications himself. There are exercises in our internet psychoeducational program, in which patients might rethink the advantages and disadvantages of using and non-using the medication on their own.

Emotional and cognitive consequences of past episodes of mania or depression

Past episode tends to have social, emotional, and cognitive consequences (Lomax & Lam 2011). The patients may feel embarrassed for their behavior during an acute episode. They can deny that it was a sign of the disorder, depreciate or exaggerate the consequences of the disorder for life, families, and relations. Help to the patients to see these consequences in appropriate ways is necessary for coping with them, and for identification, what is possible rectified (Lex *et al.* 2008; Jones *et al.* 2013). Internet psychoeducational program offers a comparison of the consequences for other people suffering from bipolar disorder and shows that it is no need to displace the problems, nor be afraid of them, but it needs to be addressed. That may helps a physician, family, and support group.

Realization that a patient suffers from a serious, potentially chronic mental disorder and the problem of stigma

An insight is a key factor in coping with the psychiatric disorders (Varga *et al.* 2006; Velligan *et al.* 2009). Achieving insight is one of the most crucial goals of psychoeducation. The relationship between the presence of the preview and the impact of treatment has been repeatedly demonstrated, for example in patients treated for schizophrenia (Schwartz *et al.* 1997). This relationship was examined also in patients with bipolar affective disor-

Tab. 1. General targets of the psychoeducation in bipolar disorder.

- Provide basic information on bipolar disorder
- Reduce denial and encourage acceptance of illness
- Decrease self-stigmatization
- Repair incorrect assumptions about the disease (clinical picture, course, treatment)
- Strengthen adherence and collaboration with a psychiatrist
- Teach patients to monitor their mood during the day
- Learn to observe the rhythmic activity and enhance social rhythm in life
- Reinforce patient´s confidence in the ability to cope with environmental influences (provoking and stress factors)
- Teach the patient to recognize warning signs of the disorder
- Increase social and occupational functioning
- Give information about helpful communication with the doctor, within the family, with friends and colleagues
- Make a plan to prevent relapse

der. Ghaemi *et al.* (2000) prospectively followed 101 patients, of which 37 met the criteria for bipolar I disorder type. Patients were evaluated by using CGI, SUMD, and GAF. The effect of treatment was evaluated as a difference in the scales CGI and GAF at the beginning compared to measures obtained during the monitoring. The authors were able to determine the improvement preview during treatment and better impact of patients with good insight. compared to patients with poor one.

In this context, Yen *et al.* (2009) examined the predictive validity of insight into the clinical outcome of treatment. The study involved 65 subjects with a bipolar I disorder. Entry presence preview was assessed using a questionnaire SAI, which was also completed in the 3rd, 6th, 9th, 12th, 18th, and 24 month of treatment. The treatment outcome was defined as the number of hospitalizations, emergency room visits, and violent or suicidal behavior. Regression analysis showed that decreased insight to the need for treatment and a higher number of previous hospitalizations significantly increased the risk of adverse clinical outcome of treatment. However, insight into the actual detection of the disease and awareness of psychotic phenomena had no effect on the clinical outcome.

Acceptance the fact that a person suffers from a serious mental disorder is difficult. Denial in many patients is understandable. The stigmatization may be manifest both as a feeling of inferiority of its carrier and as a devaluation attitude of the social environment (Cerit *et al.* 2012). Failure to adopt the disorder leads to denial and lack of cooperation in the treatment. Insight significantly improves collaboration both in drug use and in the introduction of a healthy lifestyle (Latalova 2012). There are named the famous persons like writers, actors, scientist, and politicians, who suffered from

BAD and were in the internet psychoeducational program. It is important for a patient to realize that these people were strong personalities and had a high level of creativity (Graves 2005; Andreasen 2008; Koutsantoni 2012). The problem of the stigma is critical, because it appears that the more patients stigmatize themselves the less benefit they have from the treatment (Latalova *et al.* 2013).

Recent studies even show that the social stigma can be internalized, whereby a subject starts to accept as correct that the social stigma is a true reflection of him. This self-stigma is evident in a lot of patients with severe psychiatric disorders (Livingston 2010). Unfortunately, family members regularly contribute to the stigmatization. The family and the patient may have particular attitudes – labels towards the psychiatric treatment. They may see the medicaments as poisons, which change the mind, the psychotherapy as brainwashing. Certain types of treatment are preferred, and certain are rejected in the population. There exist regional differences. For some or all of these reasons, a patient suffering from a psychiatric disorder may be less likely to look for the treatment and/or has an elevated risk of relapse (Wahl 2012), which effect can influence the perpetuation of social stigma (Sartorius 2007). Perceived stigma (self-stigma) has also been shown to be connected to a decrease of social functioning in patients with bipolar affective disorder and impaired functioning in the place of work (Perlick *et al.* 2001). Bipolar patients with concerns about stigma may change their social behavior to avoid experience of rejection or discrimination (Perlick *et al.* 2001). Also, the loss of functioning may lead to embarrassment and discrimination, which contributes to a high level of perceived stigma. Thus, the relationship between perceived stigma and functioning seems to be bidirectional (Vazquez *et al.* 2011). These findings suggest that interventions that oppose stigmatization have positive effects on the functioning in remitted bipolar patients.

Little awareness of precipitants and triggers that activate an episode

Awareness of factors, which may exacerbate the disease and activate new episodes, is often lacking between patients (Johnson *et al.* 2008). Avoiding or managing these factors can significantly improve the management disorders (Latalova *et al.* 2012).

One of the reasons for a little understanding of triggers or precipitants that start an episode is dissociation. Dissociation is a human capacity that fulfills an adaptive or maladaptive function under specific circumstances. Dissociation as a medical psychiatric condition has been defined primarily in terms of disintegration and splitting of the mind and perception of the self and the body. Its psychological manifestations are distorted perceptions and behavior, including derealization, depersonalization and distortions of the perception of time, space, and body (Ptacek *et al.* 2007; Pastucha *et al.* 2009; Latalova *et al.* 2011). Dissociation is seen as a coping strategy for

dealing with severe anxiety states and painful trauma experiences on one side (Lipsanen *et al.* 2004). On the other side, the failure of integration of these functions results in symptoms that illustrate fundamental problems in the form of mental processes. Other reason for a little understanding of precipitants and triggers that can start an episode could be a high level of cognitive impairment in bipolar disorder (Basso *et al.* 2002; Thompson *et al.* 2005; Latalova *et al.* 2011), which is connected to the autonomic nervous system dysfunction in these patients (Latalova *et al.* 2010). The severity of impairment is increased by history of psychosis, history of early onset of bipolar disorder, and lower level of education. Other factors such as current pharmacological treatments are apparently involved, but more research is needed on this topic (Proudfoot *et al.* 2011). Cognitive dysfunctions play a role in the generally poor social and vocational outcomes in bipolar disorder (Latalova *et al.* 2011; Bucker *et al.* 2013).

Warning signs

Early warning signs of a mood relapse comprise to sleep disturbance, increased goal orientation, agitation, and disruption in daily routine. Symptoms during this early stage are known as prodromes. At least 50% and perhaps up to 92% of BD patients are able to identify a *prodrome* that precedes the onset of a full-blown episode (Mantere *et al.* 2008; Goossens *et al.* 2010; Lam *et al.* 1997; Lam *et al.* 2005). Early intervention can prevent a full occurrence of mania. The most beneficial strategy at this time is the visit of a psychiatrist and optimizing the medication.

Delay or deviance in personal maturation and deficits in social cognitions

Because the BAD can start at a very young age, when a person matures and integrates a number of critical social experiences, the disorder may delay or modify the personal maturation and creates problems with understanding of social situations (Montag *et al.* 2010; Whitney *et al.* 2013; Rowland *et al.* 2012; Green *et al.* 2011; Ibanez *et al.* 2012). The patient can overcome these deficits at a later age, but in many cases they continue, and the patient must adapt to them. A part of psychoeducational program focuses on cognitive processing of events and targets vulnerable attitudes and beliefs to improve self-understanding and understanding of others.

Impairment of social rhythms and routine

Patients with bipolar disorder have severely disrupted circadian rhythms (Mansour *et al.* 2009; Dallaspezia & Benedetti 2011). Alterations of the sleep-wake cycle and the sleep structure are the core symptoms of a bipolar affective disorder (Sylvia *et al.* 2009). Many other circadian rhythms, such as the daily profiles of melatonin, cortisol, body temperature, thyroid stimulating hormone, prolactin, growth hormone, and excretion of various metabolites in the urine are changed in patients with bipolar affective disorder (Shi *et al.* 2008). Improving the daily rhythmic activities, like sleep, physical activity, and social activi-

ties, can strengthen circadian rhythms and increase patient resiliency against new episode (Frank *et al.* 2007; Deep *et al.* 2008; Jones *et al.* 2013).

Expressed emotion

The increased number of relapses in bipolar disorder is connected to noncompliance with the pharmacotherapy, but also to a high degree of emotional expression in the family and lack of social skills of the patient and his relatives (Miklowitz *et al.* 2003; Cuellar *et al.* 2009). Psychoeducation is a possibility how to control these factors (Frank *et al.* 2007). Bipolar disorders usually emotionally affect family of the patient. The family members very often excessively criticize, reject or overprotect the patient, which can lead to emotional destabilization of a bipolar individual. The intense emotional expressivity, especially hostile speeches, criticism and rejection, can lead to distress, which easily disrupts the delicate balance of the remission, especially after discharge from the hospital or shortly after reaching the remission. Similar to schizophrenia, it was found that over-expressed emotions affect the number of relapses in patients with bipolar disorder (Honig *et al.* 1997; Miklowitz *et al.* 2000. O'Connell *et al.* 1991).

For a substantial proportion of families of bipolar patients are typical inappropriate communication stereotypes, which lead to strongly expressed emotions, what could be a trigger of new affective episodes (Schaefer *et al.* 2010). Patients are encouraged to learn to cope with criticism from others, to be able to respond in a constructive way to it and to express their needs and provide feedback on what they experience in a family situation (Miklowitz & Johnson 2009). In family psychoeducation, the emphasis is put on lowering the negative attitudes and subsequent behaviors to the patient and to provide more physical and mental space for him (McMurrich & Johnson 2009). Training in communication skills within psychoeducational program has a considerable potential to reduce high emotional expressiveness within the family, to stabilize the patient and improve their cooperation in treatment (Miklowitz & Johnson 2009).

Difficulties in interpersonal relationships

The communication problems related to the high expressed emotions, and problems in the families are exaggerated by unconstructive criticism, lack of respect to patients' privacy and boundaries crossing (e.g., parents penetrating into patient's room and criticizing his work), giving the exaggerated and unasked advices, etc. (Frank *et al.* 2007). Therefore, there is a strong emphasis on reduction of critical attitudes and subsequent behaviors to the patient (Proudfoot *et al.* 2007). Patients are encouraged to learn to cope with the criticism, they are educated how to respond constructively, learn to express what they need and provide feedback to what they experience in a given situation (Smith *et al.* 2011; Poole *et al.* 2012). A social skill training is included in the last part of the internet psychoeducation. Improving of social skills is

Tab. 2. Basic social skills, suitable for practicing the psychoeducational program.

- Training the correct perception and understanding of information;
- Positive communication, such as valuing each other, praise, encouragement;
- Training emphatic expressions;
- Training adequate communication of emotion through feedback;
- Training of receiving criticism, including negative questioning, acceptance, feedback, and negative assertions;
- Training of constructive criticism;
- Training of problem solving skills, including finding a compromise and making a deal.

associated with a decrease of patients' distress in life, with a reduction in symptoms, and increases of the quality of life (Colon *et al.* 2009). Basic social skills, suitable for practicing the psychoeducational program are noted in Table 2.

Fear of disease relapse

Fear of relapse is common in many bipolar patients, especially in women with children and college students (Lejeune 2011). This fear is associated with rumination, which has been consistently implicated in the beginning and maintenance of depression. Rumination about positive and negative emotion, as well as increased autonomic arousal, is associated with greater lifetime prevalence of depression. Trait rumination about positive emotion is associated with higher frequency of manias (Gruber *et al.* 2011). In the study of Russell and Browne (2005), people with bipolar disorder who were able to cope with their fear of relapse actively, also remain well, and the course of the disorder was rather positive.

INTERNET-BASED PSYCHOEDUCATION FOR PATIENTS WITH BIPOLAR DISORDER

The cost of time of the patient and therapist, training and travelling are some of disadvantages of face-to-face psychosocial interventions. Barnes *et al.* (2011) developed an internet-based psychoeducational program called "Beating Bipolar". The program includes a mix of various helping mechanisms, with initial face-to-face delivery, followed by interactive internet program with significant information and ongoing support via a web forum (Simpson *et al.* 2009). The core characteristics of the program are: (a) diagnosis of the disorder; b) understanding of ethiopathogenesis; c) explanation of the role of medication; d) importance of changes in lifestyle; e) relapse prevention and early intervention; f) explanation of psychological approaches; g) gender-specific informations; and h) informations for family and care-

givers. During the study patients were asked to access the modules every two weeks. They were encouraged to discuss the content of the module in a discussion forum (Smith *et al.* 2011). In an exploratory trial authors found that Beating Bipolar was relatively easy to learn and had a modest effect on quality of life (Smith *et al.* 2011). Program had impact upon insight into the bipolar affective disorder, to the personal routines, and improved positive attitudes towards psychopharmacs (Poole *et al.* 2012).

OUR INTERNET PROGRAM FOR PSYCHOEDUCATION OF BIPOLAR PATIENTS

Psychoeducational program for patients with bipolar disorder has been incorporated into the online version, which allows complete psychoeducation out of therapeutic room. In addition to presenting valuable information, the program includes a number of interactive exercises and questionnaires, where therapist gives feedback by e-mail once a week. The system is designed to provide information leading to compliance with using the medication, improvement a healthy lifestyle, and awareness of warning signs of a new episode. Patients enter the program voluntarily on the recommendation of their psychiatrist and may also anytime stop their participation in the program without giving any reasons.

The program is based on the studies of psychosocial factors relevant for the maintenance of remission in patients with bipolar disorder and after studying of the principles of internet psychoeducational programs, especially for bipolar patients (Barnes *et al.* 2011; Smith *et al.* 2011; Poole *et al.* 2012). The aim of the internet psychoeduca-

Tab. 3. Internet psychoeducational program for patients with bipolar disorder.

- Introduction of the program
- Self-evaluation - questionnaires and scales
- Psychoeducational program - 12 modules:
  (1) What is bipolar disorder
  (2) Typical symptoms of mania and depression
  (3) Causes of Bipolar Disorder
  (4) Treatment with drugs
  (5) Rhythm in life and life in rhythm
  (6) Warning signs and triggers of the episodes
  (7) Automatic thoughts and images
  (8) Vulnerable attitudes
  (9) Old and new philosophy
  (10) Communication and positive assertiveness
  (11) Communication and critique
  (12 Message at the end
- Frequently asked questions
- Relaxation
- Exercise for health
- Internet counseling for people with bipolar disorder
- Chat
- Additional educational texts
- Stories
- Famous people with bipolar disorder

tional program is to familiarize patients with the basic nature of bipolar affective disorder, the character and principles of pharmacotherapy, the recognition of the warning signs of relapse, to inform about improper and stressful stereotypes in communication within families, and finally the training of social skills. Patients consider this program as meaningful, and they find it helpful to understand what happened in their life.

The educational program is divided into 12 chapters, each of them focused on a relevant topic. It is important that the patient is closely acquaints with the materials and takes relevant lessons. The verification of the information received and understood at the end of the chapter is evaluated by exercises and assessment tests. Chapters include interactive environment through which a therapist can communicate with a patient and evaluate his progress.

First module – What is bipolar disorder

The first module contains information about bipolar disorder, its manifestations, and differences between disordered and healthy mood fluctuations with interactive exercises. Illustrative stories of three patients with bipolar disorder are described. There are also listed famous people suffering from bipolar disorder. Other exercise is focused on gains and losses associated with bipolar disorder. This exercise may help patients to look on both sides of the disorder and increase effort to be treated. The patient fills rating scales for assessment of mood that will accompany him throughout the whole program at the end of the module.

Second module – Typical symptoms of mania and depression

In the beginning of the module, patient completes rating scales and discovers his mood graph showing the scores in the first and second module. The same graph with past and new scores will be presented in each module. This module covers typical symptoms of mania and depression, each described in a story or case study. The patient fulfils his own list of symptoms of mania and depression and fills the CBT model with a vicious circle of symptoms. The module contains a story of composer Robert Schumann and writer Johann Wolfgang Goethe, two famous persons suffering from BAD.

Third module – Causes of bipolar disorder

This module deals with biological causes of bipolar disorder and psychosocial factors (for example stress, isolation, loss of important person, arguments, etc.) which may contribute to the running and maintenance of the disorder. The patient finds a series of interactive exercises that help him understand his own story.

Fourth module – Treatment with drugs

The module is dedicated to medications, effects and side effects of pharmacotherapy, myths and attitudes that prevent their use. Question of drugs seems to be very

important for the patient, but patients, unfortunately, often hesitate to ask their psychiatrist. Sometimes they try to find information about drugs on the internet. Quality of this information is usually very low. So this module may give them valuable and correct information. Interactive exercises and examples deal with the advantages and disadvantages of the use or non-use of medication.

Fifth module – Rhythm in life and life in rhythm

This module discusses the importance of rhythms in life and the possibilities how to use the daily rhythms and maintain them, and which obstacles can come and how to manage them. The emphasis is placed on a proper sleep regime, exercises, and social activities. Thus, regular rhythm is crucial in maintaining remission, many patients do not find it so important and focus more on pharmacotherapy. This module aims to raise awareness of importance of regular life rhythm.

Sixth module – Warning signs and triggers of the episodes

The warning signs and triggers of episodes of mood disorders are the main theme of the sixth module. Patients are taught to record their own warning signs and social situations that may lead to the destabilization of mood in interactive exercises. Presence of warning side before the full onset of the disorder may be for some patients a surprise. Question of warning signs may be also interesting for family members.

Seventh module – Automatic thoughts and images

In this module, a patient creates maps of typical automatic thoughts and ideas during depression and mania. In interactive exercises patient is taught the simple ways to test them and possibly replace them with a new constructive view in interactive exercises.

Eight module – Vulnerable attitudes

The module is dedicated to vulnerable attitudes that increase distress in everyday situations. The patient learns to map core schemas, understand their impact on life, and find a more adaptive approach. These cognitive behavioral techniques can be easily incorporated to internet based educational program. Feedback given by the therapist is usually necessary.

Ninth module – Old and new philosophy

The ninth module builds on the previous mapping of conditional rules. There follows refinements of adaptive attitudes and creating a way of life, which would be in harmony with the new attitudes.

Tenth module – Communication and positive assertiveness

The communication module discusses problems that typically occur in families of people with an affective disorder. There are involved exercises on assertiveness to positive reinforcing family atmosphere and close relationships. Various exercises are used, for example, giving praise, encouragement, or a compliment.

Eleventh module – Communication and critique

The eleventh module further develops understanding of the communication patterns and contains interactive exercises to teach patients how to respond to criticism as well as how to use constructive criticism.

Twelfth module – Message at the end

The last module recapitulates the previous modules, and it is also focused on an interactive preparation of a crisis plan. Recommendations for meaningful self-management are involved.

CONCLUSIONS

The goal of the internet psychoeducational program is to familiarize patients with the nature of bipolar disorder, the character and principles of pharmacotherapy, the recognition of the warning signs of relapse, to inform about improper and stressful stereotypes in communication within families, and finally to train communication skills. The internet psychoeducation program contains main principles for psychoeducation for bipolar patients. The aim is to provide comprehensive and sufficient information about bipolar disorder to patients. The most fundamental goal is to prevent a relapse by increasing compliance with medication usage, increasing social rhythms, reducing emotional expressivity in the family, and improving coping skills.

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REFERENCES

1 Andreasen NC (2008). The relationship between creativity and mood disorders. Dialogues Clin Neurosci. **10**(2): 251–255.
2 Andrews G, Davies M, Titov N (2011). Effectiveness randomized controlled trial of face to face versus Internet cognitive behaviour therapy for social phobia. Aust N Z J Psychiatry. **45**(4): 337–340.
3 Barlow JH, Ellard DR, Hainsworth JM, Jones FR, Fisher A (2005). A review of self-management interventions for panic disorders, phobias and obsessive-compulsive disorders. Acta Psychiatr Scand. **111**(4): 272–285.
4 Barnes E, Simpson S, Griffiths E, Hood K, Craddock N, Smith D (2011). Developing an online psychoeducation package for bipolar disorder. J Ment Health. **20**(1): 21–31.
5 Basso MR, Lowery N, Neel J Purdie R, Bornstein RA (2002). Neuropsychological impairment among manic, depressed, and mixed-episode inpatients with bipolar disorder. Neuropsychology. **16**: 84–91.
6 Bucker J, Kozicky J, Torres IJ, Kauer-Sant'anna M, Silveira LE, Bond DJ, Lam RW, Yatham LN (2013). The impact of childhood trauma on cognitive functioning in patients recently recovered from a first manic episode: Data from the Systematic Treatment Optimization Program for Early Mania (STOP-EM). J Affect Disord **48**(2–3): 424–30.

7   Carlbring P, Bohman S, Brunt S, Buhrman M, Westling BE, Ekselius L, Andersson G (2006). Remote treatment of panic disorder: a randomized trial of internet-based cognitive behavior therapy supplemented with telephone calls. Am J Psychiatry. **163**(12): 2119–2125.

8   Carlbring P, Nilsson-Ihrfelt E, Waara J, Kollenstam C, Buhrman M, Kaldo V, Söderberg M, Ekselius L, Andersson G (2005). Treatment of panic disorder: live therapy vs. self-help via the Internet. Behavior Research and Therapy. **43**: 1321–1333.

9   Cerit C, Filizer A, Tural U, Tufan AE (2012). Stigma: a core factor on predicting functionality in bipolar disorder. Compr Psychiatry. **53**(5): 484–489.

10 Christensen H, Griffiths KM, Jorm AF (2004). Delivering interventions for depression by using the internet: randomized controlled trial. BMJ. **328**: 265.

11 Clarke G, Eubanks D, Reid E, Kelleher C, O'Connor E, DeBar LL, Lynch F, Nunley S, Gullion C (2005). Overcoming Depression on the Internet (ODIN) (2): a randomized trial of a self-help depression skills program with reminders. J Med Internet Res. **7**(2): e16.

12 Colom F, Vieta E, Sánchez-Moreno J, Goikolea JM, Popova E, Bonnin CM, Scott J (2009). Psychoeducation for bipolar II disorder: an exploratory, 5-year outcome subanalysis. J Affect Disord. **112**: 30–35.

13 Cuellar AK, Johnson SL, Ruggero CJ (2011). Affective reactivity in response to criticism in remitted bipolar disorder: a laboratory analog of Expressed Emotion. J Clin Psychol 2009. **65**(9): 925–941.

14 Dallaspezia S, Benedetti F: Chronobiological therapy for mood disorders. Expert Rev Neurother. **11**(7): 961–970.

15 Depp CA, Moore DJ, Patterson TL, Lebowitz BD, Jeste DV (2008). Psychosocial interventions and medication adherence in bipolar disorder. Dialogues Clin Neurosci. **10**(2): 239–250.

16 Devulapalli KK, Ignacio RV, Weiden P, Cassidy KA, Williams TD, Safavi R, Blow FC, Sajatovic M (2010). Why do persons with bipolar disorder stop their medication? Psychopharmacol Bull. **43**(3): 5–14.,

17 Frank E, Kupfer DJ, Thase ME, Mallinger AG, Swartz HA, Fagiolini AM, Grochocinski V, Houck P, Scott J, Thompson W, Monk T (2005). Two-year outcomes for interpersonal and social rhythm therapy in individuals with bipolar I disorder. Arch Gen Psychiatry. **62**(9): 996–1004.

18 Frank E, Swartz HA, Boland E (2007). Interpersonal and social rhythm therapy: an intervention addressing rhythm dysregulation in bipolar disorder. Dialogues Clin Neurosci. **9**(3): 325–32.

19 Gega L, Norman IJ, Marks IM (2007). Computer-aided vs. tutor-delivered teaching of exposure therapy for phobia/panic: randomized controlled trial with pre-registration nursing students. Int J Nurs Stud. **44**(3): 397–405.

20 Gonzalez-Pinto A, Reed C, Novick D, Bertsch J, Haro JM (2010). Assessment of medication adherence in a cohort of patients with bipolar disorder. Pharmacopsychiatry. **43**: 263–270.

21 Goossens PJ, Kupka RW, Beentjes TA, van Achterberg T (2010). Recognising prodromes of manic or depressive recurrence in outpatients with bipolar disorder: a cross-sectional study. Int J Nurs Stud. **47**: 1201–1207.

22 Graves JS (2005). Composition and adaptation in the life of Robert Schumann. Bull Menninger Clin. **69**(4): 313–330.

23 Green MJ, Lino BJ, Hwang EJ, Sparks A, James C, Mitchell PB (2011). Cognitive regulation of emotion in bipolar I disorder and unaffected biological relatives. Acta Psychiatr Scand. **124**(4): 307–316.

24 Griffiths KM, Christensen H (2007). Internet-based mental health programs: a powerful tool in the rural medical kit. Aust J Rural Health. **15**(2): 81–87.

25 Griffiths KM, Christensen H, Jorm AF, Evans K, Groves C (2004). Effect of web-based depression literacy and cognitive-behavioural therapy interventions on stigmatising attitudes to depression: randomised controlled trial. Br J Psychiatry. **185**: 342–349.

26 Gruber J, Eidelman P, Johnson SL, Smith B, Harvey AG (2011). Hooked on a feeling: rumination about positive and negative emotion in inter-episode bipolar disorder. J Abnorm Psychol. **120**(4): 956–961.

27 Hong J, Reed C, Novick D, Haro JM, Aguado J (2011). Clinical and economic consequences of medication non-adherence in the treatment of patients with a manic/mixed episode of bipolar disorder: Results from the European Mania in Bipolar Longitudinal Evaluation of Medication (EMBLEM) Study. Psychiatry Res. **190**: 110–114.

28 Honig A, Hofman A, Rozendaal N, Dingemans P (1997). Psychoeducation in bipolar disorder: effect on expressed emotion. Psychiatry Res. **72**: 17–22.

29 Ibanez A, Urquina H, Petroni A, Baez S, Lopez V, do Nascimento M, Herrera E, Guex R, Hurtado E, Blenkmann A, Beltrachini L, Gelormini C, Sigman M, Lischinsky A, Torralva T, Torrente F, Cetkovich M, Manes F (2012). Neural processing of emotional facial and semantic expressions in euthymic bipolar disorder (BD) and its association with theory of mind (ToM). PLoS One. **7**(10): e46877.

30 Johnson SL, Cuellar AK, Ruggero C, Winett-Perlman C, Goodnick P, White R, Miller I (2008). Life events as predictors of mania and depression in bipolar I disorder. J Abnorm Psychol. **117**: 268–277.

31 Jones S, McGrath E, Hampshire K, Owen R, Riste L, Roberts C, Davies L, Mayes D (2013). A randomised controlled trial of time limited CBT informed psychological therapy for anxiety in bipolar disorder. BMC Psychiatry. **13**: 54.

32 Kenwright M, Marks IM (2004). Computer-aided self-help for phobia/panic via internet at home: a pilot study. Br J Psychiatry. **184**: 448–449.

33 Kiropoulos LA, Klein B, Austin DW, Gilson K, Pier C, Mitchell J, Ciechomski L (2008). Is internet-based CBT for panic disorder and agoraphobia as effective as face-to-face CBT? J Anxiety Disord. **22**(8): 1273–1284.

34 Klein B, Richards JC, Austin DW (2006). Efficacy of internet therapy for panic disorder. J Behav Ther Exp Psychiatry. **37**(3): 213–238.

35 Knaevelsrud C, Maercker A (2007). Internet-based treatment for PTSD reduces distress and facilitates the development of a strong therapeutic alliance: a randomized controlled clinical trial. BMC Psychiatry. **19**(7): 13.

36 Koutsantoni K (2012). Manic depression in literature: the case of Virginia Woolf. Med Humanit. **38**(1): 7–14.

37 Lam D, Wong G (1997). Prodromes, coping strategies, insight and social functioning in bipolar affective disorders. Psychol Med. **27**: 1091–1100.

38 Lam D, Bright J, Jones S (2000). Cognitive therapy for bipolar illness – a pilot study of relapse prevention. Cognitive Therapy and Research. **24**: 503–520.

39 Lam D, Wong G (2005). Prodromes, coping strategies and psychological interventions in bipolar disorders. Clin Psychol Rev. **25**: 1028–1042.

40 Lam D (2002). Psychotherapy for bipolar affective disorder. Current Medical Literature. **2**: 1–4.

41 Latalova K, Prasko J (2010). Aggression in Borderline Personality Disorder. Psychiatric Quarterly. **81**(3): 239–251.

42 Latalova K, Prasko J, Diveky T, Grambal A, Kamaradova D, Velartova H, Salinger J, Opavsky J (2010). Autonomic nervous system in euthymic patients with bipolar affective disorder. Neuroendocrinology Letters. **31**(6): 829–836.

43 Latalova K, Prasko J, Diveky T, Kamaradova D, Grambal A, Velartova H (2012). Prodromes, precipitants, and risk factors for relapse in bipolar disorder. Neuroendocrinol Lett. **33**(6): 619–625.

44 Latalova K, Prasko J, Diveky T, Velartova H (2011). Cognitive impairment in bipolar disorder. Biomedical Papers-Olomouc. **155**(1): 19–26.

45 Latalova K, Prasko J, Kamaradova D, Sedlackova J, Ociskova M (2013). Comorbidity bipolar disorder and personality disorders. Neuro Endocrinol Lett. **34**(1): 1–8.

46 Latalova K, Prasko J, Pastucha P, Grambal A, Kamaradova D, Diveky T, Jelenova D, Mainerova B, Vrbova K (2011). Bipolar affective disorder and dissociation – comparison with healthy controls. Biomed Pap. **155**(2): 181–186.

47 Latalova K (2011). Insight in bipolar disorder. Psychiatr Q. **83**(3): 293–310.

48 Lejeune SM (2011). Special considerations in the treatment of college students with bipolar disorder. J Am Coll Health. **59**(7): 666–669.

49 Lex C, Meyer TD, Marquart B, Thau K (2008). No strong evidence for abnormal levels of dysfunctional attitudes, automatic thoughts, and emotional information-processing biases in remitted bipolar I affective disorder. Psychol Psychother. **81**(1): 1–13.

50 Lipsanen T, Saarijarvi S, Lauerma H (2004). Exploring the relations between depression, somatization, dissociation and alexithymiaoverlapping or independent constructs? Psychopathology. **37**(4): 200–206.

51 Litz BT, Williams L, Wang J, Bryant R, Engel C (2004). A therapist-assisted Internet self-help program for traumatic stress. Prof Psychol Res Pr. **35**: 628–634.

52 Livingston JD, Boyd JE (2010). Correlates and consequences of internalized stigma for people living with mental illness: a systematic review and meta-analysis. Soc Sci Med. **71**: 2150–2161.

53 Liwowsky I, Cebulla M, Fichter M (2006). New ways to combat eating disorders-evaluation of an internet-based self-help program in bulimia nervosa. MMW Fortschr Med. **148**(31–32): 31–33.

54 Lomax CL, Lam D (2011). Investigation into activation of dysfunctional schemas in euthymic bipolar disorder following positive mood induction. Br J Clin Psychol. **50**(2): 115–126.

55 Mackinnon A, Griffiths KM, Christensen H (2008). Comparative randomised trial of online cognitive-behavioural therapy and an information website for depression: 12-month outcomes. Br J Psychiatry. **192**(2): 130–134.

56 Mansour HA, Talkowski ME, Wood J, Chowdari KV, McClain L, Pprasad K, Montrose D, Fagioline A, Friedman ES, Aleen MH, Bowden CL, Calabrese J, El-Mallakh RS, Escamilla M, Faraona SV, Fossey MD, Gyulai L, Loftis JM, Hauser P, Ketter TS, Marangell LB, Miklowitz DJ, Nierenberg AA, Patel J, Sachs GS, Sklar P, Smoller JW, Laird N, Keshavan M, Thase ME, Axelson D, Birmaher B, Lewis D, Monk T, Frank E, Kupfer DJ, Devlin B, Nimgaonkar VL (2009). Association study of 21 circadian genes with bipolar I disorder, schizoaffective disorder, and schizophrenia. Bipolar Disord. **11**(7): 701–710.

57 Mantere O, Suominen K, Valtonen HM, Arvilommi P, Isometsa E (2008). Only half of bipolar I and II patients report prodromal symptoms. J Affect Disord. **111**: 366–371.

58 Marks IM, Kenwright M, McDonough M, Whittaker M, Mataix-Cols D (2004). Saving clinicians' time by delegating routine aspects of therapy to a computer: a randomized controlled trial in phobia/panic disorder.Psychol Med. **34**(1): 9–17.

59 McMurrich SL, Johnson SL (2009). The role of depression, shame-proneness, and guilt-proneness in predicting criticism of relatives towards people with bipolar disorder. Behav Ther. **40**(4): 315–324.

60 Miklowitz DJ, Johnson SL (2009). On the Role of Goal Dysregulation in the Treatment of Bipolar Disorder. Clin Psychol (New York). **16**(4): 470–475.

61 Miklowitz DJ, Johnson SL (2009). Social and Familial Factors in the Course of Bipolar Disorder: Basic Processes and Relevant Interventions. Clin Psychol (New York). **16**(2): 281–296.

62 Miklowitz DJ, Richards JA, George EL, Frank E, Suddath RL, Powell KB, Sacher JA (2003). Integrated family and individual therapy for bipolar disorder: Results of treatment development study. J Clin Psychiatry. **64**: 182–191.

63 Miklowitz DJ, Simoneau TL, George EL, Richards JA, Kalbag A, Sachs-Ericsson N, Suddath R (2000). Family-focused treatment of bipolar disorder: 1-year effects of a psychoeducational program in conjunction with pharmacotherapy. Biol Psychiatry. **48**: 582–592.

64 Montag C, Ehrlich A, Neuhaus K, Dziobek I, Heekeren HR, Heinz A, Gallinat J (2010). Theory of mind impairments in euthymic bipolar patients. J Affect Disord. **123**(1–3): 264–269.

65 O´Connell RA, Mayo JA, Flatow L, Cuthbertson B, O´Brien BE (1991). Outcome of bipolar disorder on long-term treatment with lithium. Br J Psychiatry. **159**: 123–129.

66 O'Kearney R, Gibson M, Christensen H, Griffiths KM (2006). Effects of a cognitive-behavioural internet program on depression, vulnerability to depression and stigma in adolescent males: a school-based controlled trial. Cogn Behav Ther. **35**(1): 43–54.

67 Parikh SV, Zaretsky A, Beaulieu S, Yatham LN, Young LT, Patelis-Siotis I, Macqueen GM, Levitt A, Arenovich T, Cervantes P, Velyvis V, Kennedy SH, Streiner DL (2012). A randomized controlled trial of psychoeducation or cognitive-behavioral therapy in bipolar disorder: a Canadian Network for Mood and Anxiety treatments (CANMAT) study [CME]. J Clin Psychiatry. **73**(6): 803–810.

68 Pastucha P, Prasko J, Grambal A, Latalova K, Sigmundova Z, Tichackova A (2009). dissociative disorder and dissociation – comparison with healthy controls. Neuroendocrinology letters. **30**(6): 769–773.

69 Perlick DA, Rosenheck RA, Clarkin JF, Sirey JA, Salahi J, Struening EL, Link BG (2001). Stigma as a barrier to recovery: adverse effects of perceived stigma on social adaptation of persons diagnosed with bipolar affective disorder. Psychiatric Services. **52**(12): 1627–1632.

70 Perry A, Tarrier N, Morriss R, McCarthy E, Limb K (1999). Randomised controlled trial of efficacy of teaching patients with bipolar disorder to identify early symptoms of relapse and obtain treatment. BMJ. **318**: 149–153.

71 Poole R, Simpson SA, Smith DJ (2012). Internet-based psycho-education for bipolar disorder: a qualitative analysis of feasibility, acceptability and impact. BMC Psychiatry. **12**: 139 http://www.biomedcentral.com/1471-244X/12/139

72 Prasko J, Ociskova M, Kamaradova D, Sedlackova Z, Cerna M, Mainerova B, Sandoval A (2013). Bipolar affective disorder and psychoeducation. Neuro Endocrinol Lett. **34**(2): 83–96.

73 Proudfoot J, Doran J, Manicavasagar V, Parker G (2011). The precipitants of manic/hypomanic episodes in the context of bipolar disorder: a review. J Affect Disord. **133**: 381–387.

74 Proudfoot J, Parker G, Hyett M et al (2007). Next generation of self-management education: Web-based bipolar disorder program. Aust N Z J Psychiatry. **41**: 903–909.

75 Ptacek R, Bob P, Paclt I, Pavlat J, Jasova D, Zvolsky P, Raboch J (2007). Psychobiology of dissociation and its clinical assessment. Neuro Endocrinol Lett. **28**(2): 191–198.

76 Riper H, Kramer J, Smit F, Conijn B, Schippers G, Cuijpers P (2008). Web-based self-help for problem drinkers: a pragmatic randomized trial.Addiction. **103**(2): 218–227.

77 Rowland JE, Hamilton MK, Lino BJ, Ly P, Denny K, Hwang EJ, Mitchell PB, Carr VJ, Green MJ (2013). Cognitive regulation of negative affect in schizophrenia and bipolar disorder. Psychiatry Res. **208**(1): 21–28.

78 Rowland JE, Hamilton MK, Vella N, Lino BJ, Mitchell PB, Green MJ (2012). Adaptive associations between social cognition and emotion regulation are absent in schizophrenia and bipolar disorder. Front Psychol. **3**: 607.

79 Russell SJ, Browne JL (2005). Staying well with bipolar disorder. Aust N Z J Psychiatry. **39**(3): 187–193.

80 Sartorius N (2007). Stigma and mental health. Lancet. **370**: 810–811.

81 Schaefer KL, Baumann J, Rich BA, Luckenbaugh DA, Zarate CA Jr (2010). Perception of facial emotion in adults with bipolar or unipolar depression and controls. J Psychiatr Res. **44**(16): 1229–1235.

82 Schmidt U, Lee S, Beecham J, Perkins S, Treasure J, Yi I, Winn S, Robinson P, Murphy R, Keville S, Johnson-Sabine E, Jenkins M, Frost S, Dodge L, Berelowitz M, Eisler I (2007). A randomized controlled trial of family therapy and cognitive behavior therapy guided self-care for adolescents with bulimia nervosa and related disorders. Am J Psychiatry. **164**(4): 591–598.

83 Schneider AJ, Mataix-Cols D, Marks IM, Bachofen M (2005). Internet-guided self-help with or without exposure therapy for phobic and panic disorders.Psychother Psychosom. **74**(3): 154–164.

84 Schwartz RC, Cohen BN, Grubaugh A (1997). Does insight affect long-term impatient treatment outcome in chronic schizophrenia? Comprehensive Psychiatry. **38**(5): 283–288.

85 Shandley K, Austin DW, Klein B, Pier C, Schattner P, Pierce D, Wade V (2008). Therapist-assisted, Internet-based treatment for panic disorder: can general practitioners achieve comparable patient outcomes to psychologists? J Med Internet Res. **10**(2): e14.

86 Shi J, Wittke-Thompson JK, Badner JA, Hattori E, Potash JB, Willour VL, McMahon FJ, Gershon ES, Liu C (2008). Clock genes may influence bipolar disorder susceptibility and dysfunctional circadian rhythm. Am J Med Genet B Neuropsychiatr Genet. **147B**(7): 1047–1055.

87 Sirey JJA, Bruce ML, Alexopoulos GS (2001). Stigma as a barrier to recovery: Perceived stigma and patient-rated severity of illness as predictors of antidepressant drug adherence. Psychiatr Serv. **52**: 1615–1620.

88 Smith DJ, Griffiths E, Poole R, DiFlorio A, Barnes E, Kelly M, Craddock N, Hood K, Simpson S (2011). Beating Bipolar: exploratory trial of a novel internet-based psychoeducational treatment for bipolar disorder. Bipolar Disord. **13**(5–6): 571–577.

89 Spek V, Cuijpers P, Nyklícek I, Riper H, Keyzer J, Pop V (2007). Internet-based cognitive behaviour therapy for symptoms of depression and anxiety: a meta-analysis. Psychol Med. **37**(8): 37.

90 Spek V, Cuijpers P, Nyklícek I, Smits N, Riper H, Keyzer J, Pop V (2008). One-year follow-up results of a randomized controlled clinical trial on internet-based cognitive behavioural therapy for subthreshold depression in people over 50 years. Psychol Med May. **38**(5): 635–639.

91 Standley K, Austin DW, Klein B, Pier C, Schattner P, Pierce D, Wade V (2008). Therapist-assisted, Internet-based treatment for panic disorder: can general practitioners achieve comparable patient outcomes to psychologists? J Med Internet Res. **10**(2): e14.

92 Sylvia LG, Alloy LB, Hafner JA, Gauger MC, Verdon K, Abramson LY (2009**).** Life events and social rhythms in bipolar spectrum disorders: a prospective study. Behav Ther. **40**(2): 131–141.

93 Thompson JM, Gallagher P, Hughes JH, Watson S, Gray JM, Ferrier IN, Young AH (2005). Neurocognitive impairment in euthymic patients with bipolar affective disorder. Br J Psychiatry. **186**: 32–40.

94 Tondo L, Albert MJ, Koukopoulos AE, Baethge Ch, Baldessarini RJ (2005). Bipolar Disorder In: Tarazi FI & Schatz JA (Eds.). Neurological and Psychiatric Disorders, Haman Press. 205–227.

95 Van Straten A, Cuijpers P, Smits N (2008). Effectiveness of a web-based self-help intervention for symptoms of depression, anxiety, and stress: randomized controlled trial.J Med Internet Res. **10**(1): e7.

96 Van Voorhees BW, Ellis JM, Gollan JK, Bell CC, Stuart SS, Fogel J, Corrigan PW, Ford DE (2007). Development and Process Evaluation of a Primary Care Internet-Based Intervention to Prevent Depression in Emerging Adults. Prim Care Companion J Clin Psychiatry. **9**(5): 346–355.

97 Varga M, Magnusson A, Flekkoy K, Ronneberg U, Opjordsmoen S (2006). Insight, symptoms and neurocognition in bipolar I patients. J Affect Disor. **91**: 1–9.

98 Vazquez GH, Kapczinski F, Magalhaes PV, Cordoba R, Jaramillo CL, Rosa AR (2011). Stigma and functioning in patients with bipolar disorder. J Affect Disord. **30**: 323–327.

99 Velligan DI, Weiden PJ, Sajatovic M, Scott J, Carpenter D, Ross R, Docherty JP (2009). The expert consensus guideline series: adherence problems in patients with serious and persistent mental illness. J Clin Psychiatr. **70**(Suppl 4): 1–46.

100 Wagner B, Knaevelsrud C, Maercker A (2007). Post-traumatic growth and optimism as outcomes of an internet-based intervention for complicated grief. Cogn Behav Ther. **36**(3): 156–61.

101 Wahl OF (2012). Stigma as a barrier to recovery from mental illness. Trends Cogn Sci. **16**: 9–10.

102 Whitney J, Howe M, Shoemaker V, Li S, Marie Sanders E, Dijamco C, Acquaye T, Phillips J, Singh M, Chang K (2013). Socioemotional processing and functioning of youth at high risk for bipolar disorder. J Affect Disord. **148**(1): 112–7.

103 Yen CF, Cheng CP, Huang CF, Ko CH, Yen JY, Chang YP, Chen CS (2009). Relationship between psychosocial adjustment and executive function in patients with bipolar disorder and schizophrenia in remission: The mediating and moderating effects of insight. Bipolar Disorder. **11**(2): 190–197.

104 Zaretsky A, Lancee W, Miller C, Harris A, Parikh SV (2008). Is cognitive-behavioural therapy more effective than psychoeducation in bipolar disorder? Can J Psychiatry. **53**(7): 441–448.